

From the Minnesota Editors, Kimberly Johnson and Anne Dahlman:

2012 has been a busy, exciting year for MinneTESOL and we are proud to present the 2012 issue of the Minne/WITESOL Journal. As you will notice from the work presented here, the ESL field, from K-12, to college, to adult, and teacher education, is doing extremely well in Minnesota. We have some amazing professionals who are phenomenal teachers and teacher researchers, who keep asking questions about teaching, learning and language and are engaged in exploring solutions. In this issue, we proudly share some of these explorations.

In this issue, you will find scholarly contributions in the following four categories:

Leaders in the Field: This is a new category of articles for the Minne/WITESOL Journal. We have invited the winners of the 2011 MinneTESOL Harold B. Allen award, recognized for service to MinneTESOL and the field, to reflect on their experiences with ESL, the lessons they have learned, and the issues that still plague us.

Research Articles: These are reports of empirical studies that include a theoretical framework, description of data and methods, analysis and findings.

Practitioner Voices: This is also a new category of content for the Minne/WITESOL Journal. These reports are short articles that share teaching practices or perspectives, highlighting instructional activities or teaching experiences that might be valuable to other teachers.

Reviews: These are short reviews of recently published English language teaching materials, including journal articles, instructional materials and curricula, texts for professional development of educational websites or software.

So, we end 2012 by thanking everyone who made this journal possible by taking the time to contribute, review, and read the submissions. We begin 2013 by thinking about meeting the needs of members, and focused on serving our well-deserving students, with some exciting potential changes for the Journal in the future. Stay tuned!

Sincerely,
Anne Dahlman and Kim Johnson
Minne/WITESOL 2012 Co-Editors

From the Wisconsin Editors, Adam Pergament and Laura Jones-Katz:

It has been a true pleasure to have been involved in such a rigorous and heartfelt academic and community undertaking as is represented by this publication. Working through the process of shepherding the articles you are about to read here through our review and editorial process caused us to deeply reflect on what it is we do as teachers. This reflection, among other thoughts, highlighted for us

the incredible scope of opportunities and challenges language acquisition represents for our students in the world today. And as such, what became most apparent to us as fundamentally expressed by the writers herein was a passion for teaching, and a deep desire to help students succeed. We therefore feel that the articles posted in this edition of the Minne/WITESOL Journal represent a diverse and disciplined cross-section of some of the best work currently being done in our region. We welcome any and all feedback from MN/WI educators about our selections, and we look eagerly to the coming years of challenges and successes as MinneWITESOL moves forward in shaping and reporting on the ever changing landscape of students and educators.

-Adam Pergament and Laura Jones-Katz

A+ AUTHENTIC, ACCESSIBLE ACADEMIC LANGUAGE BOOKS

Bonnie Swierzbini

Many books these days offer ideas for teachers working with English language learners to help learners improve their academic language. I read a lot of these books, and with each new one, I wonder if the author has authentic experience with ELLs and if the author's ideas are presented in a teacher-friendly way. Since I know ESL teachers are eager for great techniques for teaching academic language and are always pressed for time, I offer here my A+ list of authentic, accessible books.

Building Academic Language: Essential Practices for Content Classrooms (Jossey-Bass, 2008).

The work of author Jeff Zwiers has received a lot of attention recently, and deservedly so. This book is highly readable and packed with practical ideas for building students' academic language skills and the higher-order thinking skills that are linked with academic language. The specific activities and practices are based on Jeff's own teaching and many hours of detailed classroom observation for his dissertation (Yeah, I read that too, to check his authenticity.) This is a book that you can dip into any place for ideas both for yourself and content classroom teacher colleagues. Excerpts of this book are available at <http://www.jeffzwiers.com/BAL.html>, and many of the materials mentioned in it can be obtained at <http://www.jeffzwiers.com/resources.html>.

Exploring How Texts Work (Primary English Teaching Association, 1991).

After an opening chapter describing the language approach used, this book has six chapters, each of which features a particular genre such as explanation or recount. You could easily read one slim chapter a night, but then you'd lie awake all night thinking about implementing all the great ideas in your own classroom. In each chapter, author Beverly Derewianka sketches an authentic teaching unit in use, focuses on one activity to demonstrate how the teacher develops students' language awareness, and describes typical language features found in the genre.

Exploring How Texts Work is published by the Primary English Teaching Association Australia (PETAA), which provides a number of resources including full teaching units submitted by member teachers at <http://www.petaa.edu.au/resources.aspx>.

Reading in Secondary Content Areas: A Language-Based Pedagogy (University of Michigan Press, 2008).

Basing their teaching ideas on the concepts of functional language introduced in an initial chapter, authors Zhihui Fang and Mary Schleppegrell provide an illuminating analysis of typical texts in history, science, math, and language arts. This book requires more processing time than the previous two (you can't just dip in here and there to pick up ideas), but with a study guide in the back, this book would be perfect for a school-based study group to share and apply. The authors use actual texts such as a geometry problem and a sonnet by Edna St. Vincent Millay as concrete, authentic examples to analyze. You can look inside this book at www.press.umich.edu/esl/.

In addition to readability and practicality, what these books have in common is a view of language as a resource for making meaning. The authors demonstrate how each academic subject uses that resource in its own way and offer new tools for enabling learners to participate effectively, deeply, and meaningfully in activities using the language of school. Although the books are intended for K-12 teachers, many of the authors' ideas are adaptable for a range of proficiency levels and ages (but if you know of a book that specifically targets academic language for GED students, let me know so I can add it to my reading list.)

CRONES & CODGERS & MINNETESOL

Deirdre Bird Kramer

I have recently retired from Hamline University which may qualify me as a crone, wise old woman, and yet I continue to be involved in the field and attend the MinneTESOL conference. While I love the keynote and small sessions, one of the highlights of the conference is seeing colleagues I have worked with over my career. And what does seeing them entail? Talking about what we are doing, what we did do, what we think about things now, what we know from experience, what we marvel at, what we brings us to despair, and how concerned we are for our English language learners.

I was a co-founder of MinneTESOL 35 years ago. The organization was established because there was a need for ESL professionals to come together. Today there is still the need to meet, discuss and share ideas about our work. Many young ESL teachers know the value of MinneTESOL. I believe there is a need for a new interest section to be created, one for Retirees. We have wide interests, but we share years of working and responding to new waves of refugees, new research, changing demographics, organizational changes, chasms in Minnesota education policy that leave some students without help, and on and on. At the core of our experience and years of service is a commitment to our field and to our learners.

What retiree does not have a perspective on their life's work? What of the history of MinneTESOL that resides in this group? What do we think of the lack of educational opportunities for limited formal schooling, LFS, students who are 21 and have to leave our schools? What might we say about the continuing lack of preparation of mainstream teachers in Minnesota schools to deal with English language learners? How can we help our own ESL teachers feel more grounded in the grammar of our language? What about the program changes that institutions make that impact our profession?

We will be the old farts to some, but those of us at this point in our career know we still have 'tred' left, and the perspective gained from experience we believe brings wisdom and sometimes helpful advice. The power that comes to a group when it is active can be awesome, and the benefit is frequently unanticipated. In other words, we will be a surprise to ourselves and to the members of MinneTESOL, but we will be present and have our own voice.

So, this is a call for retirees within the organization to speak out in support of this proposal. Come to the Fall 2012 conference and join the gathering of retirees during the interest section meeting time which I am requesting right now. I will be in the space allocated for us. I look forward to greeting and talking with you, and I already know our first contribution to MinneTESOL. We are modeling good professional behavior by giving our time to meet, contribute, talk, share and work together, and from years of experience we already know that we will benefit. We can teach that lesson to our younger colleagues.

LEARN! ADVOCATE!

Deborah Hadas

As a high school student in the early 1970s, I marched against the Vietnam War and picketed a supermarket that was selling non-union grapes. In college, I worked on my first election campaign, knocking on doors and attempting to influence people to think about issues a little differently. Later, I was a Peace Corps Volunteer in Africa. With the optimism and idealism of youth, I was determined to make the world a better place.

Teaching ELL in the public schools was a logical career choice. While enjoying decent pay and summer vacations, I could honestly say I was doing important work.

Over the years, I've been lucky to have had friends, colleagues, and professors who have pushed me towards more reflective teaching and informed action. As summarized below, here are the rules that guide my teaching.

1. **Learn as much as you can about your students.** Reading about their culture, religion, and what brought them here is a start, but it is important to be aware that generalizations and preconceived notions can limit. Observe. Ask questions. Don't make assumptions that how you teach makes sense to them, or that unfamiliar behavior is a calculated assault on propriety. Long ago I thought that students did not know my name when they addressed me as "Miss" or "Teacher". Now I know that for many students it would be strange, or even rude, to call me by name.
2. **Think about what is actually important to teach them.** Am I teaching knowledge or skills? Am I teaching assimilation, or the ability to cope and decide? As I design my curriculum, I consider each of these questions. I want students to see the United States as a wonderful country that has welcomed the huddled masses, and also as a deeply flawed one, that nearly exterminated the indigenous peoples of the continent. I explain that knowing the culture, the history and the language of power will give them the most options in defining their own lives.
3. **Advocate. Always.** Talk to colleagues about effective teaching techniques, Share what you know about the students. A teacher who realizes that algebra might be a student's first ever math class will show more compassion. Talk to administrators. Talk to everyone, and don't let misinformation, stereotypes, and bigotry fester. For example, I have explained to administrators and to colleagues that it is illegal to demand proof of legal residency to attend a public school. Campaign for politicians who are education-friendly, and communicate with those already in office. And don't forget an occasional rally at the state capitol can send an important message.
4. **Teach the students to advocate for themselves.** Encourage students to speak up for their needs, whether it is extra time for a test, labels for pork products in the cafeteria, or the DREAM Act. Study topics that will illuminate and inspire. In one class, we read about Cesar Chavez, and also how some St Paul high school students in the 1970s spent months working to convince the district to stop buying non-union lettuce.
5. **Get out of your comfort zone.** Like many ELL teachers, my most formative professional experience was teaching overseas. I was a minority, and at times lost, confused and frustrated. The experience gives me empathy and insight into the lives of my students, and deepens my connection with them.

If I am to work on my original goal - to make the world a better place - the classroom is a natural place to start. And if I am to make my classroom a better place, I need to make the world a better place for my students.

GRAPHIC DEVICE INTERPRETATION BY LOW-LITERATE ADULT ELLS: DO THEY GET THE PICTURE?

Dan Bruski

ABSTRACT

Teachers of low-literate adult English language learners often use visual materials to teach content, but it is not clear how these visuals are interpreted by their intended audience. This research focuses on the concept of visual literacy, specifically, on the ability of low-literate adult ESL learners to identify the functions of graphic devices used in educational materials. A semiotic framework provides a basis to describe how education and cultural background can influence visual literacy. Through think-aloud interview sessions, Somali participants of varying L1 literacy levels interpreted illustrations from ESL materials. Results show lower than expected ability to interpret images and little difference in visual literacy between L1 literate and L1 non-literate participants. The author suggests that visual literacy is more dependent on experiential factors than on L1 education. Other findings include participants' tendency to bring real-world contexts to visuals and to interpret symbolic images as non-symbolic.

INTRODUCTION

Language instruction often makes use of pictures. In classes of learners with beginning English and low literacy levels visuals provide a way to convey meaning where words and print fail. Although some research has contended that pictures actually interfere with literacy development (Samuels, 1970), one might be hard-pressed to find a language teacher who does not use visuals to scaffold content or motivate learners. Visuals are also used in research contexts as jumping-off points for a variety of objectives since they are often assumed to be a universal means of communication among sighted people. What isn't always considered is that ELLs are often gaining both language and content skills, which includes visual literacy (Harper & de Jong, 2004). McCloud (1994) suggests that visual iconography offers a potential form of universal communication, but even that kind of communication must be learned. The research described in this article intended to discover how adult learners with low-literacy backgrounds interpret the visuals that are used in educational materials. Results show that images are not always understood as intended. The study focused on illustrations that make use of graphic devices that are commonly used in our culture.

This article begins with a discussion of literacy and visual literacy. Some concepts from the field of semiotics are introduced to provide a base for discussion of visual communication across cultures. These concepts are viewed with an eye toward how some learners might experience the visuals used in ESL classes. A description of a study in which participants were asked to interpret illustrations taken from an adult ESL text follows. Data and major findings of this study are presented along with implications for the ESL teacher.

Literacies

Literacy, in its most basic definition, includes the abilities to read and to write. Today there are many other uses for the term *literacy* in defining knowledge in other areas: computer literacy, health literacy, media literacy, emotional literacy, cultural literacy, information literacy, etc. *Visual literacy* is another concept that is most often defined as the ability to interpret and produce visual communication (Ganwer, 2009). Some scholars describe the development of these abilities as being analogous to learning to read and write ((Messaris & Moriarty, 2004)(Arbuckle, 2004). Arbuckle claimed, "If pictures are a visual language, then the basic visual elements we use to make a picture can be likened to the letters and words that form sentences and meaning" (p. 449). Others argue that printed language literacy involves a more clear-cut, logical system that visual literacy cannot parallel (Dondis, 1974; Kress, 1993). We can't easily point to the building blocks of visual communication as we can with written language formed, at least in English, by letters, words, and sentences. A picture is said to be able to tell a story, but the individual elements that make up that story are not easily defined.

Although we don't gain visual literacy through the systematic means through which we gain print literacy, we do gain a great deal of information through non-print visual sources. In fact, children learn to "read" pictures long before they are able to read words. They learn to recognize *logographs*, symbols that represent entire words or phrases, for instance the symbol "4" represents the word "four." Children are able to use this logographic reading to recognize signs and logos such as a stop sign, the Pokémon logo, the McDonald's arches or the desktop icon for a favorite computer game. Research suggests that this logographic reading assists in the acquisition of print literacy (Cronin et al. in Pressley, 2006).

Semiotics

In his work on what children learn when learning to write, Kress (1993) writes, "In culture — and literacy is a cultural phenomenon in simply all its facets — everything has meaning; nothing we see is without meaning" (p. 154). Letters are signs that represent sounds. Putting those signs together makes other signs: words. Other, non-alphabetic languages have written signs (logographs) that represent words directly. But as mentioned in the above discussion of literacy, there is more to communication than the printed or spoken word. We "read" other visuals as well.

Semiotics is the study of signs. Although the term includes printed material and street signs, those are only small parts of what semioticians call *signs*. A sign can be body language or even a spoken word. According to

Moriarty (2004), it is "anything that stands for something else" (p. 228). The philosopher Charles S. Peirce categorized three types of signs that can be considered in a visual semiotic context: *iconic*, *indexical* and *symbolic*. *Iconic* signs resemble the things they represent. *Indexical* signs indicate associations or concepts related to the sign. The classic example used is that of *smoke* being indexical of *fire*. The *symbolic* sign, a focus of the research described in this article, is a visual that has come to represent some concept. A mascot for a sports team as well as graphic devices such as arrows and speech bubbles can be included in this category (Moriarty, 2004).

Table 1. Peirce's Three Types of Sign (based on Moriarty, 2004)

Type of sign	Definition	Example
Iconic	Looks like what it represents	A photo; an illustration; an object
Indexical	Indicates the existence of something	Smoke means fire; symptom means disease; a smile means happiness
Symbolic	Stands for something, conventionally understood	A flag for a country; a line through a circle for "no"

Artistic Conventions

Literate cultures' use of the symbolic mode can be confusing to those from non-literate backgrounds. Ong (1988) said that those from oral cultures learn to think in a different way: more concrete and situational. For this reason, some of the artistic conventions that are used in visual communication are not understood by those without literacy backgrounds. These conventions are symbolic in nature, not literal or *iconic*. Artistic conventions that have developed in western cultures, but may not be commonplace elsewhere, include graphic devices, vanishing point perspective, abstract drawings, silhouettes, shading and things depicted out of scale (Schiffman, 1995). All of these artistic techniques can cause confusion. An example of how abstraction can cause confusion or even horror is how a drawing of a single body part out of context can be considered confusing, gory or simply absurd (Hill, 2008; Schiffman, 1995; Zimmer & Zimmer, 1978). A perspective drawing of a cup in the foreground and another cup in the distant background may be seen not as one near cup and one far cup, but as one large cup and one very small cup, given that the distant cup is drawn very small to show distance. Language teachers who might use a perspective drawing like this to teach the concepts of "this cup" and "that cup" would not be able to rely on the 2-dimensional representation (Hvitfeldt, 1985).

Specific graphic devices have become symbolic signs that are generally understood by the visually literate within our literate culture, part of what could be called our *visual lexicon*. Cultural codes fix meaning to those signs

(Moriarty, 2004). Those who are new to the culture will need to learn these graphic conventions in order to understand what is being communicated. Some common graphic devices are those that are familiar to readers of comics in western cultures, such as speech and thought balloons. These devices are used to add a dynamic element to static, two-dimensional images. Someone who has never seen a thought balloon might not interpret the words contained therein as being unspoken thoughts of the character they are connected to, or that there is any connection at all between the two elements. Rossiter, Derwing and Jones (2008) offered a 33-item list of criteria for evaluation of picture stories for use in L2 research. Item #14 on their list is "*Are the illustrations free of word balloons and symbols (e.g., arrows)?*" (p. 327). This research provides some ideas as to why this should be considered.

Educational Background and Visual Literacy

The visual literacy of non-literate participants is not a major area of study for second language education researchers, although some noteworthy studies have been performed (Cook, 1980; Hvitfeldt, 1985; Reis, Faisca, Ingvar, & Petersson, 2006; Strube, van de Craats, & van Hout, 2009; Whiteside, 2008). These studies give us some ideas of characteristics of these learners' visual literacy. The Reis et al. (2006) study compared literate and illiterate participants' ability to identify common objects in photographs and drawings. All participants were found to be able to better identify objects when color information was added to both photographs and drawings. The addition of color made more of a difference for the illiterate group, whose performance increased much more than did the literate group when viewing color photos and drawings. The authors suggest that since the illiterate group lacked formal education, they hadn't had "the opportunity to systematically learn to practice and process two-dimensional representations" (p. 53). In addition, Reis et al. include the idea that regular reading and writing also improve visual skills through practice of pattern recognition and scanning visual representations. The life-experiences of the illiterate participants simply required them to read very few two-dimensional, black-and-white objects. Reis et al. did not look at symbol identification, rather focused on iconic depictions of common objects.

These research findings have implications for language learning. Teaching that makes use of pictures may be less-effective than expected for some populations. Many learners are accustomed to learning in ways that don't involve the use of symbolic visuals. The research of DeCapua and Marshall (2010) has focused on how to bridge the gap between the learning styles emphasized in our culture and those of students with limited or interrupted formal education (SLIFE). Students in western educational systems are expected to learn in academic, often abstract ways,

whereas SLIFE are accustomed to learning through more real-world, pragmatic tasks. The symbolic visuals used in educational materials are often abstract signs, and in most uses are not meant to have any immediate pragmatic function for learners outside of classroom objectives. This can lead to confusion for learners who see value in learning for more immediately relevant situations.

Cultural Background and Visual Literacy

Our culture relies heavily on visuals — visuals that include printed words. Stein (2000) notes that some cultures rely more heavily on other semiotic modes, like gestures or spoken words; they rely less on visual images. The same information that is passed on by way of a sign or TV commercial may be passed on by word of mouth, but it can't be claimed that visual literacy is a competency only possessed by those who grew up in western society. Every sighted person learns by seeing. Where cultures may differ is in the types of visuals from which one is accustomed to gaining information. Linguist Daniel Everett (2008) describes his experience living in an Amazonian community. He says that villagers would see things in the environment, in some cases dangerous wildlife, that his eyes could not initially make out. These same villagers, when shown photographs, had a hard time understanding what they were supposed to be seeing. Photos were not part of their world. They needed to be taught how to make out two-dimensional images, just as Everett needed to be taught how to "see" in the Amazon. Indeed, we might be named the equivalent of "visually illiterate" were we to try to navigate a culture that finds meaning in other kinds of signs, one that has developed a different way of seeing. Zimmer and Zimmer's (1978) definition of visual literacy, "the ability to understand at a conscious level the visual language used within a particular culture or cultures" (p. 21), reflects the possibility of multiple visual literacies. The focus of this research can be said to look at how the visual literacies of adult ELLs affect their ability to understand the visual language used in ESL materials, specifically, graphic devices commonly used.

METHODS

A research project was conducted in order to learn more about how adult ESL learners understand the visuals that are used in educational materials. The following is a description of the methods used in this study.

Participants and Setting

The research took place at a large adult basic education (ABE) program in a suburban public school district in the upper Midwest. A convenience sample of nine learners from ESL classes participated in the study. All participants were adult Somali women. Each of the participants was categorized as a beginning or literacy level ELL. Participants' L1 literacy was also assessed. Five participants were L1 non-literate. Four participants had some L1 literacy. Participants are assigned pseudonyms. Privacy and ethical concerns are adhered to in accordance with the Hamline University Institutional Review Board.

Materials

Twelve images were selected for use in this study; each image contained a commonly used graphic device. Some of the devices were used more than once as they have multiple uses. The arrows, in this collection of images, were used to indicate future movement, show line of sight, show body movement, or draw attention to an important element in an image. Different shapes of balloons or bubbles were used to indicate speech, thought, magnification and group singing.

All of the images under investigation were enlarged versions of black and white illustrations from *Step forward intro level multilevel activity book* (Mahdesian & Adelson-Goldstein, 2008) and *Step forward level 1 multilevel activity book* (Mahdesian & Adelson-Goldstein, 2006), life-skills focused books used in ABE programs. In some cases the images were edited to better suit the purposes of this study. Each image contained one or more *iconic* signs, usually a depiction of a person, and a *symbolic* sign, a graphic device used to convey some meaning in the ESL text. In most of the illustrations all but one or two of the *iconic* signs were removed by the researcher. One reason for this was to encourage viewers to attend to the elements under focus in this study. Removal of these *iconic* elements also prevented participants from using contextual clues to find meaning, rather than using the graphic device. Except for the digits on the clock, all alphanumeric print was removed from the illustrations. As above, this was in the interest of context removal. The graphic devices used in this study and the meanings intended by their use in the *Step Forward* series are listed in figure 1.

Figure 1. Images and their Intended Interpretations

1. Bubble indicates speech.



2. Lightning bolts symbolize pain.



3. Arrow shows future movement left to right (close book).



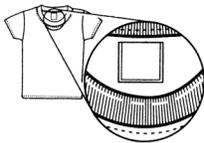
4. Bubble indicates unspoken thoughts.



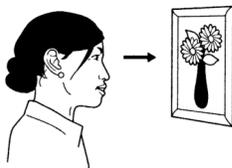
5. Arrow shows body movement (stand up).



6. Larger image shows magnification.



7. Arrow shows line of sight.



8. Shading and arrow show passage of one hour.



9. Arrow is used to draw attention to important part (corner).



10. Bubble is used to magnify/explain.



11. Bubble with musical notes indicate singing together.



12. Compass rose indicates image is a map.



The images were arranged, one per page, in an order predicted to increase in difficulty of interpretation. The order of images purposefully did not include any consecutive uses of the arrow or similar bubbles to help avoid any confusing influence they might have had.

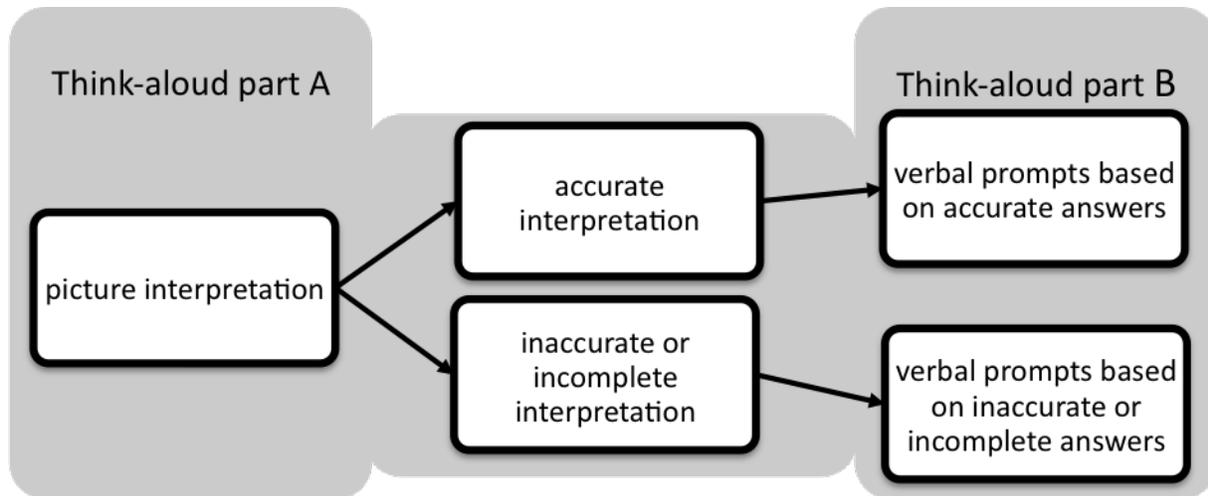
Procedure

To learn more about the visual literacy of the participants, a one-shot interview and "think-aloud" session was conducted. The session was administered by an L1 interpreter under the direction of the researcher. The first part of the session was a demographic interview. The data collected for this portion did not reveal significant findings, therefore this article focuses on the results of the think-aloud session.

The second part of the interview is a kind of think-aloud session. In a true think-aloud session, a participant does some task and describes what is going on in her mind as she does so. As described by Mackey and Gass (2008), this way a researcher can gather information about how people solve problems. For this study the articulation of the thought process was not in focus, rather it was more of a picture narration to tell whether the participant had certain graphic devices in her visual lexicon. The participant was shown 12 illustrations, one at a time. The L1 interpreter asked the participant to interpret each illustration and made note of responses. Verbal prompts were used to elicit responses and the L1 interpreter gave English interpretations of L1 responses. Based on these interpreted responses, the researcher guided follow-up questions. Whether or not the participant correctly identified the meaning of the graphic device, the L1 interpreter used follow-up questions to gain more information about what the participant saw in the picture, and how she made meaning from the illustrations. Responses to these prompts provided qualitative data beyond simply determining whether a participant understood an illustration. They provided some insight into why she did or didn't understand. Follow-up questions also helped clarify what was understood and how participants came to have a given understanding.

The think-aloud session for each illustration had two parts, think-aloud part A: a quick determination of whether the participant understood how the graphic device was being used, and think-aloud part B: the follow-up prompts to gain more qualitative information [see figure 1].

Figure 2. Diagram of think-aloud verbal protocol.



When a participant offered an accurate interpretation, the interviewer directed follow-up prompts related to why a participant gave that particular response, what clues she used to determine the meaning and where else she had seen the graphic device used before. When a participant offered an inaccurate or incomplete interpretation, follow-up questions prompted the participant to make further guesses as to the meanings of the signs and explanations of what had influenced these responses.

The L1 interpreter facilitated the session in Somali. The participant was encouraged to respond in either Somali or English, since the goal of the study was to determine whether the participant understood the drawings, not whether she could respond to them in any particular language. Students were allowed to use either Somali or English in the think-aloud in order to prevent inadequate L2 vocabulary from inaccurately reflecting a lack of understanding.

Data Analysis

Upon completion of the session, the L1 interpreter and the researcher became co-raters and immediately discussed each participant response. Notes were compared and determinations were made as to how accurately a participant interpreted each image. Based on notes taken throughout, co-raters discussed how each participant responded. Each response was coded as *yes*, *no*, or *incomplete*. *Incomplete* was recorded if a partial response was given or if there was a difference in opinion between co-raters as to whether the participant accurately interpreted the graphic devices. The L1 interpreter also provided cultural insight as to why a participant may have described an image a particular way. Video recordings were made for later review of both the think-aloud sessions and the post-interview co-rater sessions.

RESULTS AND DISCUSSION

The following section presents and interprets the data that was collected for this research. Major findings are described concerning the interpretation of iconic and symbolic signs, the role of context in illustrations and the ways in which classroom and real-world influences affected participants understanding of the images used in this study.

The results of the interpretation of images are divided into two parts. The first part is shown as quantitative data on whether participants accurately interpreted the graphic devices in each image. The second part is a discussion of qualitative data, providing deeper descriptions of participant interpretations. This data is provided in summary form as well as through the inclusion of noteworthy individual think-aloud session responses.

Of the 12 images, only four were judged to have been fully and accurately interpreted by a participant. For the majority of the images, participants had little trouble describing the non-symbolic elements, but the symbolic graphic devices made accurate interpretations of the images problematic. No participant was able to accurately interpret images #3, #4, #6, #8, #9, #10, #11 and #12 as intended by the publishers of the materials from which they came. No participant had even a partially correct interpretation of the graphic device used in image #6. All other images had at least one accurate or partially accurate interpretation by a participant. Table 2 shows participants' accuracy of interpretation for each graphic device.

Table 2. Participants' interpretation accuracy

	image	1	2	3	4	5	6	7	8	9	10	11	12
name													
Basro		yes	yes	inc.	no	no	no	yes	no	yes	inc.	inc.	no
Farhiya		yes	yes	no	no	no	no	yes	no	yes	no	no	inc.
Deka		no	yes	no	no	yes	no	yes	no	yes	no	no	no
Ifrah		yes	inc.	no	no	no	no	yes	no	yes	no	inc.	inc.
Khadra		no	inc.	no	no	yes	no	yes	no	yes	no	no	no
Hani		no	yes	no	no	no	no	yes	no	yes	no	inc.	no
Asha		no	yes	no	no	no	no	yes	no	yes	no	no	no
Geni		no	no	no	inc.	inc.	no	yes	no	yes	no	no	no
Ebyan		no	no	no	no	inc.	no	no	inc.	no	no	no	no

Note:

yes = participant interpretation of graphic device matched meaning intended

no = participant interpretation of graphic device did not match meaning intended

inc. = participant's interpretation was deemed incomplete or partially accurate

No participant was able to accurately interpret more than three images. The participant who performed best accurately described the function of the graphic device in three images and had partial accuracy in three more images. Each of the nine participants rated at least two partially correct or two correct. A summary of results is shown in table 3 below.

Table 3. *L1 literacy and number of images accurately interpreted - as ranked by number of accurate interpretations*

Name	L1 literacy	yes	incomplete	no
Basro	L1NL	3	3	6
Farhiya	L1L	3	1	8
Deka	L1L	3		9
Ifrah	L1NL	2	3	7
Khadra	L1L	2	1	9
Hani	L1NL	2	1	9
Asha	L1L	2		10
Geni	L1NL	1	2	9
Ebyan	L1NL	0	2	10

note:

L1NL = First language non-literate

L1L = First language literate

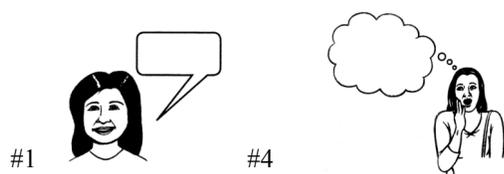
L1 literacy was not a clear factor in visual literacy. The participants with both the greatest number of accurate interpretations and lowest number of accurate interpretations were L1 non-literate. The L1 literate participants showed greater mastery of arrows as graphic devices; the L1 non-literate showed greater familiarity with bubbles as graphic devices.

Iconic and Symbolic Signs

The categorization of signs proposed by Peirce can be used to discuss elements of the educational illustrations used for this study. The iconic signs, those that look like the things they represent, presented little problem for participants. In most cases the iconic signs represented people doing some action. There were often both iconic and symbolic elements used to convey meaning in the images, and participants used a combination of these elements to find meanings. The symbolic elements, graphic devices, were more problematic than the iconic signs. Often symbolic signs were interpreted as iconic.

Participants' ability to accurately describe the functions of the graphic devices used in this study was much lower than expected. Basro and Ifrah were better able to recognize the symbolic signs than the rest of the participants. Although some very telling data were obtained through the inaccurate interpretations of the

participants, for the purpose of this article, the responses of the two participants who showed the greatest mastery are the focus of the discussion of the results.



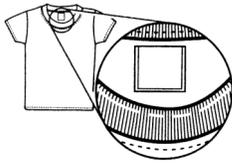
Both Basro and Ifrah were aware of the function of the bubble as a symbol for speech and recognized most uses of the arrow as an indication of direction, but there were some exceptions that were typical of responses given by other participants. A tendency was observed for participants to interpret unfamiliar symbolic signs as iconic signs. Image #4 depicted a thought bubble emitting from a woman's head. Basro interpreted this not as a symbol, as she did the speech bubble, but as air coming out of the woman. Four other participants also gave indications that the bubble was a physical object that was causing distress to the woman. One participant said it was a cloud and raindrops hitting her on the head.



Image #10 shows a man who is shopping, holding a piece of paper. In the original illustration the bubble attached to the paper shows a list of items for purchase. Not one of the participants interpreted the bubble in that way. Only Basro interpreted it as a symbolic sign, but as an indication of speech. All the others who made an attempt to interpret the sign gave interpretations that indicated that the bubble was an iconic sign. Four participants said that it could be a door. There were three interpretations that related to the object in the man's hand: an access card reader, barcode scanner and grocery checkout.



Most participants recognized that the lightning bolt lines coming from the woman's head in image #2 represented a symbolic sign, either meaning pain or fever. Basro cites having learned the sign in ESL class. Though this sign had certainly appeared in her coursework, Ifrah didn't recall this interpretation. She saw "something going into the ears" or "going out of the head." If Ifrah saw the lines as being something physical going in or out of the woman's head, it appears that she interpreted symbolic sign as iconic.



#6

The magnification graphic device used in image #6 was not accurately interpreted by any of the participants. All participants recognized the iconic T-shirt sign, but the symbolic sign caused confusion. All of those who offered interpretations for the magnifying circle mentioned circular iconic signs, such as a ball, a tire or a speaker.

The Roles of Context

Participants didn't easily interpret the symbolic signs used in the illustrations. Despite this, many times the participants were able to understand an illustration, anyway. Other contextual elements often provided the clues necessary to accurately interpret a picture. For example, all participants gave interpretations for image #2 that indicated that the woman was experiencing some discomfort or sickness, but four of them cited only iconic signs as reasons for the interpretation given. They didn't need to understand the symbolic sign for pain. The hands and facial expression were sufficient clues to communicate the concept.



#5

The iconic context can be all that is necessary to interpret an illustration or give clues as to the meaning of a symbolic sign, but in some cases the iconic context can lead to a misinterpretation of a symbolic sign. An example of this phenomenon was observed in how participants described image #5. All participants said that the man was

either getting up or sitting down, but when asked about the meaning of the arrow sign, five participants said that it indicated that the man was having back pain. Participants cited the position of the man's hands as the reason for the interpretation of his bodily movement. His bent body and the symbol at his back were clues that led to the interpretation of pain. Both Basro and Ifrah noted the man's body and the position of his hands on the armrests as indications that he was getting up, but both participants said that the arrow meant that the man was in pain. Only two participants offered unequivocal interpretations of the arrow as indication of upward movement, but the iconic context was enough for the other participants to understand movement in some direction. This image presented a strong example of one symbolic sign being consistently interpreted as another symbolic sign.

In cases when a participant didn't understand the symbolic sign, they often used the context created by the iconic signs to come up with logical, even resourceful interpretations. Although participants did not understand the use of the magnification bubble in image #10 as intended, they easily identified a man who is shopping. This understood context was used to create meanings related to the iconic context of shopping. Participants made creative interpretations for the sign (a barcode scanner, an exit, an entrance, a shopping cart corral) that fit in with the grocery store context. Using the iconic context in image #4, the woman's facial and body language, four participants interpreted the thought bubble as a physical object that was the source of the woman's apparent distress.

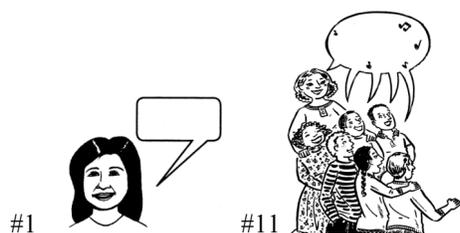


Image #11 featured two graphic devices, the multi-stemmed speech bubble and the musical notes which together indicated group singing. Again, no participant interpreted the picture as such, but with some prompting Hani said that the bubble was "what they are screaming from their mouths." This is noteworthy because Hani was not able to interpret the more simple speech bubble from image #1. It seems that the greater context of image #11, the people with their mouths open, provided sufficient context that was absent from image #1. Ifrah said that a teacher and students were talking or singing and that the bubble was what they were saying, but when asked why she thought they were singing she said it was because they were facing the same way like a choir. She made no mention of the musical notes. Basro also recognized the group as having a family conversation but that not everyone was speaking since the number of stems on the bubble (not her terminology) didn't match the number of people.

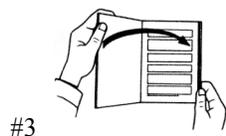
Interestingly, she also suggested that they could be *listening* to music; so it's possible that she recognized the symbolic musical notes but didn't relate them to the bubble to produce the *singing* interpretation.

The results of this research suggest that context influences interpretation of graphic devices. For the purposes of this research, much of this important context, including all words were removed. Had the unaltered original illustrations instead been used, participants may have shown a greater ability to interpret the images as intended.

Classroom and Real-world Influences

Both Basro and Ifrah are L1 non-literate, but their visual literacy was shown to surpass that of their L1 literate colleagues. It appears that knowledge of the graphic devices used in this study came from exposure through both academic and non-academic means. There were three participants who identified the sign in image #1 as an indication of speech. Basro mentioned how as a child in Somalia she had seen the sign used in the comics section of her father's newspaper. Ifrah had seen it used in her children's books. Two of the three also mentioned having seen the sign used in ESL class materials. This previous exposure also led some participants to transfer their knowledge of the *speech bubble* to bubbles used in other images. Ifrah mistakenly interpreted the *thought bubble* in image #4 as indicating spoken words. Although image #10 uses a bubble to magnify or explain a smaller image, Basro saw the bubble as indicating what the man was saying. She said that he was reading aloud the paper in his hand. Though Basro and Ifrah didn't recognize the bubble used in combination with musical notes in image #11 as an indication of singing, they both recognized the multi-stemmed bubble as showing speech by a group of people.

One limitation of this study could be seen as coming from recent classroom exposure to some of the graphic devices used. The previous month's curricular focus on issues of health was likely to have had some influence on participants' interpretations. Although the exact illustration of the woman experiencing pain was never used in class, similar images would have been fresh in the minds of participants, leading to greater numbers of accurate interpretations of the symbolic signs in image #2. Conversely, this influence may have also led to the number of inaccurate interpretations of image #5. The arrow sign near the man's back was confused for other types of lines that are used to show pain in line drawings. While this influence may be considered a limitation for this study, it can also be seen as evidence that the graphic devices used in educational illustrations are indeed learnable and transferable to other contexts, if not always accurately.



As mentioned above, familiarity with graphic devices can come from exposure both in the classroom and from outside of the classroom. Some outside-of-class exposure may have led to interpretations that reflect real-world uses of the graphic devices, interpretations that contradicted the meanings intended by the publisher. An example of this was seen in the interpretations of image #3. Six of the nine participants gave interpretations that indicated that the arrow on the book was visible to the person holding the book. Four participants, including Ifrah, stated that the arrow indicated a place for a person to write something. The study's L1 interpreter conjectured that the participants' experience with government and social services agencies, who often use stickers with arrows to indicate where a client needs to sign, influenced their interpretations. Although the symbolic sign was meant for the viewers of the entire image, a majority of the participants saw a more practical interpretation — as most likely still as a symbolic sign but for the benefit of the person in the illustration. This *real-world* interpretation is consistent with DeCapua and Marshall's (2010) contention that students with limited or interrupted formal education tend to find more value in pragmatic situations than in symbolic ones that have little bearing on the immediate.



Another example of real-world practicality interfering with the intended meaning can be seen in how participants responded to image #9. The illustration was intended to communicate the concept of *corner*, yet seven of the participants described the arrow as indicating how to enter the building. One reason that may have caused participants to see the arrow pointing to the entrance is that there is a legitimate, *real-world* reason for an arrow to be pointing to a door, so that one can find the way in. It's hard to think of a practical reason why an arrow would direct one to a corner, the meaning intended by the illustrator.

Limitations

One limitation to the study was related to the convenience sample of learners who participated in the study. The study intended to have two equal-sized groups of participants with similar characteristics and two clearly different L1 literacy backgrounds. Unpredictable attendance on data collection days and a scarcity of L1 literate beginning learners made the ideal sample unavailable.

This study was limited, in some ways, by the difficulty of the image interpretation task. It's hard to consider a test valid if none of the test-takers got even 50 percent correct and most did much worse. Although these misinterpretations provided interesting information on how beginning adult ELLs see symbolic signs, the fact that so few of the graphic devices were accurately interpreted made other data unavailable. For example, more information about how and where participants learned about the graphic devices was sought, but since they had not yet acquired that knowledge in most cases, that line of questioning was rarely employed.

The participants' responses were likely influenced by the curriculum of the previous month. Most classes had just finished a health care unit, and consequently health-related pictures were fresh in participants' minds. As mentioned earlier, this likely helped participants accurately interpret the *headache* symbol in image #2. The recent exposure to health-related pictures also may have led to some inaccurate ideas. Participants mentioned health-related interpretations for images #4, #5 and #12.

Participant affective factors may also have interfered with data collection. Some participants were more willing to speak and to take guesses when unsure, which resulted in some interesting data. Others were more reticent and only described images when they were confident of their answers. Also, two participants may not have performed as well as they could have due to clearly being distracted by the L1 interpreter's note-taking.

IMPLICATIONS

Iconic Images in Context are more Reliable

In the present study it is clear that symbolic signs are less easily recognizable than iconic signs. When pictures rely on unfamiliar graphic devices to convey meaning, it can cause confusion. If teachers can choose to employ images that rely more on iconic imagery, students may be more likely to understand the meanings intended.

In this research some of the images were interpreted as intended even without a participant needing to understand the graphic devices used. The context of the picture, body language, facial gestures, or setting, was all that was needed. For example, image #2 used redundant signs, both symbolic and non-symbolic, to convey that the

woman had a headache. For some students the iconic signs provide enough information to convey the meaning. Other students might use the iconic signs to figure out what the symbolic sign means. Iconic signs provide context for understanding symbolic elements. In this study much of the context was removed from the images, including all text. Most of the illustrations were altered from how they might normally be seen in class. The fact that there were four participants who were not able to interpret any of the four *bubbles* used in this study suggests that the inclusion of words, or the greater context under which these bubbles are regularly encountered is what makes these materials intelligible when students are exposed to them in class. Educators and producers of educational materials should be careful to include enough context in illustrations so that symbolic signs alone are not relied upon to convey meaning.

Teaching and Learning Visual Literacy

The task that participants were asked to perform proved to be more difficult than expected. It's not clear that the context removal applied to the images was to blame. It may be that the illustrations, even presented as intended, are not easily interpreted across cultural and educational backgrounds. Teachers cannot assume that students from diverse backgrounds share the same visual literacy concepts. Given that so many of the participants in this study were unable to interpret the functions of the majority of the graphic devices, a teacher might infer that he should avoid using graphic devices in language instruction. But to the contrary, since these graphic devices are common in our culture they could be considered essential knowledge. Full literacy includes visual literacy. Symbolic signs can be added to learners' visual lexicons along with other content being learned. Teachers of students from backgrounds that rely less on 2-dimensional visual communication may choose to explicitly draw attention to these devices as they are used in relation to learning objectives. Whiteside (2008) suggests that learners could benefit from "a basic orientation to texts, pictures and to the implied relations between the two" (p. 106).

Participants gain visual literacy from a variety of sources. Some participants cited school, specifically our ESL classes, as sources of their knowledge of the graphic devices under focus in this study. Most participants mentioned knowing about arrows from street signs. Basro and Ifrah learned about speech bubbles through comics and kids books. As mentioned above, participants' real-world experiences influenced their interpretations of "school-world" images. Though these signs may not have been part of everyone's daily life in Somalia, the fact that they have been learned through a variety of educational and non-educational sources points to the fact that visual literacy is learnable, and therefore teachable, and that formal education is not the only way of gaining visual literacy.

As learners in ESL classes are exposed to symbolic signs that they do not understand, they will use whatever background knowledge they have to understand what they see. Teachers can expect creative, even ingenious interpretations, as was seen in the data collected for this study. If a learner had never seen a thought bubble used before, she'll relate it to the most similar thing she had seen; in this study participants saw a cloud or an exhalation of air. The interviews showed that learners will also use the context of the image and relate it to their own lives. These real-world situations can serve as jumping off points for teaching the symbolic, as suggested by DeCapua and Marshall, bridging the gap between a more familiar pragmatic way of learning and, the more often, abstract way they are expected to learn in class.

Visuals are especially Useful with Low-literate Learners

Consideration of the fact that Basro and Ifrah, the two participants who successfully interpreted the greatest number of graphic devices were L1 non-literate may suggest that there is something special about how they see images. Though this research has demonstrated that the symbolic signs commonly used are not universally understood, visuals are very effective instruments in communicating meaning. The images used in this study were all black and white line drawings, which research suggests would lead to lower image interpretation ability among non-literate participants (Reis et al., 2006). In the current study, two of the participants among the least formally educated showed the greatest visual literacy skills. As non-readers, they may have developed better *logographic* reading skills. As this kind of student begins to gain literacy skills, images can be important common grounds from which to begin. On the other hand, the participant with the fewest accurate interpretations was also L1 non-literate. This underscores the need to be aware of varying visual literacy among adult learners, even those who appear to be from similar backgrounds.

The findings of this study offer some considerations for the design or selection of images for use with L1 non-literate adults. The Reis' et al. study suggests that illustrations of objects are more easily interpreted when they are drawn with color, while the current research points out that iconic signs within those images are much more easily interpreted than symbolic signs. The consideration of the presence of symbolic signs, as Rossiter et al. suggest (2008), can inform selection of instructional and research materials that contain illustrations.

CONCLUSION

In this research the images from ESL educational materials were examined. This examination was focused largely upon symbolic signs, the understanding of which may often be taken for granted. Findings suggest that while iconic signs are more reliably understandable than symbolic signs, those iconic elements provide context that aids in interpretation of illustrations, including the functions of the symbolic elements. The responses of Basro and Ifrah provide examples of how real-world learning can trump formal education when it comes to interpreting graphic devices.

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DIVERSITY WITHIN ISLAM: ITS INTERSECTIONS WITH MUSLIM IMMIGRANT IDENTITIES

Esther Smidt

ABSTRACT

This article investigates the multiple identities of four Muslim immigrant students, the intersections of these identities, and the students' understandings of the systems of oppression examined in the multicultural developmental ESL writing course they attended as college freshmen. The research question is "*What are Muslim immigrant students' understandings of their own identities in terms of race, class, and gender as seen through the lens of their religious identity while taking a multicultural college writing class focusing on race, class, and gender?*" The four participants of this qualitative multiple case study were chosen on the basis of religion, race, and gender. Data sources consisted of observation fieldnotes, a mapping exercise, interviews, in-class discussions, and documents. Data were coded inductively according to arising themes. Key findings reveal that there are diversity and complex identity intersections within what the general public perceives as a homogeneous group, and that primary intersections are those of religion and race, religion and sexuality, religion and gender, and religion, race, and gender.

INTRODUCTION

Over the last 50 years, as a result of the implementation of the Immigration Act of 1965 that discontinued the admittance of immigrants into the United States based on country of origin (Center for Immigration Studies, 1995), there has been an increase in the population of immigrants of color. However, a concomitant increase in immigrants of color in higher education has not been observed (U.S. Census Bureau, 2004). A possible reason for this could be social injustice, and a solution cited by researchers is postsecondary multicultural developmental education (Higbee, Lundell, & Arendale, 2005), such as that found in the setting for the present study, an all-immigrant college writing class focusing on the multicultural content of race, class, and gender. This class was situated in an English as a Second Language (ESL) program within Central Academy (pseudonym), the developmental education college of a mostly White urban Midwestern research university.

LITERATURE REVIEW

Before examining the postsecondary multicultural developmental education represented by the class in the present study, however, multicultural education, developmental education, identities, immigrant identities, and Muslim immigrant identities need to be examined.

Multicultural Education

Multicultural education can be seen in three ways, as an idea, a reform movement, and a process:

Multicultural education is an idea stating that all students, regardless of the groups to which they belong, such as those related to gender, ethnicity, race, culture, language, social class, religion, or exceptionality,

should experience educational equality in the schools. ... Multicultural education is also a reform movement designed to bring about a transformation of the schools so that students from both genders and from diverse cultural, language, and ethnic groups will have an equal chance to experience school success. ... Multicultural education is a continuing process because the idealized goals it tries to actualize—such as educational equality and the eradication of all forms of discrimination—can never be fully achieved in human society. (Banks, 2010, p. 25)

Elements of the three-part definition of multicultural education above can be further analyzed by considering the theoretical frameworks of multicultural education, which can be divided into “conservative, liberal, and critical” (Kubota, 2004, p. 31) perspectives—the critical perspective is of relevance in the present study.

Characteristics of critical multicultural education include:

- Explicit focus on racism and other kinds of injustice at the collective level
- Nonessentialist understanding of culture and problematization of difference, and
- Culture as a discursive construct (Kubota, 2004, pp. 37-38)

Elsewhere, critical multicultural education has been defined as:

(a) anti-racist; (b) a basic component for all good education; (c) important for all students, not just students of color or those in culturally-diverse settings; (d) pervasive throughout the curriculum; (e) education for social justice; (f) a process, and (g) involving critical pedagogy (Hackman, 2008, p. 30).

Finally, of the different social issues mentioned in the definition of multicultural education, it should be noted that religion is the social issue focused on in this article. The course also featured the pluralist paradigm that focused on “races, classes, genders, or intersection of race, class, and gender” (Grant, Elsbree, & Fondrie, 2004, p. 187).

Developmental Education

Developmental education, on the other hand, can be defined as

... a field of practice and research within higher education with a theoretical foundation in developmental psychology and learning theory. It promotes the cognitive and affective growth of all postsecondary learners, at all levels of the learning continuum. Developmental education is sensitive and responsive to individual differences and special needs among learners. (National Association for Developmental Education, 2009, para. 1)

Central Academy, with its mission of open access and its history of admitting freshmen who would later transfer to other colleges within the university, is an example of an institution featuring developmental education (Beach, Lundell, & Jung, 2002).

Identities

Although there is still a primary focus on race, multicultural education research has also increasingly focused on identities. A summative definition that incorporated various researchers' definitions is as follows:

“Identity refers to the individual’s understanding, often with an emotional dimension, of his or her own relationship through space and time with the world.” (Smidt, 2007, p. 17).

Identities can be divided into three types, namely:

- imposed identities: identities which individuals or groups are unable to contest or negotiate at a particular time and place
- negotiable identities: identities which individuals or groups have the power to contest at a particular time and place
- assumed identities: identities which individuals or groups accept and thus do not perceive a need to contest or negotiate (Pavlenko & Blackledge, 2004).

For example, after being exposed to the more egalitarian values held by many Americans, Ai (Vietnamese female) exhibited a negotiable identity by contesting the notion that household chores are the province of women (Smidt, 2007). Mustafa, the Bangladeshi male participant in the present study, demonstrated an imposed identity when he, “upon his arrival into the United States [and finding] himself ... racialized as a minority, ... chooses a corner seat at a restaurant to distance himself from what he perceives to be unfriendly gazes” (Smidt, 2007, p. 19). Finally, Muslim immigrants comfortable with their religious identities display assumed identities when they do not perceive a need to contest their religious identities (Smidt, 2007).

Negotiation of identities, then, refers to “an interplay between reflective positioning, i.e. self-representation, and interactive positioning, whereby others attempt to position or reposition particular individuals or groups” (Pavlenko & Blackledge, 2004, p. 20).

The theory from which this discussion of identities is derived, and the one subscribed to in this study, is Bourdieu’s theory of practice, which features power as a central concept (Bourdieu, 1991). Imposed identities are unable to struggle for power and thus succumb to interactive positioning, whereas negotiable identities can struggle for power and therefore are able to obtain reflective positioning.

To elaborate, individuals with negotiable identities possess agency, defined as “the power of people to act purposively and reflectively, ... to reiterate and remake the world in which they live, in circumstances where they may consider different courses of action possible and desirable” (Inden, 1990, p. 23). This may take the form of passing, where individuals “suppress their own style and move toward the valued styles” (Holland, Lachicotte, Skinner, & Cain, 1998, p. 132). An example of this may be Heidi, the Somali female participant in the present study,

who chose to dress like a Westerner so that she could pass as an African American, thereby avoiding religious discrimination (Smidt, 2006). Other forms of negotiating one's identity include adopting oppositional stances—as when “immigrant Latino males ... adopt the oppositional stance exhibited by their disenfranchised native born Latino male counterparts” (Smidt, 2007, p. 20)—and hybrid identities (Bhabha, 1990, 1994), which will be discussed later in the article.

Immigrant Identities

Poststructuralist theory “highlights the fact that identities are constructed at the interstices of multiple axes, such as age, race, class, ethnicity, gender, ... whereby each aspect of identity redefines and modifies all others” (Pavlenko & Blackledge, 2004, p. 16). In immigrant research, immigrant identities may take the three forms of segmented assimilation:

One [that] replicates the time-honored portrayal of growing acculturation and parallel integration into the white middle-class; a second leads straight into the opposite direction to permanent poverty and assimilation into the underclass; still a third associates rapid economic advancement with deliberate preservation of the immigrant community's values and tight solidarity. (Portes & Zhou, 1993, p. 82)

In the first form, we see an imposed position, one that is not always negative, in contrast to what the term “imposed” suggests. Here, the immigrant undertakes the positioning desired by the dominant culture, namely that of “growing acculturation” (Pavlenko & Blackledge, 2004, p. 16). The second way features the negotiated position in the form of an oppositional stance that has negative consequences. The third way, also of negotiated positioning, represents the hybrid position or third space (Bhabha, 1990, 1994) mentioned earlier. Here, the hybrid position carves out a path other than simply accepting or rejecting the dominant culture, suggesting that the immigrant has choices—the immigrant possesses agency (Inden, 1990)—as mentioned in the previous section.

Muslim Immigrant Identities

Since this paper focuses on Muslims, an examination of Muslim Americans in general and Muslim immigrant identities in particular are in order. A survey of 1054 Muslim Americans from 68 countries by the Pew Research Center (2007) revealed that adult Muslim Americans make up 0.6% (1.5 million) of the population and that Muslim Americans are mostly middle class, mainstream, and assimilated, with income and education levels comparable to the national mean. They are also highly diverse, with 65% of Muslim Americans being foreign-born.

Ethnic backgrounds consist primarily of South Asian (30%), African-American (25%) and Arab (25%) origins (Sirin, Bikmen, Mir, Fine, Zaal, & Katsiaficas, 2008). Reasons for immigration include education (26%), economic advancement (24%), family reunification (24%), and to escape persecution (20%). It should be noted that three of the four participants entered the country as refugees (the fourth immigrated for educational reasons), suggesting that this study's findings may apply to only a small proportion of the Muslim American population.

Muslim American diversity is also demonstrated in frequency of mosque attendance and denominational differences (Pew Research Center, 2007):

[W]ith respect to their religious denomination, there is a division between mainstreams and substreams, religious schools, mystical orders, and religio-political movements. Likewise, there is a scale of religious practices ranging from agnostic to fundamentalist. (Shadid, 2006, p. 20)

Furthermore, there is a tendency for younger (under 30) Muslims to self-identify as Muslims first (60%) rather than Americans (Pew Research Center, 2007). This is also borne out by Ali's (2008) study that divided second generation South Asian Muslims into acculturationists, partial acculturationists, and de-acculturationists. The latter consisted primarily of younger Muslims who went to school during the era of multicultural education and now "divest themselves from ... certain aspects of mainstream American culture they deem to be contrary to Islamic norms" (p. 401).

With regards to Muslim immigrant identities in particular, there appears to be an integration of race and religion. Abu El-Haj (2006) reveals that Muslim immigrants are viewed as the "enemy within" (p. 15). He also discusses the "perpetual foreigners" (p. 310) syndrome, whereby Muslim immigrants are othered on the basis of both their race and their religion. Rich and Troudi (2006), on the other hand, introduce the term "new racisms" (p. 617), which argues that the religious discrimination experienced by Muslim students can be racially motivated. Their data suggest that this could be particularly true if the Muslim student is phenotypically black. This current of Islamophobia is also seen in Shadid's (2006) study that examines the decision of Middle Eastern Muslims who chose to stress their racial rather than their religious identities. Ajrouch and Kusow (2007), on the other hand, in researching Lebanese Muslims in America and Somali Muslims in Canada find that Lebanese American Muslims preferred to highlight their racial (White) rather than their religious identities, whereas Somali Canadian Muslims preferred to focus on their religious rather than their racial identities. The rationale for these decisions was the same: they chose the identity that would cause them not to be othered.

METHODOLOGY

Research Question

Within a setting that seeks to implement critical multicultural education, namely to transform schools so that all students “have an equal chance to experience school success” (Banks, 2010, p. 25) in part through an “explicit focus on racism and other kinds of injustice at the collective level” (Kubota, 2004, p. 37), a study that examines the results of such implementation through the lens of religious identity is timely. As such, the research question of this study is:

What are Muslim immigrant students’ understandings of their own identities in terms of race, class, and gender as seen through the lens of their religious identity while taking a multicultural college writing class focusing on race, class, and gender?

Participants

This research study is derived from two separate data collection events: a pilot study, with Heidi (Somali female) and Mustafa (Bangladeshi male) as participants, and a dissertation study with Deedar (Afghani male) and Mubashir (Somali female) as participants. These participants were chosen for this paper because they are Muslims and provided rich data.

Heidi was born to a sickly Somali mother and a Somali-Egyptian father, both of whom were born in Somalia. They moved to Kenya when Heidi was four because of the civil war, an experience described as “not so good.” Heidi and her family immigrated to the United States in 1997 when she was thirteen or fourteen. According to Heidi, “I think this life is better than the one in Kenya.”

After completing high school, Mustafa immigrated to the United States in January 2001 as an immigration lottery winner. Coming from a close-knit and wealthy family in Bangladesh and having aspirations to study mechanical engineering at Berlin University, Germany, his family was not in favor of his move. Nevertheless, Mustafa decided to come to the United States knowing that he could always return home if he wanted to. He stayed in the United States for nine months, leaving for Bangladesh in October 2001 because he did not like it here. However, he returned to the United States again four months later for its educational opportunities and would have become a citizen in 2005.

Deedar was born in Afghanistan, where he spent the first eight or nine years of his life before moving to Pakistan. He and his family spent the next eight or nine years there. Thereafter, they immigrated to the United

States, and in 2006 they would have been here for six years. Deedar did not want to talk about his siblings—his war experience in Afghanistan impacted him greatly, which in turn influenced how he viewed life, namely that he preferred to think about positive things and not to think about negative things like his experience of war and the topics of race, class, and gender.

Born in Somalia, Mubashir, together with her mother and brother, left for Ethiopia when she was three. They lived there for three to four years, then moved to Kenya where they lived an additional three to four years before immigrating to the United States at the age of 10 “because of the civil war.” As of 2006, she had been in the United States for nine years. Although they spent their first two years in Buffalo, New York, they moved to this Midwestern state to be near friends and relatives. This move “made life kind of easier.”

Like the participants, the students in the class were all recent immigrants and first-generation college students. Besides the students, the class also included Pam, a White female instructor with politically left tendencies, a Somali female undergraduate writing consultant in the pilot study and a White male undergraduate writing consultant in the dissertation study.

Developmental ESL College Freshmen Composition Course

Both pilot study and dissertation study data were collected in the same course, the second of a two-course developmental ESL writing course for college freshmen. The students met twice a week for 75 minutes and once a week for 50 minutes. The textbook used was Rothenberg’s (2004) *Race, Class, and Gender in the United States*. The seven-assignment course requirements built carefully upon one another and consisted of:

- (1) Definition Paper,
- (2) Web Source Evaluations,
- (3) Summary Writing,
- (4) Reading Analysis,
- (5) Annotated Bibliography,
- (6) Major Research Paper, and
- (7) Persuasive Writing.

Students began by (1) exploring the definitions and connotations of key terms in controversial issues such as race, class, and gender. They then moved on to (2) learn how to evaluate web sources. Then, using a teacher-chosen article, students first learned to (3) demonstrate their understanding by summarizing the article, and then (4) “critically analyze[d and] consider[ed] the unspoken assumptions and perspective” of the article. In preparation for researching their self-selected topic, students produced (5) an annotated bibliography. The knowledge and skills they

obtained from the preceding five assignments were demonstrated in their (6) Major Research Paper, where they “explore[d] one area of discrimination that [was] most interesting to [them]”. The course ended with (7) a letter to a newspaper editor or to a political figure demonstrating a call to action based on knowledge they had gained on a topic they cared about.

Researcher’s Role

I am a Chinese Malaysian middle-class female researcher. During data collection, my researcher role was that of a participant observer, with an intermittent role as an additional writing consultant in the class as required. Also, it should be noted that Malaysia is a Muslim country, hence my interest in the focus of this article.

Data Collection and Analysis

Data collection consisted of a mapping exercise (Beach et al., 2002), semi-structured student interviews and follow-up interviews, two instructor interviews, taped in-class discussions, and documents. The documents consisted of “teaching materials, assignments, small group discussion, whole class discussion, in class work, fieldnotes, and peer review” (Smidt, 2007, p. 69).

The methodology used was that of a qualitative multiple case study that focused on ‘why’ questions (Yin, 2003) in a setting where “the investigator [had] little control over events” (Yin, 2003, p. 1). The case study exhibited a maximal sampling strategy (Creswell, 2005).

The data was organized using NVivo 2.0 (QSR International, 2005), a qualitative research software. Data was coded inductively (Merriam, 1998) according to participant cases, document types, and arising themes. I also analyzed the data according to the codes of religion, race, class, and gender, and kept a researcher journal.

After the coding was completed, I conducted within-case and cross-case analysis (Merriam, 1998). Then quotes were chosen and trustworthiness was attained through triangulation of data sources (Sturman, 1997), member checks (Stake, 1995), use of thick description (Stake, 1995), and an audit trail (Merriam, 1998).

DISCUSSION

As mentioned earlier, religion is the lens through which I observed my participants’ multiple identities. Therefore, I examined the intersections of religion with the other systems of oppression, of which race, sexuality, and gender are the focus of this article.

Religion and Race

The intersections of religion and race are represented by Heidi, Deedar, and Mustafa.

Heidi

Heidi's racial-religious identity was demonstrated primarily through her decision to wear Western clothing. In fact, the pseudonym *Heidi* was chosen because the participant had selected an Americanized name for herself in place of the Somali name she had. Heidi decided to wear Western clothing because, in her own words, "I was really influenced by my surroundings and you know, being young, you ... just wanna be like everybody else, you just don't want to be put down." Her desire to look like the wider society around her, however, had serious consequences. It caused her to be ostracized by her family and the Somali community, who viewed the adoption of American culture as religious failure with a resultant "afterlife in hellfire" (Farid & McMahan, 2004, p. 24).

Heidi's decision to stress her racial rather than her religious identity appears complex in the context of previous research. Her decision contrasts with some research which suggest that younger Muslims tend to self-identify as Muslims first (Ali, 2008; Pew Research Center, 2007), supports other research (Shadid, 2006), and calls into discussion yet other research (Ajrouch & Kusow, 2007). Unlike Heidi, Ajrouch and Kusow's (2007) Lebanese American Muslims focused on their racial (White) identity while their Somali Canadian Muslims highlighted their religious identity. The multiplicity of decisions demonstrated by these studies indicates that Muslim immigrants choose the identity that would cause them to be less othered. However, what this choice would be is complex, as Muslim immigrants navigate the tension between Islamophobia and racism. In Heidi's case, she perceived her less othered identity as the racial one, as she escaped the religious discrimination experienced by her Somali family and friends. She shared her experience in a bus:

When I take the bus and I see some Somali girl who dress traditionally Muslim walk in, people would just like stare at her, give her that evil look. When the whole society goes against you, you just don't feel like you have a sense of belonging. You just want to disappear, vanish, go back to a place where you can find people who will accept you for who you are.

Deedar

Deedar, on the other hand, revealed his racial-religious identity through his narration of a pivotal job application incident. Deedar shared how he had applied for a job after the September 11th, 2001 incident. He related how he had not been hired even though he was the first person to turn in his application form, not having understood

that he had not made the first selection round. He revealed that prior to the course, he would have thought that the reason for his rejection was a lack of qualification or experience. Having taken the course, however, he said:

But now because I read about race and sex and this *inequality or disadvantage of color people*, now I'm thinking negative, negative because I'm *Muslim*, they didn't call me. This kind of thought can make a gap into my brain, into my heart, that gap will cause me to start hate about *Christianity* maybe, maybe *other religion*, maybe about *other race*, just because I'm *Muslim*, why they do this?

In other words, there was a conflation between religious and racial identities. Deedar began the excerpt above by talking about “color people,” which he related to his being “Muslim.” He connected his religion to the dominant religion of the United States, “Christianity” before including “other religion.” He then switched back to “other race” before ending the excerpt by mentioning the fact that he was “Muslim.”

Mustafa

The excerpt by Deedar above also revealed a link between racism and Islamophobia (Ajrouch & Kusow, 2007) and introduced new racisms (Rich & Troudi, 2006), which suggest that religious discrimination may be partly racially motivated. Mustafa, for example, evinced a reluctance to discuss his religious identity—he felt that Islam had already suffered from a bad reputation and he did not want to add to the misinformation:

I told that people are more stereotype ... when they saw these people, this kind of face they think they're terrorist, because our name is like Muslim name and we're Muslim. So I don't want to talk about those ... because already in this society ... I would say my religious is totally screwed up, you know, I don't want to shake it more, you know.

Other researchers (Muir & Smith, 2004; Weller, Feldman, & Purdam, 2001), conversely, have discovered that sometimes Muslim identities are asserted in the face of such Islamophobia, perhaps as an instance of negotiable identities (Pavlenko & Blackledge, 2004) or hybrid identities (Bhabha, 1990, 1994).

Religion and Sexuality

Data sources for religion and sexuality were obtained from Deedar and Mubashir.

Deedar

Deedar's views about religion and sexuality arose from a discussion about non-Muslim and Muslim homosexuality. Although Islam prohibited homosexuality, Deedar believed that “as a human, we are not allowed to hurt someone feeling” and that “the God only is a body to judge [the homosexual], ... to bring them to the hell or to heaven.” When I asked him what the situation would be like if the homosexual was Muslim, his reaction was the

same, that he still needed to treat the Muslim homosexual well and that God was the Muslim homosexual's only judge. However, he did have an additional criterion. Just as he as a Muslim needed to treat others well, so too did the Muslim homosexual have to treat him well. Deedar did end this topic by emphasizing that this was his opinion, perhaps suggesting again the heterogeneity of Muslims, that they do not all think alike on the topic of homosexuality. This contrasts with the general public's opinion that Muslims are a homogeneous group (Dwyer, 1994; Peach, 2006).

Mubashir

On the other hand, in contrast to articles she read which argued that people are born with either homosexual or heterosexual tendencies, Mubashir stressed the notion that people are born heterosexuals, and that homosexuals choose their sexual orientation. In particular, she differentiated between open societies where, as she termed it, the "normal" heterosexuality and the "not the normal" homosexuality were accepted and closed societies, where homosexuality was not accepted. According to Mubashir, homosexuality was not accepted because it was "not something people are born with." Instead, "it's a choice." A reason this distinction was important to Mubashir, who revealed, "I feel like my religion is huge, huge part of my life," could be because it would be difficult to reconcile a God who would prohibit homosexuality if homosexuality was innate and not a choice. Like Deedar, Mubashir too believed that "nobody has the right to judge them by it or put them down by what they choose to be whether it's hetero or homo."

In both examples above, Deedar and Mubashir were able to craft a hybrid identity or third space (Bhabha, 1990, 1994) that included both the Islamic mandate against homosexuality and the American norm of tolerance.

Religion and Gender

Deedar

Religion and gender was represented by Deedar, whose ideas were complex, ranging from an argument against sexism in the media to arguing against the practice of women wearing sexually explicit clothing. He was also in favor of "separat[ing] girl from boy," a practice he probably witnessed during his sojourn in Afghanistan and Pakistan prior to immigrating to the United States. Again, his range of ideas about gender demonstrated the heterogeneity of Muslims—"Arab American families, similar to other American families, represent a full range from highly patriarchal to equitable gender relations" (Abu El-Haj, 2006, p. 23)—not just among different

individuals, but perhaps within the same individual as well, as demonstrated by Deedar. This difference also demonstrates the hybrid identity or third space mentioned earlier (Bhabha, 1990, 1994).

Religion, Race, and Gender

Mubashir

Besides the intersections of two systems of oppression that have been discussed thus far, there is also an instance of intersections of three systems of oppression, as demonstrated by data from Mubashir, who discussed her experience of sexism in Somali culture. However, in contrast to the prevailing idea that Islam oppressed women, Mubashir took care to rectify this misconception. As suggested by Farid and McMahan (2004), Mubashir reiterated that what was misinterpreted as Islamic practice was actually a Somali cultural norm:

... this way of being sexism towards the women was not from the religion in that it had nothing to do with the religion and that it was coming from the culture. Since Muslim people mostly our culture is based on our religion, so people might mix those two things up.

Mubashir again crafted a negotiable identity that protected her religious identity while acknowledging the reality of the gender discrimination she experienced in her culture.

IMPLICATIONS FOR ESL

The goal of any ESL teacher or teacher educator is obviously improved ESL teaching and learning. This study lends itself to this goal primarily through its consideration of the “emotional dimension” (Smidt, 2007, p. 17) of Muslim immigrant identities, as found in identity’s definition. Considering the emotional dimension includes cultivating the “affective growth” (National Association for Developmental Education, 2009, para. 1) and promoting “sensitiv[ity] and responsive[ness] to individual differences” (National Association for Developmental Education, 2009, para. 1) in Muslim immigrant students, as suggested in the definition for developmental education.

A theme that arose from the discussion of the intersections of Muslim immigrant identities is that of the tension between Islamophobia and racism (Ajrouch & Kusow, 2007). For example, how much of Heidi’s decision to wear Western clothing and select an Americanized name is that of peer pressure as opposed to religious discrimination? As mentioned previously, Heidi chose to stress her racial identity rather than her religious one, suggesting that Heidi perceived her racial identity as less othered than her religious identity. Conversely, to further problematize our understanding of Heidi’s decision, ‘new racisms’ research suggests that religious discrimination

may be partly racially motivated (Rich & Troudi, 2006), and Rich and Troudi's (2006) data suggests that this may tend to be so with phenotypically black Muslim immigrants.

This complexity needs to be teased apart in the context of the ESL classroom, even beyond an “explicit focus on racism and other kinds of injustice at the collective level” (Kubota, 2004, p. 37) as suggested by critical multicultural education. Instead, the nuances of both Islamophobia and racism, and new racisms, need to be unpacked in the classroom, particularly for phenotypically black Muslims like Heidi and Mubashir. A way to do so in the ESL classroom is to encourage Muslim immigrants to reflect on their multiplicity and contextuality of identities—how their different identities influence one another, and how context influences identities as well. This can be achieved through a carefully scaffolded series of assignments, as the participants were able to do in this study. During the course of completing her assignments, Heidi reflected on the content of the course—race, class, and gender—as it impacted her identities:

It changed me. It changed the way that I look at the world, the way I look at things, because I would always say like “Yeah, this person is racist” but I would never look at it as in the system. I would always blame the individuals who were racist. I would have a completely different point of view about racism than I do today.

Discovering the existence of racism allowed Heidi to blame the system that privileges certain groups and disadvantages other groups rather than blame the individuals who made up the system. Doing so allowed her to place the blame where it rightly belonged, on the system, enabling her to differentiate between the system and its individuals.

Another theme that arose is the need for a safe space to discuss controversial topics, particularly if a participant holds seemingly unpopular opinions. Examples of such topics include Islam and homosexuality, such as Mubashir's belief that homosexuality is a choice, and gender relationships like Deedar's opinion that women should not wear sexually explicit clothing and that boys and girls should not be allowed to freely associate. Related to the opportunity to discuss controversial topics is providing Muslim immigrant students a safe space to make sense of conflicting demands upon their identities. Examples included how Deedar and Mubashir reconciled the supposed incongruity between the Islamic prohibition of homosexuality and the American societal mandate of tolerance.

Finally, ESL instruction consists of more than the mastery of a language. It also includes personal development or “affective growth” (National Association for Developmental Education, 2009, para. 1). In contrast to Deedar's complaint earlier in the semester that studying the content of race, class, and gender caused him to “hate about Christianity,” he acknowledged at the end of the semester that there were advantages to such study:

This kind of activity bring more love, more respect, understand, and more, I mean, create a good environment to live. If I go against you, you definitely go against me. If I go with you and respect your thought, your religion, your culture, anything about you, you I'm sure you know there's more possibility you accept me because this is human nature. ... And most of the time, it's kind of you're not saying like a word and you will say it and you're from your heart because your heart has been happy by the word I use.

SUGGESTIONS FOR FUTURE RESEARCH

In the context of ESL teaching and learning, investigating how the *course content* of race, class, and gender and the *teaching* of such content influence immigrant students' attitudes about systems of oppression, both during the semester the course is being offered, and longitudinally would be an appropriate avenue for future research.

Researchers have also suggested that further studies should be conducted on identities other than race, class, and gender. One such avenue includes investigation into Muslim immigrant identities, particularly the increasing Americanization of Muslims as demonstrated by Heidi and the characteristics and consequences of such Americanization. Another option is the examination of the connection between race or ethnicity or culture and Islam as illustrated by Mustafa and Deedar. Still another option is the investigation into homosexuality and Islam.

The study supported previous research in its discovery that participants conflated racial and religious identities. A question that arises is whether racial and religious identities should be conflated. Are there circumstances within which such conflation would play into racial-religious stereotypes? How does new racism influence this conflation?

Besides investigating Muslim immigrant identities through the field of multicultural developmental education, Muslim immigrant identities can also be examined in conjunction with identity threat and resilience. The latter in particular would be a fruitful avenue with immigrants who have experienced war like Deedar or lived in refugee camps.

Finally, as the suggestions for future research demonstrate, there is still much to research in the fields of ESL and immigrant identities even though the present study has produced findings that supported previous research, e.g. the conflation of racial and religious identities, and raised some new questions, e.g. whether such conflation would result in racial-religious stereotypes.

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TWO DELIVERY MODELS OF INCLUSIVE PRACTICES FOR ELLS IN A MIDWEST SCHOOL DISTRICT

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ABSTRACT

The study examined how the instructional delivery models in inclusion programs were specifically implemented for Grades 1-3 English Language Learners (ELLs) at 2 elementary schools in a large Midwest inner-city school district. The nature of the 2 delivery models was diagrammed and explained respectively. Interview, observation data, and relevant documents were analyzed through the use of a comparative matrix. Themes and trends were developed: (a) collaboration between the classroom teachers and resource teachers; (b) scheduling; (c) reading instruction, curricular, and instruction time; (d) workload for classroom teachers and the resource teachers; (e) use of paraprofessionals; (f) assessment of students' ongoing progress; and (g) strengths and challenges of the implemented models as described by the teachers. The findings indicated that the participating teachers were very positive about their inclusion models even though the two models were distinctively different. The results signify that inclusion can work for ELLs, but it is difficult for one classroom teacher to accomplish the job. Collaboration is the key to the success of inclusive practices.

KEY WORDS: collaboration, delivery model, inclusion, ELL, ESL, team-teaching, co-teaching

According to the National Clearing House for English Language Acquisition (2011), in the U.S. public school system, the enrollment of English Language Learners (ELLs) from Pre-K through Grade 12 increased 51% over a 10-year period from the 1998-1999 school year to the 2008–2009 school year. The reported enrollment of ELLs from Pre-K to Grade 12 for the 1998–1999 school year was 3,540,673, whereas there were 5,346,673 ELLs enrolled in the 2008–2009 school year. The number of ELLs in 2008–2009 was 11% of the total enrollment in public schools.

Educational decisions made regarding English language learners (ELLs) will have a remarkable impact on their futures (William, 2001). According to Ma (2002), no comprehensive strategies have been developed to address the academic needs of ELLs sufficiently. Additionally, findings from previous research have not suggested how to best address the achievement problems of ELLs. Moreover, Ma pointed out that research had denoted that the achievement gaps were widening between native English speakers and ELLs. Furthermore, he emphasized that who made the decision was not nearly as important as what worked for ELLs.

The goal of the No Child Left Behind Act of 2001 is to close the achievement gap. According to Miller (2003), the U.S. Department of Education set specific requirements that states and districts needed to meet in educating ELLs in Title III of No Child Left Behind. The main goals of Title III were to “help ensure that limited English proficient (LEP) children attain English proficiency” and “develop high levels of academic competence in

English” (U.S. Department of Education, 2003, p.5). Therefore, the U.S. Secretary of Education, Margaret Spelling, stated, "Our schools must be prepared to measure what English language learners know and to teach them effectively, with proven instructional methods” (U.S. Department of Education, 2006).

Across the United States, ELLs are placed in different educational programs. Pullout programs have been used for many years to serve struggling readers including English language learners. The Council of the Great City Schools (Antunez, 2003) investigated the characteristics of ELLs in 58 member districts. The responses from 36 districts (62%) indicated the number of ELLs was increasing. Sheltered English as a Second Language was identified as the most commonly offered program for ELLs and the pullout program was the second for these states. Inclusion programs have gradually begun to replace pullout programs in some states (Byrnes, Kiger, & Manning, 1997). Zehr (2006) reported that inclusion programs had replaced the pullout programs at all elementary schools in St. Paul, Minnesota.

Cummins (1984) pointed out that there were many similarities in instructional needs between special education (SPED) and ELLs. Inclusion has been adopted for Chapter 1 programs for some time (Anstrom, 1995). Although some of the instructional planning prepared for the SPED students might have been suitable and transferrable for ELLs (Cummins, 1984; Harper & Platt, 1998; Honigsfeld & Dove, 2008), whether they would benefit from inclusion programs still needed to be examined (Harper & Platt, 1998). Few studies on the implementation of specific inclusion models for ELLs were located. Therefore, the findings of the studies on struggling readers and SPED students in inclusion programs were also used to identify the issues and trends in the inclusion of ELLs.

The types of curriculum and instruction that should be used for ELLs in inclusion programs have remained a focus of discussion for researchers for many years (Anstrom, 1997; Chamot & O’Malley, 1987; Harklau, 1994; Harper & de Jone, 2004; Mohan, 1986; Snow, Met, & Genesee, 1989; Stainback & Stainback, 1984; Watts-Taffe & Truscott, 2000). Stainback and Stainback (1996) remarked that in the mainstream classroom, curricula needed to be accommodating, flexible, and challenging to all students. Besides agreeing with Stainback and Stainback, Watts-Taffe and Truscott (2000) mentioned the importance of scaffolding, strong discussion, and vocabulary discussion in helping the language development of ELLs in an inclusive setting.

Findings from the previous studies on teachers’ attitudes toward inclusion programs for ELLs indicated both positive and negative sides (Honigsfeld & Dove, 2010; Layzer, 2000; Penfield, 1987; Schmidt, 2000; Youngs

& Youngs, 1999). Fuchs and Fuchs (1998) stated that both resource teachers and mainstream teachers were not prepared for inclusion programs. Additionally, inclusion programs created new challenges for classroom teachers (Penfield, 1987; Youngs & Youngs, 1999). Students, however, were not prepared to be in the mainstream classrooms and, as a result, effective learning did not take place (Youngs & Youngs, 1999). In two case studies, Wade (2000a & 2000b) reported problems occurred in schools that tried to include ELLs in mainstream classrooms. Resource teachers became frustrated because they were either used as paraprofessionals working with students in the corner of a room or had to be “friendly, bouncy, but not pushy...to deal with classroom teachers with delicacy, tact, and flattery” (Wade, 2000b, p. 212).

Some findings of the previous studies demonstrated the effectiveness of inclusion programs on reading progress of struggling readers was inconclusive (Baker, Wang, & Walberg, 1994/1995; McLeskey & Waldron, 1996; Smelter & Rasch, 1995; Yatvin, 1995; Yin & Hare, 2009; Zigmond & Baker, 1996; Zigmond & Jenkins, 1995). Suggestions and recommendations for improving inclusion programs in previous studies cover the following major areas: (a) collaboration and team teaching (Clair, 1993; Elliot & McKinney, 1998; Fattig & Taylor, 2007; Friend, M., 2008; Honigsfeld & Dove, 2008, 2010; Stainback & Stainback, 1996; Wertheimer & Honigsfeld, 2000; Youngs & Youngs, 1999; Zehr, 2006); (b) modified curriculum and instruction (Anstrom, 1997; DeLeeuw & Stannard, 2000; Harklau, 1994a; Harper & Platt, 1998; Stainback & Stainback, 1996; Watts-Taffe & Truscott, 2000); and (c) inclusion of paraprofessionals in the classroom (Elliott & McKenney, 1998; Honigsfeld & Dove, 2010). According to DeLeeuw and Stannard (2000), Zerh (2006), and Honigsfeld & Dove (2008, 2010), team teaching and working together were the key elements in the success of inclusion programs. Honigsfeld and Dove (2010) offered specific collaboration and co-teaching principles and strategies as well as co-teaching models for inclusion programs for ELLs. They profiled the co-teaching models between the classroom teachers and English as a Second Language (ESL) specialists. In a three-year urban case study of York-Barr, Ghere, and Sommerness (2007) on an inclusion program for Grades 1 and 2 at a Midwest elementary school in which 50% of students were identified as ELLs and 5% as special education, in the second year of the study, co-teaching relationships were observed to be positive and productive. The ELLs’ achievement in reading and math was considerable as a result of co-teaching between the general classroom teachers and the resource teachers. Yet, to date, little research has been conducted to investigate how inclusion models are implemented for ELLs in general educational community.

The purpose of this research was to examine how the instructional delivery models in inclusion programs were specifically implemented for Grades one to three ELLs at two elementary schools in a large Midwest inner-city school district in fall, 2006. Strengths and challenges of each model as described by teachers were compared. Additionally, teacher frustrations and struggles in each model were examined.

The study addressed the following questions: (a) what is the nature of the specific inclusion models teachers at two schools in one Midwest district adopted? (b) what are the teachers' perspectives about the strengths and challenges of their specific models? and (c) what are the teachers' frustrations and struggles in each delivery model?

The school district where the study was conducted has no official definitions for inclusion and pullout. Therefore, the definitions from the literature were used for the purpose of this study. Inclusion is the practice of serving students with special needs completely within the general educational setting (Ferguson, 1995; Stainback & Stainback, 1984; Turnbull, Turnbull, Shank, & Leal, 1995). Pullout for ELLs is a program that ELLs are "pulled out" of regular, mainstream classrooms for special instruction in English as a second language (Colorin Colorado, 2011).

METHOD

Employing the qualitative method, the researcher observed the participating teachers and their classrooms, and interviewed them in both structured and semi-structured ways. Relevant documents were also collected. Data from both interviews and observations were used to determine the differences in implementation of each model.

Procedure

After the researcher received the approval from the Institutional Review Board (IRB) for this research in August, 2005, a research proposal was turned into the Research Review Committee of the public school district where the study was to be conducted. Upon the approval granted by the Research Review Committee, the researcher contacted the Department of English as a Second Language Office of the school district. The ESL office recommended the school sites and participants. Then a letter was sent to the principals of the school sites. After they granted access to their schools, a letter was sent to the participating teachers to explain the purpose of the project and

what the researcher was going to do with them. A consent form was sent to each teacher to sign and returned with their permission.

Table 1 *Demographic Information of Participating Teachers and Sites*

School Site	Co-teaching team							Students served	
	Classroom Teachers					Resource teachers	Para-professional	ELL	st. n./ each room
	Grade	Teacher	ESL endorsement	Years of teaching exp.	Years of teaching ELLs				
Indiana Elementary	1st	Ms. Lydia	Yes	A total of 25 yrs, with 16 yrs. in SPED	7	1 Title I reading resource teacher with ESL endorsement	1	15	17
	1st	Ms. Emily	Yes	5	5			1	14
Isabella Elementary	2nd	Ms. Debbie	Yes	8	7	1 SPED Teacher & 1 Title I Reading Teacher	1 is shared by both teachers	5	17
	3rd	Ms. Elisa	Yes	A total of 25 yrs., with 18 yrs. in SPED	6			3	11

Participating sites and teachers

In order to “understand the problem and the research question” (Creswell, 2003, p.185), the researcher intended to examine the inclusion models that the administrators at each school recognized. The administrators from two inner-city schools with a large population of ELLs at the same school district highly recommended the participating teachers to the researcher. Therefore, two classroom teachers were purposefully selected respectively from these two different schools to observe and interview. Table 1 presents the demographic information on the participating teachers and classrooms. The average number of the four classroom teachers’ years of teaching experience was about 16, and the average number of years working with ELLs was six. Of the four teachers, two had previous teaching experiences in special education. All of them participated in professional development and received ESL endorsement after they started to work with ELLs. They also received training on guided reading

provided by the school district. The paraprofessionals involved in the co-teaching team received training on working with ELLs once a month provided by the district office. All the names used in this study for the participating sites, participating teachers, their collaborating partners, and their paraprofessionals were pseudonyms.

Data collection

In the second week of October, 2006, the researcher was at the research sites for a week making observations, conducting interviews, and collecting related documents. The protocols were developed based on the arguments from the related studies on inclusion programs and models. The researcher observed each teacher for about five hours on a regular school day focusing on the reading and language block. During the observation, the researcher was engaged in extended conversation with the teacher whenever it was possible for the teachers. The researcher interviewed each teacher for about 45 to 50 minutes during her planning time, and also had semi-structured interview with some of them during their lunch time. Due to the fact that the researcher lived in another city, follow-up phone interviews and email correspondence for clarification were conducted as well. All the interviews were recorded and transcribed. With the permission of the participating teachers, the researcher collected relevant documents such as daily schedules and students' work.

Data analysis

The interview and observation data were analyzed through the use of a comparative matrix, and themes and trends were developed. According to Merriam (1998), "categories and subcategories (or properties) are most commonly constructed through the constant comparative method of data analysis" (p. 179). The transcription of each interview and data from each observation were categorized and subcategorized. The contents of the categories and subcategories across the two sites were compared and contrasted, and the trends and themes were determined. Seven aspects were developed and categorized: (a) collaboration between the classroom teachers and the resource teachers; (b) scheduling; (c) reading instruction, curricular, and instruction time; (d) workload for the classroom teachers and resource teachers; (e) use of paraprofessionals; (f) assessment of students' ongoing progress; and (h) strengths and challenges of the implemented models from the perspectives of the teachers.

RESULTS

The nature of the two delivery models

Two classrooms from inclusion programs from each site were observed at Isabella Elementary and Indiana Elementary respectively. The two inclusion models adopted by the participating teachers were distinctively different from each other. At both sites, the participating teachers developed a close collaboration relationship and team taught on a daily basis, yet how they worked together was quite different.

Site one: Indiana Elementary

Indiana Elementary was opened in 1999 and the building was renovated in 2002. In the 2006-2007 school year, the student enrollment from Grades Pre-K to six was 246. Of these, 180 who were qualified for ESL service spoke Spanish or Sudanese. About 94% of students were eligible for discounted or free lunch. At Indiana, all students from Grade Pre-K to three were mainstreamed. The Title I reading specialist worked with the classroom teachers and pulled out students for intensive work on reading skills during the reading and language arts block. Teachers at the same grade level collaborated with each other.

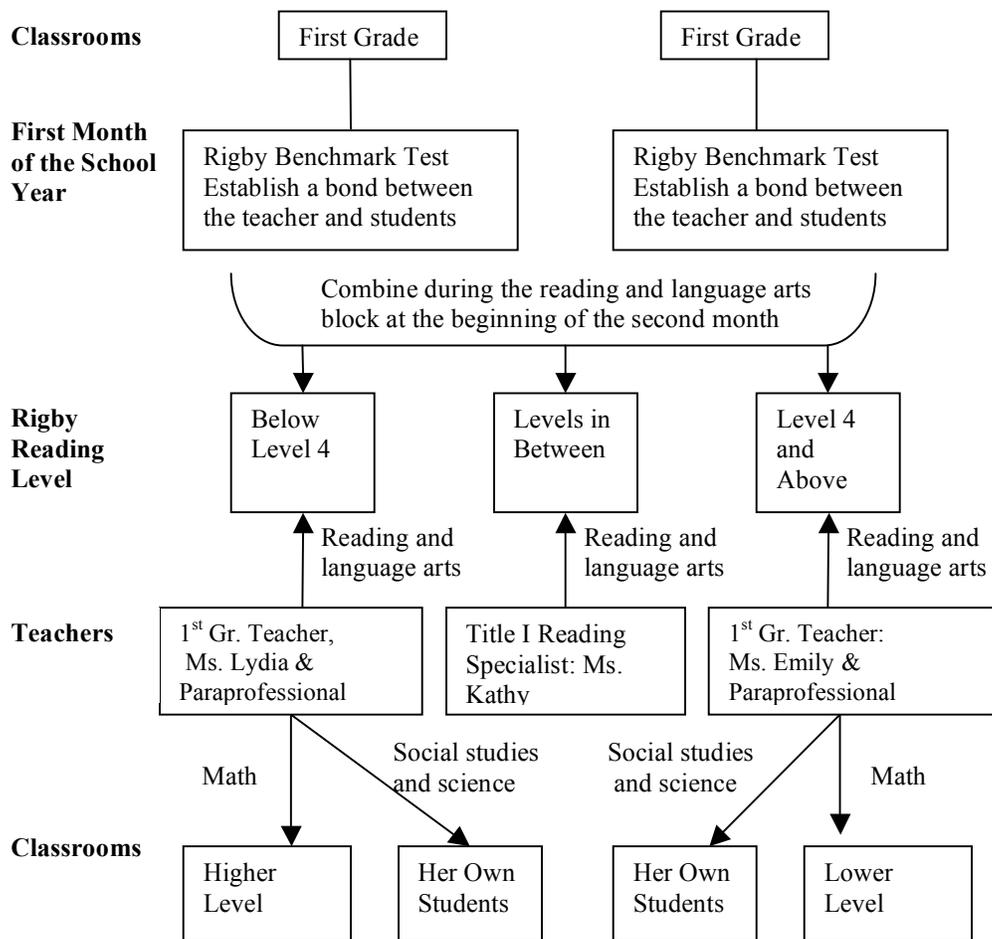
At Indiana, Ms. Lydia was one of the two first grade teachers. She had been a first grade teacher for seven years. This was the second year she collaborated with the other first grade teacher, Ms. Emily, and the Title I reading specialist, Ms. Kathy. Before that, she did inclusion alone. Ms. Lydia had 17 first graders, 15 of them were ELLs. Ms. Emily had 17 first graders, 14 of them were ELLs. Ms. Lydia and Ms. Emily each had a full-time paraprofessional in their own rooms. This year, Ms. Lydia had a student teacher. Most of the time, she had a student teacher in her room.

In the first month of the school year, Ms. Lydia and Ms. Emily kept their own students in their own rooms. Because the school used Rigby guided reading for primary grades, they gave the Rigby Benchmark Reading Pretest to each student and planned guided reading lessons for all the reading levels for their own students for the first month. Another reason for them to keep their own students for the first month was to establish a bond between the students and their own teachers because they wanted to help their students have an easy transition from the kindergarten to the first grade. Beginning with the second month, Ms. Lydia and Ms. Emily combined their students for a two hour reading and language arts block every morning from 9:30 to 11:30am. Based on their Rigby guided reading levels, the students were divided into three big groups: (a) reading levels below level four; (b) reading levels

in between; and (c) level four and up. Ms. Lydia took the struggling readers who could not read on grade level in her room and Ms. Emily took the students in the high end group in her room while Ms. Kathy, the Title I reading specialist worked with the students that were in between and prepared them for Ms. Emily’s group in her resource room.

The two classroom teachers and the resource teacher met weekly for an hour and planned the lessons together, and they also talked informally on a daily basis. The two classrooms were right next to each other. In their own rooms, they broke the students into small groups for individualized and differentiated instruction in reading, writing, and language arts. All students were taught at their instructional levels. In both classrooms, the paraprofessionals led small groups and the two classroom teachers wrote the lesson plans for their paraprofessionals.

Figure 1 Inclusion Model/Indiana Elementary



Due to the classroom space, the resource teacher took the students out to her own room in the same building. The three teachers used Rigby Benchmark Test to assess their students' progress on a regular basis. Ms. Kathy sent students from her group to Ms. Emily's group whenever a student could read at level four, and at the same time, she pulled out students from Ms. Lydia's room when the student was ready for her group.

Ms. Lydia and Ms. Emily collaborated in teaching math in small groups, too. Ms. Lydia took the students at higher levels while Ms. Emily worked with students at lower levels during the math session. They did social studies and science in the afternoon in their own rooms with the help of their own paraprofessionals. Figure 1 presents the model at Indiana.

Site two: Isabella Elementary

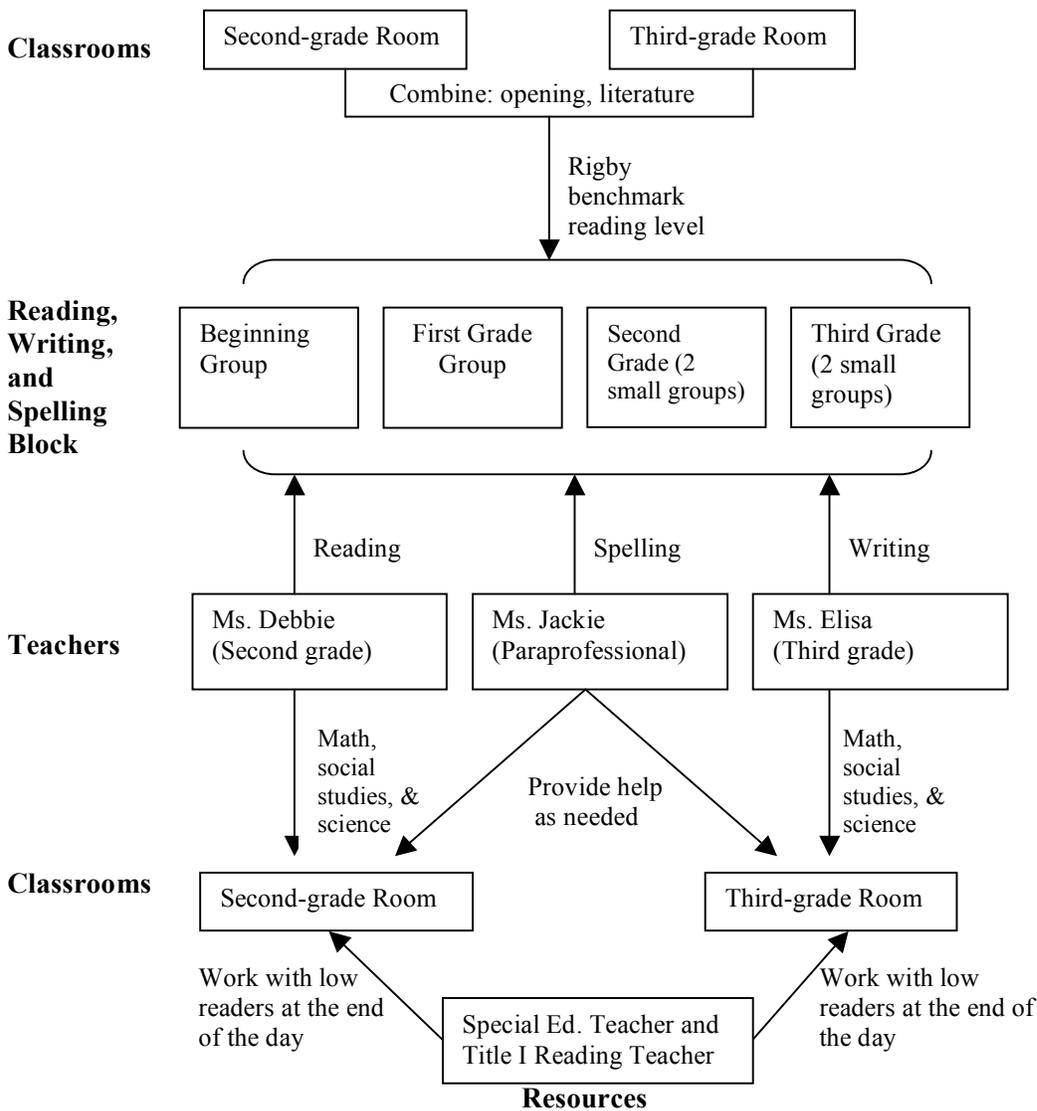
Isabella Elementary was opened in 2002 in the downtown of the city in order to accommodate the growing population in the area. The school used a big old warehouse and divided it into many school rooms as classrooms. In 2004, the school moved into a new two story building. In the 2006-2007 school year, the total population was 650 from Grades Pre-K to six, and 248 of them were qualified for ESL services. The languages spoken were Spanish and Sudanese. About 88% of students were eligible for discounted or free lunch. At Isabella, students from Grades PreK to three were mainstreamed for all subjects. The Title I reading teachers and special education teachers went to classrooms to provide service to the students. Some teachers at the school collaborated with another teacher from the same grade level, and some with another teacher from another grade level, while some others did full inclusion alone.

At Isabella, Ms. Elisa was one of the five third grade teachers, and she had collaborated with one of the five second grade teachers, Ms. Debbie, for six and a half years. The school administrators arranged their classrooms right next to each other. Both of them shared one paraprofessional, Ms. Jackie. Ms. Elisa had 11 third graders with three ELLs, and Ms. Debbie had 17 second graders with five ELLs. This year, neither Ms. Elisa nor Ms. Debbie had any ELL newcomers.

From the very beginning of the school year, they combined students from both classrooms. The students started their first day of school in Ms. Elisa's third grade classroom. Every day, they were together to do the opening of the school, reading, writing, language arts, spelling, and literature. At the beginning of the school year, each student took the Rigby Benchmark Pretest. Rigby guided reading was adopted for the primary grades at Isabella. Their reading levels varied from the first grade to the eighth grade level. Based on their Benchmark reading levels,

the students were divided into the following four groups: (a) one third grade level group; (b) one second grade level group; (c) one first grade group; and (d) one group at the very beginning level. The two large groups of the third grade level and the second grade level were split into 4 small groups. Altogether students were assigned to six reading groups. They blocked three hours (two in the morning and one in the afternoon) at the same time every day to do the reading, writing, and spelling block. Each group received about 25 minutes direct instruction from the teacher and 25 minutes independent working time under the supervision of the teacher, so students actually had at least 50 minutes reading, 50 minutes writing, and 50 minutes spelling daily.

Figure 2 Inclusion model /Isabella Elementary.



Ms. Elisa, Ms. Debbie, and Ms. Jackie met weekly for an hour to plan together. Ms. Elisa led writing groups, while Ms. Debbie led guided reading groups, and Ms. Jackie led spelling groups. The school administrators blocked the same time slot for PE, music, arts, and library for both classes. In the afternoon after the one hour reading block, Ms. Elisa and Ms. Debbie did math, social studies, and science in their own rooms. The school resource teachers went to their rooms to provide services. Ms. Jackie assisted them as needed. Figure 2 illustrates the model observed at Isabella.

Differences and similarities of two inclusion models

Differences and similarities are found in the two inclusion models. The major differences were as follows: (a) the Isabella model used full inclusion, whereas the Indiana model incorporated pullout during the two-hour reading/writing/language arts block time, but the pullout in reality is part of the inclusion because all the students were working on the same subjects at different levels; (b) at Isabella, two teachers from two close grade levels collaborated, but at Indiana, two teachers from the same grade level collaborated with the reading resource teacher during their reading block time; (c) at Isabella, teachers divided the teaching responsibilities by subject area—each teacher only taught one subject to all students during the block time. However, they differentiated the levels and scaffolded the teaching materials. At Indiana, the teachers divided the teaching responsibilities according to their students' reading levels: one teacher took the struggling readers, the other took the students with high reading levels, and the resource teacher took the students in between the two levels. All teachers taught reading, writing, language arts, and spelling during the block and differentiated instruction based on students' needs; (d) at Isabella, with second and third grade students, the reading block was three hours, and during the three hours, reading, writing, and spelling were taught as separate subjects; at Indiana, with just first-grade students, the reading block was two hours, and reading, writing, and language arts were integrated; and (e) at Isabella, the students from two classes were put together on the first day of school to establish a bond with the teachers with whom they were going to work, whereas at Indiana, the students from two classes were put together one month after school started after they had established the bond with their own teachers. According to the teachers at Indiana, their first graders needed more time to make a smooth transition from the kindergarten to the first grade.

Although the percentage of ELLs was different, with 39 at Isabella and 75 at Indiana, similarities were observed between these two models: (a) at both sites, the guided reading approach and Rigby reading materials were

used for reading instruction; (b) paraprofessionals participated in the weekly planning meeting and led spelling groups during the block time; (c) the students were instructed at their instructional levels and not exposed to the regular grade level reading materials until they were ready for them; (d) ELLs were placed in groups with native speakers; and (e) the school administrators blocked their reading/writing/language arts period every day at the same time.

Strengths and challenges

The study findings demonstrated the strengths of the inclusion models as follows:

1. As a result of the collaboration between teachers, every student's needs were met, and there was no gap in students' reading instruction between classroom teachers and the Title I reading specialist. Ms. Lydia stated, "We can meet the needs of all kids--the kids are on grade level and above the grade level, and the kids below the grade level, so everybody's needs are met. No kids are left behind. Because of the pressure of getting kids on grade level, I think a very good part our model is that the reading specialist can take those high kids in my group and just go, go, go, get them on grade level. Last year, we had a lot of kids on grade level."
2. Students worked at their instructional levels in small groups.
3. Teachers did not have to worry about curriculum misalignment.
4. The same assessment tool was used to monitor students' progress on an ongoing basis.
5. Scheduling became simple. Classroom teachers and resource teachers did not have to spend much time and energy figuring out when to see the student and how long they were able to see the student. They did not have to consider the problems of scheduling conflicts.
6. Teachers' workload decreased relatively. The participants felt their workload decreased as they only planned reading, writing, and language arts for their own group of students or planned for one subject such as writing, reading, or language arts at different levels. One participant felt the workload was "evened out."

The results clearly indicate that without collaboration between classroom teachers and resource teachers, it is hard for either model to work out successfully. However, the challenges collaboration brings are noticeable as well. According to the participants, it took them a lot of effort to figure out a way that worked for both their students and them. Even though the model used at Isabella had remained the same for the last couple of years, the students changed and so did the curricula for some subjects, such as the new spelling curriculum. Thus, every school year is new and challenging for them. They had to make accommodation to continue their collaboration in order to implement their model appropriately and effectively.

One of the challenges participants at both inclusion models faced was that they had to find the "right person" to work with. They strongly believed that having "the same work ethic" and "a certain personality" played an important role in a healthy co-teaching relationship. In addition, one participant pointed out that collaboration

with another teacher was kind of “like a marriage, we have to work on it.” Moreover, they needed to make a commitment to what was being implemented. Ms. Elisa commented,

Sometimes we might have to quit doing other things, we have a set time when we meet once a week for an hour to plan and touch base to see where we are, to see where the kids are academically or behaviorally. The paraprofessional’s suggestions and opinions are also received the same respect.

Furthermore, sometimes the number of students in small groups became fairly large as when the students’ reading and math levels moved up, the students were moved to the next level group. The number of the students in each group fluctuated as the students made progress and the teachers needed to regroup students accordingly.

Frustrations and struggles

None of the participating teachers believed that they could do inclusion without collaborating and co-teaching with another teacher and the resource teachers. Besides the difficulty of finding “the right person” to work with, at the initial stage of collaboration, they had to spend tremendous amounts of time figuring out a model that was practical, applicable, and effective, which also required them to be flexible and willing to make changes in order to meet the needs of their students. Ms. Lydia at Indiana remarked,

The whole picture is that you have to have teachers who are highly motivated to try to make it work and make sure the students will success, so they can try to figure out something that will work out for the students. In our model, we all work very hard, and we both are very committed to it. We were so desperate to find out the way. Collaboration, you know, is a big thing.

Ms. Elisa at Isabella noted,

You have to be willing to. We are not isolated, you know there are some teachers who still think that teaching is isolated and they don’t want to share kids, they don’t want to share rooms. You have to be willing to, it’s kind of like marriage, you are not alone. If somebody really wants to work with other people, and willing to share ideas, share their resources, and share their personal space, their rooms, they can work together wonderfully, just to break up their own kingdoms. I know it doesn’t work for all people. I think it can work, in what we are doing here; nothing will work out without collaboration.

The participating teachers were very positive about their models, yet they understood there was no perfect model. They could be frustrated when the small groups tended to become large and they had to regroup the students again to keep the groups small or when the noise in their rooms tended to be distracting due to many small groups going on at the same time. After all, they learned to cope with their frustrations because their goal was to meet the needs of all students and help them succeed. As Ms. Lydia said, “Whatever it takes.....” Apparently, the

participants' desire to help ELLs and all students succeed, their willingness to collaborate, and their commitment to make it work helped them overcome their struggles and frustrations.

DISCUSSION

The findings show that ELLs placed in two inclusion models was instructed in small groups (Carter, 1984) during reading instruction time, depending on the students' instructional levels. This result is consistent with the findings of Faltis (1993) and Begoray (2001). However, in the current study, the first-grade students received shorter guided reading instruction time than the second- and third-grade students.

Unlike the findings of many previous studies (Layzer, 2000; McLesky & Waldron, 1996; Wade, 2000a), the results of this study found that the participating teachers were very positive about their inclusion models even though the two models were quite different, which is in agreement with the study of Honigsfeld and Dove (2010). The results confirm the recommendations of team teaching and instruction in small group settings from previous studies (DeLeeuw & Stannard, 2000; Elliot & McKenney, 1998; Honigsfeld & Dove, 2008, 2010; Wertheimer & Honigsfeld, 2000; York-Barr, Ghere & Sommerness, 2007).

In this study, instead of collaboration between ESL specialists with classroom teachers (Honigsfeld & Dove, 2008), two classroom teachers either at the same grade level or different grade levels team taught. In one model, the school reading specialist was part of the team. The findings suggest that it is difficult for one classroom teacher to implement an inclusion model because the students in one room are at various academic levels. Team teaching is an effective way to include all the students in the room; at the same time, each student's needs could be met, which is in agreement with the study of York-Barr, Ghere & Sommerness (2007) and the recommendations made by Honigsfeld & Dove (2008, 2010). The participating teachers in both inclusion models used different strategies and practices to facilitate students' learning such as whole-class instruction, small-group strategies, individual instruction, group and individual conferencing, and independent learning, which were suggested by Wertheimer and Honigsfeld (2000) and Honigsfeld and Dove (2008, 2010). In this study, both teachers and the reading specialist modified their instruction and curriculum according to the students' instructional levels, which echoed the research of Anstrom, 1997; DeLeeuw & Stannard, 2000; Harklau, 1994; Harper & Platt, 1998; Stainback & Stainback, 1996; Watts-Taffe & Truscott, 2000. Paraprofessionals were part of the collaboration team, which confirmed the suggestions made by Elliot & Mckenny (1998) and Honigsfeld & Dove (2010).

In terms of the support the participants received from their administrators, it was apparent that their administrators created “physical and virtual spaces that support the collaborative team’s planning and instruction for ELLs” (Honigsfeld and Dove, 2010, p.147) by blocking the special time and reading/language arts time as well as provided the needed physical facilities such as the arrangement of the classrooms for the collaborating teachers. Regarding the teachers’ workload in this study, the participating teachers did not feel that their workload increased because of collaboration. At one school, a classroom teacher even felt her workload decreased because she only needed to plan for the struggling readers for both classrooms. The resource teachers went to the classrooms to work with ELLs and students with special needs. Therefore, scheduling was not difficult for the participating teachers in this study. As a result, the disruptions caused by students going in and out of classroom were decreased (Elovitz, 2002).

The findings of this study strongly indicate that inclusion can work for ELLs and confirmed principles and strategies recommended by Honigsfeld and Dove (2010), but it is difficult for one classroom teacher to accomplish this job. The results signify that team teaching plays an important role in closing the achievement gap (Zehr, 2006, Honigsfeld & Dove, 2008, 2010). Collaboration is the key to the success of inclusion programs, but it is impossible to make it happen overnight, which echoes the study of York-Barr, Ghore and Sommersness (2007) and Honigsfeld and Dove (2010) in terms of building up knowledge that assisted and promoted collaboration as well as assigned personnel strategically.

Teachers are individuals, and their mindsets about teaching have been shaped by their personal educational backgrounds, the training they received, their teaching experiences, and their individual personalities. No doubt, change takes time, but being open-minded toward collaboration and co-teaching can help speed up the process. In order to meet the diverse needs of ELLs and all students, more collaboration between classroom teachers and resource teachers is needed; without collaboration and effective communication, the academic and social needs of students are hard to be reached.

As long as inclusion programs are implemented, argument about their effectiveness, strengths, challenges, and weakness will continue. No perfect model has been identified for ELLs and learners with special needs. Schooling is constantly changing and students are changing as well (McLesky & Waldron, 1996), therefore, there is no perfect model or program formula for a certain school to follow. Classroom teachers and resource teachers need

to collaborate and work together to help their ELLs and all students succeed. Regardless of a particular model, meeting every student's needs should be the goal, and this goal is reachable.

Recommendations for inclusive practices

1. For school and district with a large population of ELLs, administrators should provide training to the in-service teachers on inclusive practices, specifically, on how to implement a model.
2. Administrators should provide all possible support and encourage teachers to team teach and offer them the freedom in terms of how a model should be implemented.
3. Administrators should provide training to paraprofessionals regularly so that they could assist both classroom and resource teachers in a more effective way.
4. Clari (1993), William (2001), and Youngs and Youngs (2001) pointed out that the curricula of the teacher preparation programs at the college levels need to incorporate the needs of the public schools into their mandatory courses. Based on the findings of this study, university and colleges should offer courses that cover inclusive practices for ELLs so that the prospective teachers could be better prepared for the challenges of working with diverse learners.

Limitation of the study

The perspectives of the participating teachers of the two delivery models for ELLs at two elementary schools were investigated at an in-depth level and their voices about implementation of their model were heard. Although the participants were positive about their inclusive practices and believed their model worked well for their students, descriptive data are needed to explain the gain in students' academic achievement. Therefore, a study on the ELLs' improvement in inclusion models is recommended to further and deepen the study.

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PERSONAL NARRATIVE: FROM STORY TO SCIENCE

Dena Thorson

ABSTRACT

This study explores how writing personal narratives helps ESL students demonstrate their understanding of science vocabulary and concepts. Key influences include: the funds of knowledge students bring to the classroom (Moll, Amanti, Neff, & Gonzalez, 1992), academic English (Zwiers, 2008) vocabulary instruction (McKeown & Beck, 2004), and scientific literacy (Lee, 2005 and Lemke, 1990). The research method consisted of five cycles of action research with 11 eighth-grade ESL students in an ESL classroom which supported what was concurrently being taught in the mainstream science class. Collected data included observations and written personal narratives. The main findings were: 1) students can demonstrate understanding of both science vocabulary and concepts as well as academic language functions common to science through personal narrative writing, 2) students can apply science vocabulary when writing about their life experiences, and 3) intentional and thoughtful planning and preteaching of vocabulary helps students access and engage in science content.

INTRODUCTION

Content and ESL (English as a Second Language) teachers need to work together to engage ESL students more in science content. When we examine ESL student participation in the science classroom as well as their grades in science class and their scores on tests and national exams, there seems to be a disconnect; ESL students are not performing as well as they could be. How can we help them realize the connections between their own lives and science concepts both in and out of the classroom? Reasons for this disconnect are numerous. Some students are simply timid or may come from a more traditional educational background where teacher-led learning conflicts with the expectation in U.S. schools that students take a leadership role in their own education by inquiring, questioning, exploring (Fradd & Lee, 1999). Students might also disengage because their definition of science might not overlap with Western science (Aikenhead & Jegede, 1999; Lee, 2001; Solano-Flores & Nelson-Barber, 2001). Students may not be interested in the science lessons or may not see how the learning connects to their own lives (Lemke, 1990). Students may lack prior knowledge necessary to understand the concepts being taught (American Association for the Advancement of Science [AAAS], 1989, p.150) or may not have the language or vocabulary to express their ideas or ask the questions they need answered.

The disconnect between ESL students and science is also apparent in assessments. The achievement gap for ESL students in science is evident and expanding. Most recently, the 2009 National Assessment of Educational Progress (NAEP), reports that nationwide, the average eighth-grade ESL student scored 50 points below the average non-ESL student, whereas, on the 2005 NAEP assessment that same gap was only 44 points (National Center for Education Statistics [NCES], 2009). In Minnesota, scores for ESL students were 10 points higher than the national

average but still 48 points behind the average score for non-ESL students (NCES, 2009). ESL students need support to better access science content and close this gap in science achievement (AAAS, 1989).

In addition to teaching English as a Second Language to sixth, seventh, and eighth graders in my own classroom, the past two years I went into an eighth-grade science class every other day for 2 hours to support ESL students in their mainstream content work. Initially, the science teacher and I were both discouraged by our ESL students' low test scores, unenthusiastic participation, and lack of science vocabulary usage in speaking or writing activities. During science class many ESL students are generally hesitant to ask questions or be assertive when it comes to participating in both large or small-group activities, and I certainly do not hear them discussing science concepts or using the vocabulary of the unit being taught; they are not talking science. The science teacher and I did not have a lot of time to plan together, but we were determined to help ESL students be more engaged with the science content. One way to do that is to utilize a familiar format to learn unfamiliar content. This action research project explored the use of personal narrative writing to engage students in science content and provide them with an alternative method of demonstrating comprehension of science concepts and vocabulary.

LITERATURE REVIEW

Science Response to Disconnect

Science for All Americans: Project 2061, the landmark for science education reform sponsored by the American Association for the Advancement of Science, was a monumental response to several problem areas in teaching and learning in the field of science (Lee, 2005). In its effort to enhance scientific literacy, AAAS published a common core of learning in math, science, and technology as well as an extensive set of recommendations that especially targets students who traditionally have been left on the periphery when it comes to learning science, namely, girls and ethnic and language minority students (1989, p. 20).

One way to bring students in from the periphery is by tapping into their *funds of knowledge*, the unseen knowledge and skills gleaned from home, community, and cultural experience, passed from generation to generation, that ESL students bring to the classroom (Moll, Amanti, Neff, & Gonzalez, 1992). The *teacher* in these settings outside of school might be a parent, a relative, or a neighbor who may have a much broader sense of the student than is available to a classroom teacher. In these situations, much of the learning is motivated by the children's interests and questions which may not be the case in the classroom (Moll & Greenberg, 1990). The more

teachers know about their students, the more they can tailor content and instruction to motivate and engage students in learning. The study of funds of knowledge grew out of the field of anthropology and ethnography. Time and logistics do not usually allow teachers to do in-depth ethnographic investigations of students' cultural and life experiences. One way to uncover this deeper knowledge of students is through writing personal narratives that give teachers an idea of students' background knowledge of and previous experience with a certain topic.

Funds of knowledge could be a goldmine for teachers looking to align lessons with ESL students' prior knowledge or who are struggling with how to motivate students. Education and science literature calls this *cultural* or *instructional congruence*; teaching in ways that incorporate students' language and cultural experience, their background knowledge and ways of participating in classroom activities, and the cultural and intellectual resources they bring into the classroom (Gay, 2000; Lee & Fradd, 1998; Luykx, et al., 2007) in order to make science content meaningful and relevant to students and thus more accessible. Students from nonmainstream backgrounds acquire in their homes and communities cultural norms and practices that are sometimes incongruent with those of school. Ultimately, it is the classroom teacher who serves as the bridge between the students', and their families', funds of knowledge, and their experience in school, but for various reasons, teachers and schools rarely tap into the funds of knowledge of their students (Lee, 2005; Moll, Amanti, Neff & Gonzalez, 1992; Velez-Ibanez & Greenberg, 1992).

Language Response to the Disconnect

Research on science education with ESL students is a developing field, most articles having been published since the mid-1990s (Lee, 2005, p. 510), and has rarely considered the role of language and culture in students' learning although many researchers realize it is a critical piece in that learning (Janzen, 2008; Lee, Deaktor, Hart, Cuevas & Enders, 2005; Luykx, et al., 2007). Gaps in reading performance between ESL students and native English-speaking students are associated with gaps in vocabulary knowledge (Carlo, et al., 2004; Francis, Rivera, Lesaux, Kieffer & Rivera, 2006) but programs in schools or research studies to improve ESL students' vocabulary are scarce (Beck, McKeown, & Kucan, 2002; Garcia, 2000; Wellington & Osborne, 2001). ESL students need explicit vocabulary instruction targeting both general academic words as well as words specific to science because they are less likely than their native English-speaking peers to be able to discern meaning from context (Beck, et al., 2002; Carlo, et al., 2004; Janzen, 2008).

Vocabulary

There is agreement that word knowledge represents knowledge in general (Townsend & Collins, 2009; Vygotsky, 1986). When teachers ask students to think about new ideas verbally or in writing, students are deepening their engagement with and understanding of new information (Janzen, 2008). Unfortunately for ESL students, a lack of language proficiency and word knowledge may be interpreted as limited content knowledge (Lee, et al., 2005; Luykx, et al., 2007). ESL students are at particular risk for struggling with academic vocabulary because they may not have the same amount of background knowledge or exposure to different layers of meanings for words as native English-speaking students (Janzen, 2008; Townsend & Collins, 2009, p. 995). Academic vocabulary is not only content-specific words like *monarchy* and *ion*, but also the general academic words, such as *therefore* and *results*, used to access science concepts.

McKeown and Beck (2004) classify vocabulary words into three tiers. Tier 1 words are the most basic, high-frequency words – *sister*, *stop*, *chair*, and so on, that rarely require explicit vocabulary instruction. Tier 3 words such as *archipelago*, *trapezoid*, and *barometer* are low-frequency and usually specific to a certain content area. A rich understanding of Tier 3 words is not as critical as Tier 1 or Tier 2 seeing as students will probably only encounter these words in specific settings, however, explicit teaching of Tier 3 words can be useful when the need arises which is often the case in science class. Deliberate vocabulary instruction can have a powerful impact on Tier 2 words like *result*, *product*, or *conclusion* - high-frequency, high-utility general terms that cross content areas and are encountered by students in a variety of settings (McKeown & Beck, 2004). Science textbooks tend to focus on Tier 3, science-specific vocabulary, so it is critical that content science teachers are aware of and teach Tier 2 words which can greatly impede or enhance ESL students' access to science content.

Although academic language encompasses a wide-range of vocabulary, grammar, functions, strategies, and features used to describe complex ideas, higher-order thinking, and abstract concepts (Zwiers, 2008, p. 20), this study focuses on the academic vocabulary and concepts used in the content area of science. The academic language of science tends to describe phenomena, establish relationships, make comparisons, support claims with evidence, determine cause and effect, generate hypothesis, interpret data, generalize, and describe procedures (Zwiers, 2008, p. 85-86).

Personal Narrative

Some researchers advocate using narrative writing for precisely the same reason that others might shy away from it; it is not scientific discourse, in the traditional sense, however, this familiar genre can be an effective way to engage students in unfamiliar content and begin the process of helping students to express their thoughts in written language (Wellington & Osborne, 2001, p.75-76). In order to engage students more in science content there has been a movement in the field of science in recent years to shift away from more lecture-based instruction to more creative means of teaching science including the use of storytelling and narrative (Isabelle, 2007; Lemke, 1990; Warren, Ballenger, Ogonowski, Rosebery & Hardicourt-Barnes, 2001). Multiple-choice and true/false tests require students to memorize meanings, but they do not assess students' ability to get to the deeper meanings of the words. Only assessments that require students to flexibly assemble words into sentences for themselves can give us an idea of students' level of comprehension of science vocabulary and concepts (Lemke, 1990, p.172). Since they are drawing from their own experiences and knowledge, narratives provide students the opportunity to demonstrate understanding in a personal and relevant manner without the interference of other unfamiliar words.

METHODOLOGY

Guiding Questions

In order to explore if writing personal narratives can help ESL students be more engaged in science content and demonstrate their understanding in an alternative way, two specific questions guide this study:

1. Does writing personal narratives help students demonstrate their comprehension of science vocabulary and concepts?
2. Are students able to apply science vocabulary and concepts when writing about their own life experiences?

Data Collection

Participants/Setting

Participants were 11 eighth-grade ESL students. Home languages represented in this group included: Somali, Khmer, Tigrinya, Spanish, and Mandarin Chinese. Levels of proficiency in English ranged from Beginner (some social English proficiency but very limited academic English proficiency) to Advanced (proficient in both

social and academic English and getting ready to transition out of the ESL program). Each student in the study was assigned a number, 1 through 11, for identification purposes while analyzing the data. The number of students participating in each action research cycle varied due to students moving in or out of the school district or being absent for vacation. All student names have been changed.

The school in this study schedules classes based on a block schedule model; daily schedules alternate between *green days* and *blue days*. On green days the eighth-grade ESL students had science during their seventh and eighth periods. I went into their science class with them to take notes, assist with labs, support students during quizzes and tests, and to make sure that I understood the content. On blue days during seventh and eighth periods, students had ESL where I supported the science content and carried out my action research.

Data Collection Technique – Personal Narratives

Narrative is a genre of writing with several defining characteristics that differ from the expository writing often used to convey science content. There are many types of narratives, but this study used what Derewianka (1991) would call a *personal recount* where a writer reconstructs a past experience and the purpose is to tell what happened. It begins with an orientation (i.e. the who, where, and when of the event) followed by a series of events usually in chronological order. It may contain some personal comments about the event but it does not necessarily make use of a problem/resolution organizing structure. Although what students were expected to write is called a personal recount by Derewianka, it is referred to as a personal narrative throughout this study which speaks more to the genre of writing and is more widely recognized by students and teachers.

Students received several directions to guide them in writing their narratives. Narratives had to be based on something real from students' own lives. Students were directed to use all the target words within the narrative but could utilize parenthetical references if the words did not fit tidily into a sentence. In a narrative about energy, regarding a day spent at the Mall of America to celebrate Eid, one student wrote, "I was riding the roller coaster. It stopped at the top (potential) and then it dropped (kinetic)." By using parenthesis in her writing she was able to demonstrate an understanding of the target vocabulary words *potential*, stored energy represented by the roller coaster stopped at the top ready to drop, and *kinetic*, moving energy represented by the roller coaster dropping.

Action Research Cycles: General Procedures

The structure of action research can vary from project to project. Sometimes a unique, planned component is added to each cycle and subsequently analyzed. My study, however, used a similar procedure for each cycle and at the end of five cycles, the effectiveness of personal narratives was analyzed by looking at how students incorporated science vocabulary and concepts into their written narratives across all cycles. The timeframe between steps one and six was approximately 3 weeks. Language instruction began in the ESL classroom approximately 1 week before the unit began in the science classroom so that ESL students could go into the science unit with some background knowledge.

1. Prior to each science unit, which corresponded to an action research cycle, the science teacher and I identified ten target vocabulary words using McKeown and Beck's (2004) classification of vocabulary words into three tiers. The vocabulary words we chose were a combination of Tier 3 and relevant Tier 2 words from the science textbook or the science teacher's materials. I selected some additional Tier 2 words based on McKeown and Beck's (2004) criteria: interesting and useful, found in a variety of contexts, and can be explained with words that students already know.
2. In order to write student-friendly definitions for each word, I consulted The American Heritage Student Dictionary, the Collins Cobuild Dictionary, designed especially for creating student-friendly definitions (Beck, et al., 2002), ACCESS Science (Duran, Gusman, & Shefelbine, 2005), a textbook designed to build literacy through science, and the classroom science teacher. These definitions were then used to scaffold the definitions given in the science classroom or the mainstream science textbook.
3. After a brief engaging introductory activity with the words, students copied the teacher-created, student-friendly definitions and then as a large group, generated an example sentence for each word that demonstrated the word's meaning within the science context of the current unit.
4. Students then worked with target vocabulary in a variety of activities. I was able to tailor the activities to meet the specific science objectives for each unit as well as give students ample opportunities to play with the words.
5. Content instruction began in science classroom.
6. Students wrote personal narratives incorporating the target vocabulary words. Peer and teacher conferences at times helped redirect students to more appropriate meanings for the words.

Action Research Cycles: Cycle-Specific Procedures

Before the action research began, students had practiced the general procedures with a unit on energy. Students were given an example narrative created from my own life that used the vocabulary words within a personal context. Each of the five cycles followed the same general procedures detailed above, but the excerpt below gives specific information on the vocabulary, vocabulary teaching activity, and language instruction used in one of the five action research cycles. During and after each action research cycle I noted observations, reflections/evaluations, and any modifications for future cycles.

Cycle 2: Genetics

The following table lists the target vocabulary words, the teacher-created, student-friendly definitions, and the group-generated example sentences for each word in this cycle. Student names have been changed.

Table 3.2 Cycle 2 Genetics Vocabulary Words, Definitions, and Example Sentences

Vocabulary	Student-friendly definitions	Group-generated example sentences
genetics (n.)	the study of how traits (characteristics or qualities) are passed on from parents to children	<i>Scientists are using <u>genetics</u> to study why tigers are sometimes white.</i>
trait (n.)	a feature that can be controlled by genes (for example, eye or hair color)	<i>Amran may have inherited the <u>trait</u> influencing her moods from her mom.</i>
inherit (v.)	to receive a quality from someone in your family	<i>Dalia <u>inherited</u> her height from her dad.</i>
DNA (n.)	a chemical in the cell that stores genes (deoxyribonucleic acid)	<i>Teshome inherited his <u>DNA</u> from his parents.</i>
divide (v.)	to cut or split into parts	<i>Visal <u>divided</u> my paper into two pieces for the math quiz and gave one to Mikayla.</i>
offspring (n.)	one or more organisms born of or from a parent (baby plant or animal)	<i>Tigers usually have three <u>offspring</u> (cubs) each time they give birth.</i>
gene (n.)	the part of a cell that controls a person's, animal's, or plant's characteristics, growth, and development; a section of DNA from a chromosome that passes on traits from parents to offspring	<i>Asad got the <u>gene</u> for his ears from his dad.</i>
characteristic (n.)	the nonscientific word for "trait", a quality that defines or describes something, could be shy or talkative, for example (character)	<i>Animal and bacteria cells have different <u>characteristics</u>.</i>
chromosome (n.)	structures in the cell nucleus that have information or plans for the organism	<i>The function of the <u>chromosome</u> is to give directions to the cell.</i>
produce (v.)	to make, give us	<i>The tree <u>produced</u> food, oxygen, shelter, and paper.</i>

The vocabulary teaching activity we focused on in this unit incorporated classifying. Students were given a list of traits or behaviors and they had to classify these into two groups: determined by genetics or not determined by genetics. In science class students sorted the vocabulary words into a chart using the following categories: *I don't know this word, I know this word but I don't know what it means, I know this word and can use it in a sentence.* They also made their own personal Word Walls.

As part of the language instruction for this cycle, I reminded students of how to begin a narrative by introducing and describing the specific characters and the setting as well as making sure to use a consistent past tense. I redirected them to the initial example I had written demonstrating what was expected.

DATA ANALYSIS

Students underlined the target vocabulary words in their narratives making it easier to mark an “S” (correct scientific meaning), “P” (polysemous meaning), or “I” (incorrect) above each word directly on the narratives. Tallied responses are seen in the table below. Numbers in the table represent quantity of students in each category. First, the number of students who actually used each target vocabulary word in their narratives was tallied. If used, I then tallied and classified vocabulary results according to how the words were used in the narratives: 1. vocabulary word used correctly, with the intended scientific meaning, 2. vocabulary word used in a polysemous way, and 3. vocabulary word used incorrectly. I marked words incorrect if a student failed to provide enough information in the sentence to discern meaning, if it was obvious the student did not understand the word enough to use it correctly, or if the exact definition from class was used in a sentence, also making it difficult to discern if the student truly understood the meaning. If I was unsure if the word was being used correctly in the intended scientific domain, the science teacher verified meaning. This scoring guide allowed me to focus both on the vocabulary words themselves, i.e., were there any patterns where certain words gave all students trouble or not, as well as on the individual students, i.e., how well each student used each word. In the final analysis, only words used with the intended scientific meaning were counted as correct. The polysemous meanings were both correct, used in a meaningful way, and incorrect, the meaning was outside of the scientific context. Noting the polysemous meanings helped me see where I needed to clarify content, but I left them out of the final analysis.

Action Research Cycles – Vocabulary

Cycle 2: Genetics

Vocabulary: trait (n.), inherit (v.), divide (v.), characteristic (n.), produce (v.), genetics (n.), DNA (n.), offspring (n.), gene (n.), chromosome (n.)

Table 4.2 How Cycle 2 Genetics Vocabulary Words Were Used in Narratives (n = 9)

Vocabulary words	Number of students who used the word in narrative	Number of students who did not use the word	Number of students who used the intended scientific meaning	Number of students who used the word in a polysemous way	Number of students who used the word incorrectly
trait	9		8		1
inherit	9		8		1
divide	9		7	2	
characteristic	9		7	1	1
produce	9		9		
genetics	9		2		7
DNA	9		8		1
offspring	9		7		2
gene	9		8		1
chromosome	9		1		8

All nine students used all ten vocabulary words in their narratives. Only one word, *produce*, was used with the scientific meaning by all students. Four words, *trait*, *inherit*, *DNA*, and *gene* were used correctly by eight out of nine students. Two students used *divide* in a polysemous way while one student used *characteristic* in a polysemous way. Two words that at least half of the students used incorrectly were *genetics* and *chromosome*. In fact, only two students used *genetics* correctly and only one student used *chromosome* correctly.

Eight out of the nine students did not use the word *chromosome* correctly. They seemed to understand that chromosomes carry information that determines what we look like, but most students said those traits were due to a varying number of chromosomes instead of a variety of information on each chromosome. When discussing two tiger cubs seen on TV, one student wrote:

One cub inherit his dad skin color. Then they has another baby cub (offspring). this baby have the same trait as his mom. The two baby look alike too because have the same DNA as there parents. The second baby [got] gene for print on his body from his dad. The two tigers has a lot of different characteristics even though they were produce from the same parents. They both still look alike because they have the same number of chromosomes.

Nine students completed this cycle of ten vocabulary words. There were no instances where words were not included in the narratives and three instances where words were used in polysemous ways leaving 87 instances of using words in narratives either correctly or incorrectly. Overall, 75% of the words were used correctly while 25% were used incorrectly.

Preteaching the vocabulary helped students access and be more engaged with the science content. After working with most of these students for three years, it was evident that their confidence had increased. During a quiz in the science classroom, a few students turned to me with big smiles on their faces when a question about cells appeared on the screen. They knew the answer. Others readily volunteered in the science classroom for a skit I had written. While working on the narratives, one student, on her own, got an ACCESS science book off the shelf to help her understand the concepts better and get her words to fit into her narrative. I do not often see this kind of initiative. Two students asked me if *trait* and *characteristic* were the same thing. I told them, “Yes, but *trait* is used more just for science.” When trying to figure out which letters go in which boxes in Punnett squares, one student’s eyes lit up, “Like a multiplication table?” Students were making connections to prior learning all on their own.

Several students exhibited scientific thinking, an aspect of academic language, in their personal narratives. When writing about knowing a set of twins, one student demonstrated several aspects of scientific thinking:

They both had the same characteristics like they alike like their nose was wide open their eyes was brown, ... but what really surprised me was their height. One was taller than another. Oh, before I get you too exciting and surprising about my story, I have to tell you their names.

He went on to explain that one parent was tall and one parent was short so the twins probably inherited their heights each from a different parent. This example shows how he demonstrated scientific thinking by making claims, for instance, the twins had the same facial characteristics but were different heights due to what they inherited from their parents, and then supporting those claims with evidence or details by describing nose shape and eye color and the different heights of the parents and the twins. Later he used conditional statements, to pose questions and hypothesize, another form of scientific thinking, “If the two brothers were the same except height, what about the DNA? Was it the same? Was the chromosome equal? I thought so but I knew for sure Mikal’s gene was from his mom.” Using conditional statements demonstrates that students are thinking beyond their personal experience and making connections between ideas (Zweirs, 2008, p. 31).

A common function of the academic language of science is to establish and describe relationships. Many narratives from this unit provided examples of this. One student demonstrated a general understanding of the science concepts related to genetics and genetic relationships when she wrote about taking family pictures:

Picture Perfect - My family is made of 6 people: my dad, mom, sister, and two brothers. So when its picture it’s a lot of work. Like we all have to dress up and all. It is fun to take picture with my family, especially when we mostly look a like. My other brother looks different than the rest of the family. It’s like he didn’t inherit anything from my dad and mom. Trust me with this if you see him two, you would say did you

adopt this child. When I was younger that's what I used to think. I would say my family is divided in to 3 section, you can see this in pictures. So my brother doesn't look alike anyone, my sister look like my dad and then me and Ayman look alike my mom. Even thow we all have different characteristic we have that one thing that connect us. me and my brother have a lot of trait from our mom. Like the shape of our faces and our teeth. Even thow we all where the offspring of our parints we are still different in many ways. "Everyone ready" snap snap the photo guy took our pictures. As we were wating for our next fram I remembered something. That me and my sister have the same face structure, even thow she is not my mom. I think that's because we both have the same number of chromosome from each parent. I am gussing that we may even have some DNA the same. My sister got the gene for her lips from our dad. Even thow he both produced us. Many people don't know the genetics of my tallness but it all gose back to my grate grandfather. He was 7, 2. That's very tall. Snap, snap, we took all of our picture and we were done for the day. P.S. I can bring you those picture if I find them.

This student demonstrated another example of scientific thinking by hypothesizing, "I am gussing..." a common function of the academic language of science, when she questioned why she and her sister have the same facial structure.

Action Research Cycles – Funds of Knowledge

The contexts used by students in their narratives provide information as to the background knowledge and lived experience around a certain topic, the funds of knowledge, that students bring into the science classroom. Examples of contexts used by students in the Cycle 2 – Genetics narratives included: a student donating her long hair inherited from her grandma, visiting a museum with parents in home country and studying mosquito DNA, talking with a friend who is good at soccer and where he got those skills, one student knew twin boys and discussed why they were similar and different in appearance, another student discussed family resemblances while writing about getting a family portrait taken, food preferences within a family, why brothers look the same and different, discussing tiger cubs seen on television, family pictures, and discussing family personality characteristics such as impatience.

When contexts from all five cycles are examined, we see that many students used examples from their home countries. Home country contexts included visiting museums on school field trips or with parents, playing with friends and family, and celebrating holidays. By far, the most common contexts were family-centered. These ranged from trips taken with family in and out of state or country as well as numerous examples of being sick and being cared for by family. Extended family including cousins, grandparents, aunts and uncles, were mentioned as often as parents. An aunt advised what to do when gum was swallowed. An uncle helped clean and paint a new house. A cousin suffered from and survived cancer.

Learning seemed to be another common theme that emerged. One student wrote about learning how to fix cars from a cousin and earning money from helping out. This student had been failing and disengaged in most classes for two years but surprisingly he wrote two narratives about fixing cars with his cousin and even asked me for help. Another student detailed the steps of making cheesecake with her mom. Another student wrote about his new house and learning how to help his dad and uncle reattach cabinets with a new electric screwdriver. Even though a few narratives talked about learning in a science classroom, either in the United States or in a student's home country, not once was a classroom teacher included as a character in a narrative. In all of these situations the *teacher* was a family member which is exactly what the literature on funds of knowledge highlights; learning is motivated by students' interests and questions and teaching is done by a family or community member.

FINDINGS

Writing personal narratives provides an alternative way for ESL students to demonstrate understanding of science vocabulary and concepts as well as academic language functions common to science.

Narratives, a format with which students are already familiar, provides a framework for students to sort out and organize complex information in a sequential manner so that it makes sense and is easier to recall (Herman & Childs, 2003; Hudson, 2007; Koda, 2005; Lemke, 1990). One way we can see the effectiveness of narratives is by looking at how target vocabulary words were used within the student narratives.

- *Used/Not Used.* Overall, only 13 instances of not using a word in a narrative were recorded across all five action research cycles.
- *Used a Polysemous Meaning.* Originally, words were designated as either Tier 2 or Tier 3 words but as the narrative data was analyzed it became evident that for some words it was difficult to designate them solely to one tier or the other, too subjective a process to use as a concrete finding. In the end, I discarded the tiers altogether but I still think that the results, based on my original assignments of Tier 2 and Tier 3, are significant. Many Tier 2 words, by their nature, have the potential of being used in a polysemous way. When looking across cycles and adjusting for the instances of when students did not use a Tier 2 word in their narratives, there were only 25 of a potential 300 instances of students using a Tier 2 word in a polysemous way instead of with the intended scientific meaning. That means that 275 times, or 92% of the time, students chose to use the scientific meaning over a polysemous one. Luykx et al. (2007) found that students frequently interpret science terms with reference to their everyday meanings rather than their specialized meanings so the results in my study are significant because students did not default to familiar meanings but made a conscious decision to work with the scientific meanings presented in class.
- *Used the Intended Scientific Meaning/Used Incorrectly.* Forty-six narratives were written over the course of the five cycles meaning that there were 460 potential instances of using vocabulary words in the narratives (46 narratives times 10 vocabulary words per cycle). When the 460 instances are adjusted for instances of words not used in narratives or words used in a polysemous way, we get a total of 422 instances of words being used either correctly or incorrectly in the narratives. Overall, 75% of the words were used correctly (with the intended scientific meaning) while 25% were used incorrectly.

Personal narratives not only provide students an alternative method of demonstrating understanding of science vocabulary, they also allow teachers unique access into students' understanding of scientific concepts. One example clearly demonstrates the benefit of using narrative in the science classroom. A large number of students did not get the meaning of *chromosome* correct, and after examining their narratives more thoroughly, it became evident that they got the word wrong because they thought that genetic differences were a result of a varying number of chromosomes in humans, not varying information carried by chromosomes. As Vygotsky (1986) explains, thoughts are manifested in words, and it was through their words that it became clear that a major misunderstanding needed to be corrected. A teacher might not have been able to access and then redirect that misunderstanding on a multiple choice or definition matching exam.

Although personal narrative is not considered traditional science writing, it was an effective way for students to demonstrate use of academic language functions common to science with cause and effect being demonstrated most often. Especially exciting was when students used their writing to formulate hypothesis, for example, when writing about why parts of a cheesecake were still soft when it came out of the oven. Another example of scientific thinking demonstrated in the narratives was supporting claims with evidence. For instance, one student made a claim about the impending weather and supported it with details. She correctly wove the workings of high and low air pressure systems into her narrative about a trip to a lake with her family.

ESL students are able to draw from their funds of knowledge to apply science vocabulary and concepts when writing about their own life experiences.

Students had a relatively easy time thinking of ideas or situations to use in their narratives. When they did ask for help they eventually arrived at the ideas themselves with little guidance from me. I was not surprised to see that many students' narratives revolved around family events and I even saw examples of family members as teachers in a few narratives. One student who had been failing classes and not doing homework for a couple years seemed engaged in the narrative writing process, possibly because he was writing about something interesting to him and his own experience, even asking me for new vocabulary to use in his narrative. This example supports the research of Moll and Greenburg (1990) who claim that outside of school, in families or communities, student learning is motivated by student questions and interests instead of dictated by a curriculum.

After making notes of anecdotal observations, overheard comments, group interaction, and performance in science class, it was found that intentional and thoughtful planning and preteaching of vocabulary helped students access and engage more with the science content.

Because I was a teacher-researcher, and have known and taught many of these students for three years, I was able to make notes of interactions and behaviors that were somewhat out of the norm for many of the students. Evidence that preteaching vocabulary is effective can be seen by increased confidence and participation in science class, increased questioning and on-task dialogue about the vocabulary words between students and with me, and increased initiative in ESL class while writing the narratives. Students seemed to be motivated to write, even after five cycles of the same process. Part of that motivation may be the result of participating in vocabulary teaching activities that were fun, active, and gave students an opportunity to manipulate the words in a unique way (Carlo, et al., 2004).

Limitations

One limitation that impacted this study was researcher subjectivity. Even though I consulted with the science teacher and asked students directly, meanings were sometimes still unclear in the narratives and another researcher might have deemed some of what I marked *correct* as *incorrect* and vice versa. For example, the word *charge* was used in a polysemous way by six students, but all six definitions were somewhat related to the scientific meaning given in class. Another researcher may have counted correct what I marked incorrect. Subjectivity was also the reason I eventually discarded the use of tiers to designate vocabulary words. Without a formal process to classify words into tiers, that analysis was beyond the scope of this study.

Implications

Science teachers often ask students to draw upon their own life experiences during class discussions. A record of the situations written about in narratives can help science teachers prompt students if they struggle to apply concepts to their own lives. A deeper, broader knowledge of students also helps teachers design lessons, assessments, and activities that connect to students' lives, their prior learning, and their cultural and life experiences. For example, making cheesecake with mom would fit nicely into a lesson on chemical and physical change. This is a small endeavor that could engage students in the content, but if teachers do not know about students' experiences,

they can not incorporate them. Personal narratives are one way for teachers to access students' funds of knowledge. Not only are ESL students validated and engaged when their stories and life experiences are used in teaching, other students more familiar with Western science could also benefit by learning that there are alternate ways to understand the world around us (Cobern & Loving, 2001).

Narrative also provides science teachers with an alternative method of formative or summative assessment. The process of using and evaluating narratives requires a significant amount of time, but narratives do not have to be lengthy and could be included in the form of an essay question on any assessment. This would allow teachers with many students an opportunity to assess at least one core concept of each unit in this manner. If the process is described in detail and modeled initially, then subsequent use of narratives will not require as much time and prep. Narrative writing could also be used during remediation if students seem to be struggling with a concept or are not performing well on more traditional assessments. Through narratives, teachers gain a more detailed idea of where the misunderstanding is rooted.

It is critical for ESL and content teachers to collaborate, especially to identify key vocabulary words in content instruction. In order for collaboration to be effective, ESL teachers need the content expertise of a science teacher and science teachers benefit from an ESL teacher's focus on the language and cultural background of students. It takes a great amount of time and effort to ensure definitions of science vocabulary words and concepts are composed of words already understood by students. Vocabulary planning needs to be much more deliberate than simply pulling out words, and certainly more thoughtful than just focusing on the bolded words in a textbook. One must consider potential of usage and utility across content areas, and have insight into what students already know as well as how they might possibly interpret what is being presented. To do that, a teacher must know her students well. Using, sharing, and discussing students' narrative writing allows teachers a window into how students are processing information and a way to know if some concepts need to be revisited. This depth of knowledge of a student's comprehension is not always accessible through traditional methods of assessment and evaluation.

Further Research

An extension of this study would look at how writing personal narratives affects progress in science class and scores on science assessments. Data on pre and post tests for each science unit was collected but not included in the final analysis because the focus of this study is the use of narrative to demonstrate understanding. The process of writing narratives is just as valuable as the product of narrative writing. During the process of narrative writing, students have the opportunity to ask the questions that arise from trying to apply science concepts to their own lives. Students are required to do more than recall or explain a concept, they need to manipulate the information to fit a certain context and that requires higher level thinking and reasoning. Working with science vocabulary and concepts through narrative writing translates into success in the science classroom as demonstrated by more confident participation, but a more in-depth study is needed to determine the actual impact on assessment scores.

Since the study of funds of knowledge grew out of the field of anthropology, it would be greatly beneficial to conduct a deeper ethnography of a few students' lives and cultures by visiting homes, interviewing families, and spending time with students outside of the school environment to observe and document, for example, how students learned while fixing cars and baking cheesecake. Did students ask the adults questions and vice versa? Was there a lot of explaining or was it more of a visual or kinesthetic learning environment? This would lead to a more detailed description of how students from different cultural backgrounds learn and if it is congruent with what is typically seen in mainstream classrooms across the United States.

Conclusion

National studies as well as observations of my own ESL students in science class show that ESL students need to be engaged more in science content. ESL students bring a wealth of life experiences to the classroom and previous research, along with the results of this study, demonstrate that if teachers can tap into that background knowledge more, they might see more participation and academic success for ESL students in science. Using personal narrative writing is an instructionally congruent way to integrate students' funds of knowledge and science content. Narrative writing provides students with a means to use their own voice to demonstrate their understanding of science concepts and vocabulary, exhibiting a level of comprehension and scientific thinking that may not be revealed in a traditional science exam. If we can help ESL students access science content in alternative ways, we

can make science more meaningful and relevant to their lives and help them realize the science knowledge and skills they already possess.

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PROFESSIONAL DEVELOPMENT FOR LESLLA TEACHERS: A STATUS REPORT

Patsy Vinogradov

Teachers of low-literate adult ESL learners work in challenging contexts. Their learners are unique; they are new to English and also new to print literacy. Teachers of this level must be both language teachers and reading specialists, and they often have not had many opportunities for professional development that focus on their learners. Workshops and conferences often assume literacy in learners, and it can be difficult to apply the ideas and resources shared to low-literate adult ESL classrooms. Where can teachers of such learners go to grow professionally and connect with colleagues? This report outlines current efforts in professional development for these underserved practitioners and presents an argument for nurturing a growing format of PD for LESLLA: study circles.

LESLLA AS A UNIQUE PROFESSIONAL DEVELOPMENT NEED

Many adult immigrant and refugee students in the United States are well educated in their first languages, and they are academically prepared for English coursework upon arrival to their new country. For the most part, these are the learners that adult ESL teachers have come to expect in their programs, and such literate students are the only ones discussed in many certificate and graduate programs for teachers (Vinogradov & Liden, 2008). But other students have had limited or no formal schooling, and some have never learned to read in their first languages. McHugh, Gelatt and Fix (2007) estimate that about 750,000 adult immigrants in the US are not literate in English or their native language(s). Such learners are referred to in many ways: emerging readers, adult emergent readers, pre-literate /non-literate/semi-literate¹, or discouragingly, “level zeros.” In this paper, learners with little or no first language literacy are referred to as LESLLA learners. LESLLA refers to an international group of scholars whose work focuses on the “Low Educated Second Language and Literacy Acquisition” of adult learners².

As an adult ESL teacher and teacher educator, I talk with many teachers who are frustrated with the progress of their LESLLA learners. A frequent comment is, *I’ve been teaching ESL for 10 years, but I’m new to working with pre-literate learners. It seems like nothing I’m doing is working.* Others point out a common mismatch between oral and written skills: *My pre-literate learners can converse just fine. Their speaking skills are*

¹ These terms are commonly used interchangeably, although they do have distinct meanings. Pre-literate learners come from an oral tradition with no written form. Non-literate learners come from a literate culture, but have not learned to read and write. Semi-literate learners have had some schooling, but generally only a few years. Non-Roman-alphabet literate learners are literate in a language or languages that are either not alphabetic (i.e. Chinese) or alphabetic non-Roman (i.e. Cyrillic) or alphabetic, non-Roman and consonantal (i.e. Arabic) (Haverson & Haynes, 1982).

² For more information about LESLLA, see www.leslla.org. For ease in writing, “LESLLA” is used here as an adjective to describe low-literacy adult ESL learners, their teachers, their classrooms, and PD directed at them specifically.

very strong, but they barely recognize their names in print. These comments indicate that teaching LESLLA learners is quite different from teaching those with strong first language literacy (Birch, 2002; Burt, Peyton & Adams, 2003; Huntley, 1992). Teachers of this level need a different knowledge base and different skills to successfully instruct LESLLA learners, and there is a severe lack of training available in working specifically with these students (Bigelow & Schwarz, 2010; Vinogradov & Liden, 2008).

The following pages can act as a resource list for LESLLA practitioners who are seeking to improve their practice. Where can LESLLA teachers turn to learn more and to enrich their teaching? Where and how can they connect with other LESLLA professionals to share their successes and find insight to their struggles?

DELIVERY: WHAT IS THE CURRENT PACKAGING FOR LESLLA PD?

When planning professional development, teacher educators juggle two priorities: the *content* of what is to be offered and how best to *deliver* it to practitioners. Both are critical. If one is lacking, the other suffers, and the professional development (PD) doesn't have the impact intended. How are LESLLA teachers currently accessing professional development? Although no documentation exists to describe PD for LESLLA teachers around the country, some general observations can be made about current delivery of LESLLA specific PD. These activities fall into four general 'PD delivery' categories: workshops and conferences, short-term coursework, online print resources, and teacher training videos.

A string of professional organizations and their conference organizers are clearly noting the need for LESLLA related PD. At national professional conferences such as TESOL³ and COABE⁴, as well as the bi-annual Language Teacher Education conference⁵, LESLLA learners have been the focus of a handful of pre-conference workshops in recent years⁶. Concurrent sessions and poster sessions have included a smattering of presentations devoted to LESLLA learners. At the state and regional level, anecdotally through my colleagues I am aware that teaching LESLLA learners has been the focus of training opportunities for teachers in California, Georgia, Minnesota, Wisconsin, Pennsylvania, South Dakota, Utah, Virginia, and no doubt others. Workshops and conference sessions continue to be the most common delivery method for LESLLA PD.

³ Teachers of English to Speakers of Other Languages, see www.tesol.org

⁴ Commission on Adult Basic Education, see www.coabe.org

⁵ Language Teacher Education conference, see www.carla.umn.edu

⁶ Recent pre-convention workshops have included (Bigelow & Finn-Miller, 2011; Bigelow & Vinogradov, 2011; Liden, Poulos, & Vinogradov, 2008).

Second, in addition to such one-shot presentations, short term coursework has appeared that provides LESLLA-specific PD. While face to face coursework in teaching LESLLA learners remains rare, many excellent options have appeared online in recent years. For example, ELL-U⁷ is a free professional development network for ESOL practitioners funded by the Department of Education. They have identified working with adult emergent readers as a learning priority, and in December 2011 an interactive online course for LESLLA teachers was launched. A follow-up study circle began in February 2012 to allow LESLLA teachers to delve deeper and discuss relevant research and its connections to the classroom with like-minded colleagues⁸. In Minnesota, the Minnesota Literacy Council developed an online course for LESLLA teachers and volunteers that presents common characteristics of LESLLA students and offers concrete teaching suggestions⁹ (Minnesota Literacy Council, n.d.). In Virginia, a similar online course is available through the Virginia Adult Learning Resource Center¹⁰.

Third, a number of online print resources for teachers to increase their knowledge and skills about teaching LESLLA learners have recently been launched. While a few years ago next to nothing was available online specifically geared toward LESLLA teaching and learning, thankfully that is no longer the case! Colleagues at Bow Valley College in Alberta, Canada, have developed an extremely thorough online resource center at www.esl-literacy.com. Here LESLLA teachers can find print materials for classroom instruction, guidance regarding assessments and lesson planning, readings and suggestions for teacher study groups, and much more (Bow Valley College, n.d.). And locally, www.multilingualminnesota.org devotes a portion of its online language resources to teachers of adult pre-literate ESL. It includes information on balanced literacy, learner-generated texts, extensive reading resources, published materials, and teacher resources¹¹. In addition, the Minnesota professional organization for ESL teachers and TESOL affiliate, MinneTESOL, along with its partner organization in Wisconsin, WITESOL, published a special issue of their academic journal in 2008 that specifically focused on low-literacy learners. That volume is available free online at www.minnewitesoljournal.org. On a national scale, CAELA¹², a subdivision of the Center for Applied Linguistics, offers brief reports, annotated bibliographies, archived listserv conversations, and other print resources to teachers, some of which have focused on low-literacy levels (Vinogradov & Bigelow,

⁷ ELL-U is an online professional development portal for adult ESL teachers, and can be found at www.ell-u.org

⁸ The online course was developed and is taught by Martha Bigelow, and the study circle was developed and is facilitated by Patsy Vinogradov.

⁹ This course was developed by Burgen Young and is available at <http://online.themlc.org/>.

¹⁰ This course was developed by Nancy Faux and is available at <http://valrc.org/trainings/onlinecourses.html>

¹¹ www.multilingualminnesota.org was created and is maintained by the author, Patsy Vinogradov, with assistance from Max Vinogradov.

¹² Center for Adult English Language Acquisition has a handful of print resources for LESLLA teachers and a bibliography of published texts for LESLLA learners. For more information, see <http://www.cal.org/topics/ell/adult-esl.html>

2010). And stepping out even further to look at LESLLA internationally, the LESLLA Symposium website (www.leslla.org) archives its publications and presentations as well as related resources for LESLLA scholars and practitioners. For the self-directed LESLLA practitioner, there is much to be found and learned from via these online print resources.

Currently, a fourth path to receiving LESLLA PD is in the form of teacher training videos. The New American Horizons Foundation released a professionally-made teacher training video for LESLLA instructors entitled “Building Literacy in Adult Emergent Readers,” (New American Horizons Foundation, 2010). The video is available online for free at www.newamericanhorizons.org, along with ideas for using the videos for staff development (see also Kurzet, 2002). Also, Literacywork International, a literacy-focused research and development company, has developed and posted a number of videos in classroom settings that demonstrate a wide variety of teaching strategies and assessment options¹³. While simply watching the videos may not be very impactful, videos such as those mentioned here have been incorporated in other PD activities as well, such as workshops and study circles (see Vinogradov, 2011; Vinogradov, 2012). Integrating videos within other PD formats allows for discussion and group reflection on the content and moves the activity from passive viewing to one with the potential to change practice, theories, and assumptions (Smith, 2010; Vinogradov, 2012; Webster-Wright, 2009).

Both the online print and video offerings mentioned above have appeared in the last three-five years and show that professional developers are indeed working to respond to LESLLA teachers’ PD needs. Such extensive, free, online resources for LESLLA teachers as those described above allow practitioners to engage in ongoing learning on their own, through self-study, or to share and explore these resources informally with colleagues (Smith & Hofer, 2003). The number of offerings now available also indicates that the use of technology is particularly useful in delivering PD for LESLLA teachers. This is especially important since LESLLA teachers are often scattered around communities among many programs, are not paid to attend PD, or are simply not able to easily meet regularly for face-to-face PD experiences (Belzer, Drennon, & Smith, 2001).

Despite the challenges, professional developers continue to offer a wide variety of in-person options for LESLLA teachers. To provide a local example, working with LESLLA learners was determined as a core PD need for adult ESL teachers in Minnesota following a statewide survey of nearly 700 ABE practitioners (ATLAS, 2009).

¹³ Literacywork International is directed by Heide Wrigley and more information can be found at www.literacywork.com

The state's professional developers have responded, and the recent PD offerings to LESLLA teachers are listed in the *Case in Point* below.

CASE IN POINT

Recent PD for LESLLA Teachers in Minnesota (see www.atlasabe.org)

Full-day workshop (2011)	<i>Navigating the Zero-One Split</i>
Half-day workshops (2010)	<i>Lesson Planning for Adult Low-Literate ESL</i> <i>Building Blocks of Literacy for Adult Emergent Readers</i>
Full-day workshop (2009)	<i>Building Literacy in Adult Emergent Readers</i>
Study Circle (2011-2012)	<i>Study Circle for Adult Low-Literate ESL Teachers</i>

In the previous section, delivery of LESLLA PD was broken down into four general categories: conferences and workshops, short-term coursework, online print options, and training videos. A fifth category is emerging as well: study circles. Study circles have been offered in Minnesota for LESLLA practitioners¹⁴ (see *Case in Point* above) and also in Alberta, Canada (see Millar, 2009) and are now offered online through ELL-U beginning in February 2012 (English Language Learner University (ELL-U), n.d.). Study circles are one form of professional collaborative inquiry and offer one way of deepening the PD experience to one of professional learning about LESLLA teaching and learning. With these many delivery options in mind for LESLLA PD, we turn now to the content. What is the substance of current LESLLA PD?

NOTE

While this paper focuses on the United States context, I would be remiss not to mention the outstanding efforts to develop LESLLA professionals in Canada, Europe and Australia that are also underway. For example, a European PD project led by scholars at Newcastle University in the United Kingdom have partnered with a number of European universities to hold multi-day trainings for LESLLA teachers, some with a particular focus on creating materials for learners (see www.eu-speak.org). To date they have held trainings in England, Netherlands, Denmark, Germany, Spain, and Sweden. Such activities highlight the international nature of LESLLA teaching and learning; it is not an American phenomenon. The annual LESLLA symposium has been an irreplaceable conduit for sharing research, practices, challenges, and resources among LESLLA scholars and practitioners internationally.

¹⁴ The Study Circle Facilitator Guide commissioned for this project (Vinogradov, 2011) is available online at <http://www.atlasabe.org/professional/adult-esl>

CONTENT OF LESLLA PD

Beyond designing the delivery of PD, teacher educators must attend to high quality content. This list of workshop presentation titles for local PD for LESLLA teachers in the Minnesota *Case in Point* above indicates content typical of LESLLA PD: lesson planning, literacy instruction, and multi-level group management. Across the many delivery options for LESLLA PD, topics remain generally consistent. Content of workshops and short-term online courses tend to focus on the knowledge base topics listed in Table 1 or on specific instructional strategies such as the language experience approach, balanced literacy, meaningful assessment, etc. For reference, I've culled common topics from the recent conference sessions and online PD options and compiled them in Table 2. This is by no means an exhaustive list, but it gives a sense of “what’s being talked about” in current LESLLA PD.

Table 2

Typical Content of LESLLA PD

Assessing literacy and oral skills	Extensive reading	Oral language for literacy
Balanced literacy instruction	First language literacy	Phonemic awareness
Building blocks of literacy	Hands-on learning	Reading essentials
Characteristics of LESLLA	Learner-generated texts	Reasons for low-literacy
Components of Reading	Lesson planning	Resource Sharing
Contextualized phonics	Managing multi-levels	Visual Literacy (<i>see Bruski, this volume</i>)
Early childhood connections	Materials development	Writing Fiction Stories

While the topics in Table 2 are immediately practical for the busy LESLLA practitioner and may increase her repertoire for the classroom, current offerings rarely move beyond “knowing that” and “knowing how” into what Smith refers to as “knowing whether and why” (2010, p. 71). When PD reaches for the ‘whether and why,’ the objective is to change theories and assumptions in what amounts to Webster-Wright’s concept of professional learning (2009). Knowing *about, that, and how* are important to offer, of course, especially for new teachers to this level or to the field who need more and better instructional strategies immediately. As Smith writes, ABE teachers, “like professionals in other fields- need a wide range of learning experiences. They need access to the types of training and PD that states and programs currently offer to them, but they also need opportunities to participate in authentic continuing professional learning activities, which are rarely offered” (2010, p. 71). For a LESLLA professional to really understand her classroom practice and to make wise, informed choices for individual learners, professional developers need to offer more options such as study circles that can move beyond learning about

something or how to do something, experiences that include job-embedded learning activities in collaboration with like-minded colleagues. This PD option is further examined below.

MOVING TOWARD KNOWING WHETHER AND WHY: LESLLA STUDY CIRCLES AND COLLABORATIVE INQUIRY

How can teachers work together to dig deeper into the complexities of LESLLA teaching and learning? One option mentioned above is study circles, a PD format that moves beyond the one-shot workshop model. Study circles offer teachers a place to explore important issues together over time. This type of collaborative inquiry, as defined by Kasl and Yorks, is “a systematic process in which participants organize themselves into small groups to explore a question that all members find compelling.” (Kasl & Yorks, 2010). Study circles are one format of collaborative inquiry. They offer a realistic, effective option for professional learning for LESLLA teachers and in the ABE world in general, where teachers of similar levels and content may be isolated in various programs and scattered throughout a city or state with little opportunity for interaction (Hord, 1997; Young, 2009). A study circle brings practitioners together and is one way of creating the conditions for what Lave and Wenger call a community of practice (1991). Communities of practice (CoPs) are groups of people who share a passion for an activity and who interact regularly to improve their performance (Lave & Wenger, 1991). CoPs provide a way of thinking about collegial social interaction as a critical element to professional learning. Wenger (1998) describes three components of a CoP. The first is the *domain*, or the defined area of shared inquiry. The second is *community*, or the various relationships among the members and their sense of belonging. And finally is *practice*, or the body of knowledge, methods, cases, stories, tools, and documents used in the community (Wenger, 1998).

NCSALL (National Center for the Study of Adult Learning and Literacy) describes study circles as small learning groups of practitioners, usually 8 to 12 teachers, who meet to discuss issues of relevance to their classroom practice (National Center for the Study of Adult Learning and Literacy, 2006). They are organized around a specific topic. The groups generally meet for three to five sessions and are guided by a facilitator who has experience with the topic of study. NCSALL names three key elements to study circles: professional wisdom, research, and their application to practice (NSCALL, 2006, p.11). Prior to each session, participants read a selection of relevant research on the study circle topic, and they may have written or classroom-based reflection tasks to complete as

well. During meetings, study circle participants actively discuss the readings and tasks and explore together how research can inform their classroom practice. NCSALL outlines four objectives for participants of a study circle:

1. Read research articles presenting findings from adult education studies
2. Discuss the relevance of the findings for the students with whom they work
3. Discuss strategies for applying the findings in their classrooms and programs
4. Make plans for trying strategies or changing their practice (NSCALL, 2006, p. 1-2)

Such PD brings teachers together, connects research and practice, and creates a forum for sharing professional wisdom. Study circles and other forms of collaborative inquiry in PD could lead in a number of important directions for LESLLA teaching and learning.

In my recent work with study circles with LESLLA teachers, I have been taken aback at the amount and quality of professional sharing teachers engage in during our time together. They report increased reflection with the research they are reading, professional support in often isolating settings, and increased teaching repertoires. As one study circle participant put it: “The ‘come back around and see how it is going’ feel was refreshing and so unlike the conferences that give a thousand ideas, but no time to really absorb and focus on them. The conference effect, like trying to catch a thousand ping pong balls all being hurled at you simultaneously...some ideas have extra value to you but get lost in the shuffle,” (see Vinogradov, 2012).

To sum up this overview of LESLLA PD offerings, most current offerings have solid footing in what Smith refers to as “know about,” “know that,” and “know how” types of knowledge (Smith, 2010). Workshop sessions, online print resources, short-term coursework, and viewing teacher training videos may build awareness, build knowledge, and even change practice (Smith, 2010). But with the exception of study circles, current LESLLA PD rarely moves into the ‘knowing whether and why’ that teacher development experts assert is critical for changing theories and assumptions. Such PD lacks the reflective opportunities required to qualify as professional learning that can powerfully change practice (Darling-Hammond & McLaughlin, 1995; Desimone, 2009; Smith, 2010; Webster-Wright, 2009). Study circles, however, provide a notable exception and hold distinct promise as a PD delivery option for developing effective LESLLA teachers (Vinogradov & Liden, 2008; Vinogradov, 2012).

CONCLUSION

LESLLA learners are faced with a double-challenge: learning English while learning to read for the first time in life (Bigelow & Schwarz, 2010; Bigelow & Vinogradov, 2011). While teachers of this level have limited research and resources to guide their practice, a variety of professional development opportunities are now available. All of these offerings have a role in the life of a LESLLA educator. Taking advantage of these PD opportunities can help LESLLA teachers explore and improve the teaching and learning in their classrooms and better serve our low-literacy adult learners.

AUTHOR

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TRANSFORMING ESL/BILINGUAL TEACHERS THROUGH ACTION RESEARCH AND TEAMWORK

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ABSTRACT

In many professional development efforts, the experts are the outsiders who are called in to share research findings produced far away from the school or district involved. Charged with developing a grant-funded program to provide support to English as a second language and bilingual teachers in Wisconsin, we wanted to offer teachers an opportunity to build on and share their expertise to meet the educational needs of increasing numbers of English Language Learners throughout our state. Working first as individuals and later in professional teams, participating teachers developed action research projects, which served both as entry points for the program mentor into the teachers' classrooms and as tools for understanding how to more effectively support teachers' growth as professionals. Through active mentoring and professional teamwork, the participants realized the potential for action research projects and professional teamwork to enhance their understanding and critique of their own practice.

Transforming ESL/Bilingual Teachers Through Action Research and Teamwork

In many professional development efforts, the experts are the outsiders who are called in to share research findings produced far away from the school or district involved. What began as a one-year federally funded professional development grant to improve teacher quality of English as a second language/bilingual teachers grew into a four-year series of grants that focused on collaborative action research among teachers who were committed to making changes in the education of their linguistically diverse students. The four-year program, located at the University of Wisconsin–Whitewater, evolved from supporting individual teachers to supporting teams of ESL/bilingual teachers and their colleagues with the goal of enhancing the academic achievement of English Language Learners in five area school districts. Recent research (Carroll & Foster, 2009; Carroll, Fulton & Doerr, 2010) has shown professional teamwork to be instrumental in boosting school performance and student achievement. Growing out of individual and collaborative efforts, action research (AR) became central to the program as each participating teacher designed a project in response to an identified need related to improving the education of English Language Learners (ELLs). While we hoped that AR would enhance teachers' abilities and strengths, we didn't anticipate that it would also shape the direction of the grant program itself.

The federally funded grant programs¹ began as a professional development program with three parts: a graduate seminar, with an action research project as the primary academic assignment; a mentoring component, with a half-time mentor who supported the teacher participants; and an electronic network that also served as a supplement to the graduate course. As the mentor began to work with the teachers that first year, the action research projects shifted to the center of our program, serving as entry points into the teachers' classrooms and as tools for understanding how to more effectively support their professional growth. With the teachers' experiences guiding us, we began to see the power of AR to guide the teachers' developing understanding and critique of their own practice. AR provided them with a systematic framework for investigating and improving their educational practices and disseminating their newly acquired knowledge with others at the school, district, and university levels.

¹Funding for this program was provided by a series of three grants to the University of Wisconsin - Whitewater by the U.S. Department of Education under ESEA Title IIA Higher Education Professional Development Program. The Wisconsin Improving Teacher Quality Program grants that supported this set of programs ran from 2004-2008. They were awarded to support qualified bilingual and ESL teachers in their efforts to increase collaboration with mainstream teachers and administrators in order to improve the academic achievement of ELLs.

In order to place our work within recognized AR traditions, we briefly define and describe four types of AR: collaborative, critical, classroom, and participatory. These four types are summarized below, in slightly adapted form, from Hendricks (2006, p. 10):

Collaborative Action Research:

A system of AR in which researchers from school and university settings work together to study and try to solve educational problems. Collaboration may occur among teachers and administrators as well as among school personnel and university researchers. A major goal of this type of AR is to build and sustain collaboration among the different educational stakeholders in order to understand and, whenever possible, to solve educational problems.

Critical Action Research:

A type of AR found in educational settings that encourages wide collaboration among university researchers, school administrators, teachers, and others in the community. The goal of this type of AR is to evaluate social issues so that results can be used for social change. Critical AR often focuses on educational inequities due to gender, ethnicity, and social class. For more information, see the work of Carr and Kemmis (1986).

Classroom Action Research:

A form of AR that is carried out by teachers in their classrooms with the purpose of improving practice. It encourages and values the interpretations that teachers make from data collected with their students. Although classroom AR is frequently conducted by a single teacher, collaboration with others may also occur.

Participatory Action Research:

A type of AR that is social, interactive, and transformational in nature. Participatory AR investigates the reality of a particular setting with the goal of making it better. For the action researcher, this type of AR is viewed as emancipatory (exploring practices within the limits of social structures), critical (aiming to challenge alienation, unproductive ways of working, and power struggles), and transformational (changing both theory and practice). For an in-depth discussion of participatory AR, see Kemmis and McTaggart (2000).

At first glance, these AR models appear to overlap on one or more features, e.g., collaboration and the study of educational problems. One way to distinguish between the different models is to focus on their goals or outcomes: building and sustaining collaborations and partnerships (collaborative), effecting positive social change (critical), examining and improving classroom practice (classroom), and transforming self and professional practice in relation to others within a particular setting (participatory). In practice, however, it is sometimes difficult to differentiate between the types of AR, especially when collaboration and teamwork are an integral part. The AR projects described later in this article exhibit features of at least three models: collaborative, critical, and classroom AR.

In the next five sections, we describe in greater detail 1) the components of the program, 2) the AR project, 3) the role of the mentor, 4) examples of three AR projects, and 5) the benefits of AR as a tool for professional growth. Following each example of AR (section four), three ESL/bilingual teachers share their perspectives on the project, and in the final section, they reflect on the benefits of AR as a tool for professional growth.

Components of the Program

During the four-year span of grants (2004–2008), the program evolved from supporting individual ESL/bilingual teachers to supporting teams of teachers in completing their AR projects in order to boost the academic achievement of ELLs. These teachers came from five local school districts near the University of Wisconsin-Whitewater. These districts, all smaller-sized, shared two additional characteristics: all had experienced rapid growth in numbers of ELLs and were in need of program support for existing and newly arriving immigrant families. In the first three years of the grant programs, participants from each school district consisted of ESL/bilingual teachers from elementary and secondary schools. As the program developed, the need for a team approach emerged and team membership shifted to include a mix of content teachers and administrators with a team leader who was an ESL or bilingual teacher who had previously participated in the program. The shift to teams occurred at the suggestion of participating teachers in order to expand the positive effects of collaboration and AR projects to multiple classrooms at the same grade level, and in some districts, to build in the potential for school- or district-wide changes. At the same time, it also expanded the leadership capabilities of ESL/bilingual teachers in the teams—and concomitantly in their schools and school districts—since they could share their expertise in both ESL/bilingual education and action research with new team members. Throughout the four-year grant period, three components of the program remained constant: a graduate Professional Development course, a mentoring component, and an online support network. A fourth component, the inclusion of team leaders, was added in the final year.

The graduate course consisted of seven monthly seminars scheduled over the academic year, beginning with a seminar that introduced AR to participating team members. Completing an AR project was the central assignment of the course. The seminar on AR was followed by six other seminars on topics related to the successful academic achievement of ELLs, such as language acquisition, differentiation of instruction, teaching academic language in the content areas, and literacy development. Seminars were taught by university faculty, including the

project director, or by in-service ESL/bilingual teachers who were themselves former program participants. A portion of each of the six remaining seminars was reserved for ongoing instruction and discussion among team members on their action research projects.

The mentoring component of the grant was included in order to support teachers individually and in teams as they worked to develop, implement, and report on their AR projects, both in the graduate seminar and in their home school districts. The program mentor served as a bridge between the university and the participating public schools in the five school districts. Both individuals who served as mentors to participating teachers were experienced ESL teachers with previous K-12 teaching in the U.S. and abroad. Like the composition of the participating teams, the nature of mentoring evolved over the life of the grant program. In the first three years, the program mentor worked closely with teachers in their classrooms to gain first-hand knowledge of their contexts of teaching, with the goal of supporting individual teachers as they designed and implemented their AR projects. The mentor's duties also included assisting the project director in establishing the teams, providing online support to team members, participating in the university-based seminars, and with the project director, evaluating the AR projects. After accepting a new position abroad, the first mentor could no longer continue in that capacity, and the position of a part-time mentor consultant was created in 2007-08. The second mentor, who was then teaching ESL full-time at a local high school, continued the mentoring work, but on a more limited basis. She worked with the project director to consult with the ESL/bilingual team leaders, monitor team leaders' discussions on the online network, participate in the graduate seminar, attend school/district presentations of AR findings, and evaluate the AR projects.

The third ongoing component of the grant, the online support network, provided a forum for team members to share ideas and also served as a supplement to the graduate course. Team members were expected to participate weekly on this network, and discussion topics were both guided and open-ended. Guided topics included those related to seminar topics (e.g., action research, second language acquisition, family involvement, the language of math and science), and open-ended questions related to working with ELLs in their schools and school districts as well as other informal topics that arose. Due dates were assigned for the guided responses, and participants were asked to hand in copies of the guided responses at each seminar for evaluation as part of the graduate course. Participants could also use the online network for informal exchanges with each other. The following excerpt from

an online discussion between two teachers illustrates the informal exchange of information and expertise that regularly took place.

Example of an online discussion:

Teacher 1: If you are interested in using United Streaming...I have many video PowerPoints that I have developed using video segments...I would be happy to share them with you...

Teacher 2: Do you have school on January 25th? I thought maybe I could observe your classroom, because we have the day off.

Teacher 1: We have school that day....I am really excited that you want to come. I would love to show you what my students are up to. If there is anything I can help you with, let me know.

The fourth component, the addition of team leaders, took place in the last year of the grant, largely in response to the developing expertise of ESL/bilingual teachers who were past participants in the program and to the changing duties of the mentor. In that final year, each of the five teams was guided by an ESL/bilingual teacher who worked with other team members to decide on a team goal, meet regularly with the team, and generally assist their teams as they participated on the online network and developed their individual AR projects. Team leaders also served as presenters at some seminar meetings and as seasoned advisors on the AR project, both in face-to-face meetings and online discussions. Additionally, they took responsibility to organize a school or district-wide presentation of their team's AR findings in the spring of 2008. In short, because of their previous experience as teachers and with AR, team leaders were positioned to successfully take on some of the responsibilities of the initial program mentor, with the added bonus of developing their leadership skills in their home schools and districts.

The Action Research Project

The AR projects provided a central focus for participants during the year-long graduate course. Preparation for AR began with the initial graduate seminar meeting on AR and the reading of an action research text for educators (Hendricks, 2006). A starting point was an accessible definition of action research:

Action research is an inquiry-based approach to professional growth and school improvement in which teachers use research methods to identify questions about their practice, develop and implement appropriate changes, assess the impact of those changes, and share what they have learned with the profession as a whole (Wideman, Delong, Morgan & Hallett, 2003, p. 3).

As important as the discussions of the readings on AR were, however, it was the mentor's and in the last year, the team leaders' efforts to work with individual teachers and teams that inspired teachers to reflect on and problematize their teaching contexts in order to identify a team goal. Individual AR topics arose out of these team goals, which evolved into questions that guided the individual AR projects. The mentor's role in supporting the team members' planning, implementation, and reflection on AR are described in greater detail in the next section.

The starting point for planning was a list of reflection questions for teachers based on Chiseri-Strater (2006) and Hendricks (2006). (See the Appendix for a list of the questions.) These questions asked teachers to reflect on their current teaching situation and responsibilities and then identify a particular area in need of improvement. For example, to formulate the primary research question, teachers asked themselves, What is my classroom situation? What do I want to do in my classroom that I'm not now doing? After identifying a topic and formulating a research question, AR followed a four-step cycle: 1) developing an intervention plan, 2) collecting the data, 3) analyzing the data, and 4) reflecting on the findings and their application to current practice, at which point the cycle could optionally start over. Self-monitoring questions were provided at each step. (See Figure 1 for the Action Research Cycle.) The four-step cycle described here is similar to the four phases for doing AR reported by other researchers, for example, Sagor's (2005) four stages (clarifying vision, articulating a theory, implementing action and collecting data, and reflecting and planning informed action) and Burns' (2010) four steps (planning, action, observation, reflection), based on Kemmis and McTaggart (1988). Common to the different visions for carrying out AR is the practice of reflection, which is both the initial and final step in the recursive process of action research.

It is worth noting that the idea of reflection among educators has sometimes been overused and misunderstood, even though reflection is considered a cornerstone of both AR and many teacher education programs. Bullough and Gitlin (2001) underscore this concern when they point out that the crusade for teachers to reflect on their practice has too often resulted in "...only empty slogans [that] boil down to nothing more than a plea to 'think hard' about what they are doing and why they are doing it" (cited in Hendricks, 2006, p. 23). As Hendricks notes, the act of reflection goes beyond simply thinking hard about a problem; it also involves thought directed towards resolving the problem. Historically, this perspective on the act of reflection can be found in John Dewey's *How we think* (1933). According to Dewey, thinking about a problem is merely the first step; reflection also involves rational problem-solving. Action research thus ties together the related notions of *reflection* and *action*.

But what is the distinction between reflective practice and action research? Burns (2010) addresses this question in her recent book on action research for English language teachers. To help distinguish between the two, Burns refers to Schön's (1983) related notions of *reflection-in-action* and *reflection-on-action*. Reflection-in-action refers to "the kind of reflection we do 'on our feet' in the classroom as we evaluate our own and our students' reactions to the moment-to-moment activities and interactions that are taking place" (Burns, 2010, p. 14). It is reflection on-line that occurs during teaching. In contrast, reflection-on-action occurs after a teaching event. As Burns explains, "it's a kind of 'meta-thinking' about what happened—reflecting on the decisions we made, on our students' and our own responses, and on our thoughts and feelings about the lesson, and working out our reactions to it all" (p. 14). AR certainly involves both kinds of reflection, but it takes reflective teaching beyond the arena of one teacher's practice into the domain of academic research. In other words, AR allows teachers to link their teaching and emerging research questions to 'public' academic theories (Burns, p. 17). Researching the literature related to their action research topics made the teachers in our study aware of the academic discourse in those areas and the fact that they, too, were part of a larger research community. In this grant project, action research also required teachers to write up the results of their AR projects citing relevant research and to share their findings in at least two contexts: with their school community and with other students in the graduate course. For these reasons, it can be argued that our teachers were fully engaged in AR and not only in reflective teaching.

The Role of the Mentor²

As described earlier, mentoring began at the start of the school year when the mentor asked participating teachers questions about their teaching assignment, classroom realities, concerns, and expectations. (See the Appendix for a list of these questions.) Together the mentor worked with the teacher to develop appropriate goals for the year and an action research question to accomplish these goals. In the first stage, planning the intervention, the mentor assisted the teacher in developing an intervention plan for the year and a timeline. Part of the planning process consisted of reviewing professional literature related to the AR projects.

The following example illustrates how the mentor helped one teacher attain her AR goal: to overcome her reluctance to use technology so that she could update the social studies curriculum and make it more appealing to students. This goal exemplifies a classroom model of AR. Using the four stages of AR as a framework, the teacher

² The mentor relationship described in this section focuses on the role of the mentor in first three years of the grants.

sought to integrate short video clips into the curriculum as part of the first stage, *planning*. The mentor suggested professional articles and teacher resource books to the teacher that included ways of implementing this goal. As the teacher grew in her expertise with video streaming in the classroom, she felt confident enough to ask the mentor to observe and provide feedback on her use of the technology. After being observed and receiving constructive feedback, the teacher, buoyed by her success, continued to make progress in her AR. She collected student evaluations on her use of video streaming, which became part of the second stage, *data collection*. In the third stage, *analysis*, the teacher examined the student evaluation data she had collected, and with the support and encouragement of the mentor, began to draw conclusions about the effect of AR on her teaching practices. Finally, in the last stage, *reflection*, the teacher looked back on what she had learned about incorporating new technology into the curriculum and how it could be applied to her classroom. Thus, the mentor not only scaffolded the teacher's learning but also provided, in the words of Auger and Wideman (2000), a high degree of "collegial support for professional growth by setting up a venue for shared investigation of concerns and a heightened sense of collegial communication."

Borrowing from Auger and Wideman, another way to characterize the mentor's dual role is that of an active listener and critical colleague. As an active listener, the mentor helped teachers clarify their understanding of their teaching contexts in the early stages of AR by posing questions and carefully listening to teachers' responses (see Appendix). As a critical colleague, she challenged participants to examine their assumptions about teaching and their findings from AR at a deeper level. A teacher focusing on instructional planning in her AR captured the importance of these interactions in her appraisal of the mentoring process: "The mentor pulled from me ideas that I had in my head. She posed questions that I ask myself now when I put a unit together."

The concept of "evidence-based mentoring," introduced by Yusko and Feiman-Nemser (2008), provides another framework for understanding the contribution of mentoring to the self-awareness and improved practice of teachers. The researchers report on the practices of mentors with novice teachers in two established mentoring programs in urban areas.³ In "evidence-based mentoring," mentors take artifacts from observations of teaching into account during professional conversations with teachers. These artifacts include, for example, observed behaviors during teaching, environmental print in classrooms, and samples of student work. The authors argue that this

³ The Peer Assistance and Evaluation Program in Cincinnati, Ohio (USA) and the New Teacher Project in Santa Cruz, California (USA).

approach to mentoring, which aptly described the work of our mentor, “moved mentoring conversations beyond self report and personal opinion to a new level of analysis and objectivity” (p. 946).

By guiding teachers to think critically about their practice and ways of challenging and improving it through the mentoring process, we have seen many positive results from AR. In the following section, we highlight three examples of AR research projects, each on a different theme, by teachers from different backgrounds: an experienced first-grade teacher, a first-year ESL teacher at an elementary school, and an experienced ESL teacher/ESL coordinator.

Action Research Projects: Three Teachers’ Voices

Developing Leadership and Advocacy Skills

Joyce West, a bilingual teacher in a rural community, noticed that her first-grade ELLs had been performing poorly on reading progress tests. After some initial investigating, she found that only one reading teacher provided services to all the bilingual students, while the English proficient students had many options, including several parent and community involvement programs. Similar home-school connections between the parents of bilingual students and the school were lacking. According to Wynne (2001), “scholars suggest that one of the largest failures in the quest to raise the academic achievement of children of color in urban and rural schools has been the schools’ inability to listen to the voices of parents and students in these communities” (p. 4). Although the silencing of parents and students has historically taken place in schools with large numbers of African-American students (Delpit, 1995; Lipman, 1999), the lack of voice applies equally to more recent immigrant parents and their children.

Joyce West, Participating Teacher 2005-06

I taught bilingual first grade in a rural community in Southeast Wisconsin where our population of students was nearly twenty percent Hispanic. I was faced with many parent challenges while working in this district. The main concern teachers consistently discussed was that our bilingual parents were not involved with their children’s literacy development. This led me to question how and why parents were not involved and to develop more means of parent communication and literacy opportunities for our bilingual parents.

With the support of the mentor, West researched resources on parental involvement and provided opportunities for ELL parents to share their ideas on how to increase their children’s reading achievement and improve their attitudes towards reading. As West learned more about this topic, she started to advocate for the parents of her ELLs in concrete ways, first by listening to the voices of parents and students and second by

consulting other teachers in her school. Additional outcomes of her AR included a literacy night for parents, a parent handbook on early literacy, and increased literacy levels in her students.

Joyce West continues:

In my project, I included my students' parents in my action research. Rather than making assumptions about what resources parents might need or want, I went straight to the parents and asked them what they would like. I did this because the research I found indicated that a common barrier to getting bilingual parents involved is when teachers make assumptions about the needs of the parents. After reviewing the survey, I sought out culturally appropriate materials that the parents were familiar with and I provided the parents with the types of involvement opportunities that they asked for. As a result, parental involvement improved, literacy scores went up, and the voices of parents were heard in the school district. Other teachers in my district were also so impressed with the results of this project that they, too, began to improve their parental involvement practices and strove to have their parents' voices heard.

West's advocacy on behalf of Latino parents, whose involvement in schools is often viewed as limited (Olivos, 2009; Tinkler, 2002; Turney & Gao, 2009), places her AR project in the domain of critical AR. West's efforts to encourage the school involvement of bilingual parents in the community and the later participation of other teachers in the district in that effort resulted in positive social change, one mark of critical AR.

Developing Literacy in Young Bilingual Readers

In her first year of elementary school teaching, Kari Johnson worked with native Spanish-speaking students who were beginning English learners. Her young charges were struggling to learn how to read. Although she was a novice teacher at the time, she was asked by her building administrator to create an effective literacy program for her students that would be in step with the district's balanced literacy program. The search for effective literacy programs became the focus of her AR. She reviewed literature on approaches to teaching literacy and noted whether or not they were successful with ELLs. In monthly meetings, Johnson and the mentor contemplated strategies to create meaningful balanced literacy lesson plans for her students. In the same manner, they discussed promising approaches to include in an appropriate action plan. While implementing her newly developed literacy program with her students, Johnson collected data that when later analyzed, would demonstrate student growth in the area of reading. She outlines her experience below.

Kari Johnson, Participating Teacher 2006-2008

As a first year teacher, I was given the task of re-creating the elementary ELL program for my school district. In the past, my district experienced problems with finding the best practice for educating ELLs in the areas of reading and writing while simultaneously teaching English. I chose to address this problem in my action research through my focus on improving reading instruction for beginning ELLs. I needed to review literature on similar studies to help get my action research started. In the process, I found valuable resources that have helped me discover fresh ideas to use in my classroom. The literature helped me to stay up-to-date on current trends and methods in education. Without going through the action

research process, I would not have bothered to read literature related to my topic of improved instruction. I was able to discover what methods were successful or not successful to other educators looking to improve reading instruction with their ELL students. I saved myself lots of time by doing the research and only implementing the methods that were successful, rather than trying out a technique that had failed for others.

I also needed to collect data to show that changing my classroom instruction from phonics-only instruction to balanced literacy was the right move to make. Action research provided the structure I needed to gather systematic data from a variety of sources. To track the progress of my students' reading abilities, I used emergent reader checklists, student surveys, a guided reading notebook, anecdotal records, running records, and informal observations. The multiple sources of data collection could be used to show the effects of my improved instruction. At the end of the school year I had proof to show that our district was making forward progress and taking the right steps to improve instruction with ELL students.

Because Johnson's AR project was rooted in her work as a classroom teacher, it is most closely associated with a classroom model of AR. Additionally, her emphasis on improving classroom practice, by monitoring her students' learning and modifying her teaching, supports a classroom model.

Promoting School-Wide Collaboration

As schools throughout Wisconsin and other states serve increasing numbers of culturally and linguistically diverse families, the need for collaboration among qualified ESL and bilingual teachers and mainstream teachers has become more pronounced. Because research shows that many ELLs spend most of their school days in mainstream classrooms, it is essential that all teachers and administrators who work in linguistically diverse schools are knowledgeable about promising instructional models for ensuring the academic success of ELLs (de Jong & Harper, 2005; Menken & Holmes, 2000; Rance-Roney, 2009). In our program, action research has served to both reinforce the need for collaboration and pave the way for community building and improved instructional practice by participating teachers. Several of the teachers' AR projects have supported research findings that indicate that collaboration is essential for the improvement of school climate and instruction for ELLs. We report on one by Amy Calkins, who served as the ESL program coordinator in a small rural school district.

As the only ESL teacher in her district,⁴ Calkins worked with ELLs scattered in schools across the district. Her AR project was a self-study of her effectiveness in providing appropriate professional development and support to fellow teachers as they worked to improve their instruction of ELLs. She surveyed the literature on the improvement of school-wide instruction for ELLs, which focused on educating all teachers on ESL/Bilingual instructional strategies and techniques. The project mentor met with Calkins on a monthly basis to give suggestions,

⁴ Since the grant project ended, another ESL teacher has been hired in Calkins' school district.

offer feedback, and provide resources on her AR topic. In addition, the mentor presented a workshop to the staff on research-based educational practices for ELLs. Due partly to the ripple effect of this workshop, Calkins broadened the focus of her research to include a team of district educators working to improve the educational climate and instruction of ELLs.

Amy Calkins, Participating Teacher 2005-07

I work as a teacher for ELLs in grades K-12 in our district. As such, my job entails a great deal of consultation and coordination with teachers as well as my regular teaching duties. I chose to focus on how my efforts in the district were perceived by teachers. That is, I knew what I thought they needed to hear and do, but I wanted to find out how closely my perceptions meshed with theirs. I also wanted to collect evidence on whether my advice on differentiation and lesson/curriculum modification was being used in the classroom. Via surveys and interviews I gained an appreciation for the difference I was making in our small, rural district. In March 2006, I put together a district-wide team to take part in a team building conference to create an action plan on how the district might do a better job in responding to the needs of English Language Learners. The team consisted of seven members. Two were administrators (Director of Pupil Services and an Associate High School Principal). We also had one high school teacher, one middle school teacher, two elementary teachers as well as me, the ELL program coordinator. We focused on two goals: improving the use of differentiation techniques in classrooms throughout the district, and working to create a more welcoming environment in our schools for both ELLs and their families. The team decided that many teachers would be more responsive to the need for differentiation if they could experience the ELL perspective, so we brought in a guest speaker to conduct a mini-lesson in Estonian on Estonian geography.

To establish a baseline in order to determine whether our efforts were successful, we decided to survey the district [teachers] on their use of differentiation strategies before beginning our intervention efforts. A follow-up survey on the use of differentiation strategies, conducted in January 2007, showed that teachers reported greater familiarity with more strategies as well as the incorporation of at least twice as many strategies as in the previous survey. The middle school adopted differentiation as one of their building-wide goals, and teachers have been expected to provide examples of how they incorporate these strategies into their curriculum. The high school has recently decided to follow the middle school example of teachers documenting their use of such strategies.

Through her AR project and collaboration with teachers and administrators in the district, Calkins found that AR helped transform a working group of teachers and administrators into a professional learning community. Similarly, Calhoun (2002) summarizes the potential transformational effects of AR in school communities: “When used as an organization-wide process for school improvement, action research changes the context and provides a way of organizing collective work so that professional expertise is tended and extended, helping to build a strong professional learning community” (p. 23). The use of widespread collaboration between teachers across grade levels and district administrators and the team approach used to complete Calkins’ AR project identifies it as collaborative AR. Although the AR project was also participatory in the sense that Calkins’ practices were a focus of her research, the strong emphasis on collaboration points to a collaborative model of AR.

The three examples of AR described above illustrate different types of AR. It is interesting to note that although these teachers were introduced to AR through similar texts and similar research processes, their approaches

to AR nonetheless diverged. In the next section we hear again from the three teachers as they reflect on what they learned from AR.

Action Research and Professional Teams: Tools for Professional Growth

As part of the graduate Professional Development seminar, participating teachers and administrators reflected on what they learned from doing AR over the course of an academic year. AR is an intensely personal and time-intensive endeavor that plays out in multiple ways and evokes varied reactions among its practitioners. While our participants' reactions to AR also varied widely, three common themes emerged from their reflections: the practical value and relevance of AR, the importance of collaboration with colleagues, and the centrality of reflective practice. First, because AR is situated in local teaching contexts, it holds immense practical value and relevance to team members (and others) who share that context. Second, collaboration on several levels—between team members, between teachers/administrators and the mentor, and between teachers and other school colleagues—contributes to the success of AR and often results in a product that is more than the sum of the parts. This idea is reinforced by Carroll, co-author of *Team Up for 21st Century Teaching & Learning*, “At the heart of every high performing school, we find a team of effective educators who join forces to increase student achievement beyond what even the best of them could accomplish alone” (National Commission on Teaching and America’s Future, 2010). Finally, AR affords teachers the space to thoughtfully reflect on their instructional practices from both a personal and professional perspective. This reflection is built into both the beginning and end of the action research cycle. The following comments from the three teachers exemplify these three themes.

Kari Johnson, Participating Teacher 2006-08

Action research offers many incentives for teachers to improve their instruction. A great benefit of action research is that it encourages teachers to focus on something practical and relevant. When I began the school year, I was already planning to implement a new reading program with ELL students. Action research helped me to focus my issue while finding evidence that uncovers the positives and negatives of the new reading program. At the end of the school year I was able to take the data collected from my action research and present it to my colleagues and administrators and show them how the changes in the reading program have helped our students' progress.

Without action research I would have been at a loss for where to begin my teaching career. ELL [ESL] is a field in education that is still very new and constantly undergoing changes. Without my district having a set curriculum I was overwhelmed by where to begin. Action research helped me to create my own goals for my classroom that coincided with the overall goals of the school district. Having an experienced mentor observe my classroom and offer feedback and suggestions helped me stay revitalized and in touch with the changes in my area of expertise. My action research has served as a common communication point between the mentor and me as well as between my colleagues and me.

Participating in action research has made my job as an educator easier. My project has given me direction and goals for my students. It helped me validate the importance of improving my instruction to

help my students with reading. Action research has motivated me to continually seek positive change for my students and has helped me improve my instruction dramatically. Action research has made me feel successful as a new teacher.

The relevance and practical value of AR to Johnson is evident in her comments. The fact that her AR project coincided with an identified need at her school, the restructuring of the literacy curriculum for young ELLs, motivated her efforts. Additionally, the structure for doing AR in the graduate course, the collaborative support for making it happen, and Johnson's organizational skills and perseverance contributed to her success. Although not all first-year teachers would willingly embrace the challenges of doing AR, it clearly helped anchor Johnson's practice in her first year of teaching.

Amy Calkins, Participating Teacher 2005-07

The single most compelling argument in favor of action research is that it allows the individual to focus on his or her own practice. It affords an opportunity to read and learn about subjects specific to a teacher's needs. Instead of being theoretical, it is intensely practical, and can be extremely rewarding. I worked with a mentor over the year who made visits, suggested alternatives, provided resources and in general, helped to guide me in developing and implementing my research.

Like West, Calkins, an experienced ESL teacher, also mentioned the practical aspect of doing AR and the benefits of collaboration with the mentor throughout the AR process.

Joyce West, Participating Teacher 2005-2006

I feel that action research is unique in that it truly allows teachers to become advocates for students and their families. Teachers are constantly bombarded with new programs, techniques, and methods to implement in their classrooms, without any consideration as to whether or not the new "idea" is the best one for their students. Action research allows a teacher to step back and analyze a problem that is occurring in his or her own classroom. It allows the teacher to think about what will help the students who are right there in his or her classroom at that very moment. In this respect, teachers can truly become the voice of meaning in their classroom and school.

In this excerpt West notes how reflection can anticipate informed action, which for her translated into becoming an advocate for immigrant students and their families.

These three teachers had participated earlier in the grant program as individual ESL/bilingual teachers. As the grant program progressed, they and other ESL/bilingual teachers recognized the need to work with their content area teacher colleagues and school administrators to maximize the positive effects of planned interventions on ELLs. They suggested a team approach to AR, with an ESL/bilingual teacher, content area teachers, and school administrators working together on common goals. In the final year of the grant, five former ESL/bilingual teacher participants, including Johnson and Calkins, became team leaders of their district teams. Serving as a team leader in

the AR process engendered opportunities for leadership, both on the district teams and in the participants' home schools and school districts.

These opportunities for leadership, however, did not come without challenges. With teams of content area teachers and administrators, finding time for common planning was often difficult, and adjustments in deadlines for completing the different steps of AR occasionally had to be made. The organizational structure of schools sometimes complicated the ability of team leaders who were less experienced teachers to urge or cajole their team members into action. Team members who were administrators were sometimes called away to address other pressing needs, and team leaders at times struggled to juggle their responsibilities as teachers while supporting the needs of the team as team leaders. For example, one team experienced difficulty when a team member who was a building administrator needed to take time away from her AR project in order to address a personnel issue in her school. The team leader, a teacher at the school, could do little more than encourage her to return after the problem was resolved. The flexibility and support of the project director was instrumental in allowing the administrator to complete her AR at a later date.

Similar challenges were experienced by the research groups participating in collaborative action research partnerships elsewhere (Goldstein, 2000; Johnsen & Normann, 2004; McLaughlin, 2007; Platteel et al. 2010). In another example, teams of secondary teachers, college instructors who facilitated the teams, and a university educational researcher in the Netherlands collaborated together to improve secondary Dutch L1 education (Platteel et al. 2010). Similar to our teams of teachers, the researchers also encountered difficulties with time commitments and the fluidity and overlapping nature of roles and responsibilities among the participants. They recommend "long-term sustained partnerships" to help overcome these challenges (p. 447). As participants in the grant program for at least two years, our team leaders were fortunate to have time to develop their expertise in AR and to strengthen collaborative relationships with other program participants as well as those in their home schools. Through online communication, informal exchanges, phone conversations, and planned meetings, team leaders also provided valuable feedback and suggestions to the project director, mentor, and mentor consultant about ways to improve implementation of the program.

The expertise of our team leaders as seasoned AR practitioners, coupled with their commitment to the goals of the team and to improving the academic achievement of ELLs, contributed to their success in helping team members' complete their AR projects and communicate their findings with others.

Summarizing studies on teacher leadership, Wynne (2001) reported that “effective teacher leadership involves a move away from top-down, hierarchical modes of functioning and a move toward shared decision-making, teamwork, and community building” (p. 2). Reviewing teacher leadership programs across the country, Wynne found that teacher leaders

demonstrate expertise in their instruction and share that knowledge with other professionals, ...frequently reflect on their work to stay on the cutting edge of what's best for children, engage in continuous action research projects that examine their effectiveness; collaborate with their peers, parents, and communities...and become socially conscious and politically involved (p. 2).

Evidence of these leadership characteristics could be found in our participating teachers as well. As part of dissemination efforts built into the grant, all teams presented the results of their action research projects to at least two different audiences: the graduate seminar group and colleagues at a school or district meeting. One team, for instance, presented the results of their action research projects to their school board. In addition, the project director, the mentor, and several teachers presented their AR findings at both state and national conferences.⁵ Together these activities embodied the multiple ways in which teachers can share what they learn from AR, both with peers and a wider professional audience.

Conclusion

In an age of increasing pressures for the accountability of schools and teachers, policy makers too seldom listen to the expert voices of teachers as they fashion and implement educational policy. What is needed is a systematic framework for supporting and disseminating teachers' knowledge of best practices. To move from “highly qualified” to “highly effective” teachers, it is necessary to formalize a process by which committed teachers bring their knowledge to educational decision-making (U.S. Department of Education, 2010). AR can contribute to that process, and its benefits are both tangible and intangible. Speaking from the perspective of participating teachers, Burns (2010) notes, “Doing AR can invigorate our teaching, lead to positive change, raise our awareness of the complexities of our work, and show us what drives our personal approaches to teaching” (p. 7).

⁵ For instance in 2007-08, Project Director Anne Durst and three teachers presented at the annual Wisconsin TESOL Conference (September 2007), and Durst and four teachers presented at the New Teacher Center's annual Symposium on Teacher Induction in San Jose, California (February 2008).

In the grant program outlined here, we have provided opportunities for ESL and bilingual teachers to refine their expertise—their insider knowledge as teachers—through involvement in action research projects that they designed to improve their practice. Participating teachers, in turn, have shared their insider knowledge to restructure the grant programs and strengthen opportunities for collaboration, which, ultimately, have contributed to positive outcomes in their school districts. Outside experts are not the only sources of knowledge, nor should their voices be the only ones that educators listen to. The teachers in our program have disseminated the results of their research at program seminars, national conferences, and school and district workshops. By conducting action research and disseminating the results, teachers can systematically bring their experience and expertise to bear on matters of local and national importance in education.

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Appendix

Initial Questions for Action Research⁶

Research questions usually emerge from your everyday teaching life. Reflect on the following questions to start getting some ideas for a research focus ...

1. Briefly explain your classroom situation and teaching responsibilities:

There are a number of potential action research studies that could be conducted on your practice, and several broad topics are presented here:

Student achievement
Collaboration
Motivation
Technology
Behavior/discipline

Inclusion
Needs of at-risk students
Extracurricular participation
Professional development
School climate
Parental involvement

Think about which of these topics are issues in your work as an educator. Reflect on the two topics (either from this list or on other topics of your own choosing) that you are most interested in or about which you feel the most passionate. Reflect also on the outcomes you desire regarding these two topics and the actions you might take in pursuit of those outcomes.

3. Respond to the following questions. It's not important now to elaborate on or "solve" your problems and desires; simply articulate them to yourself.

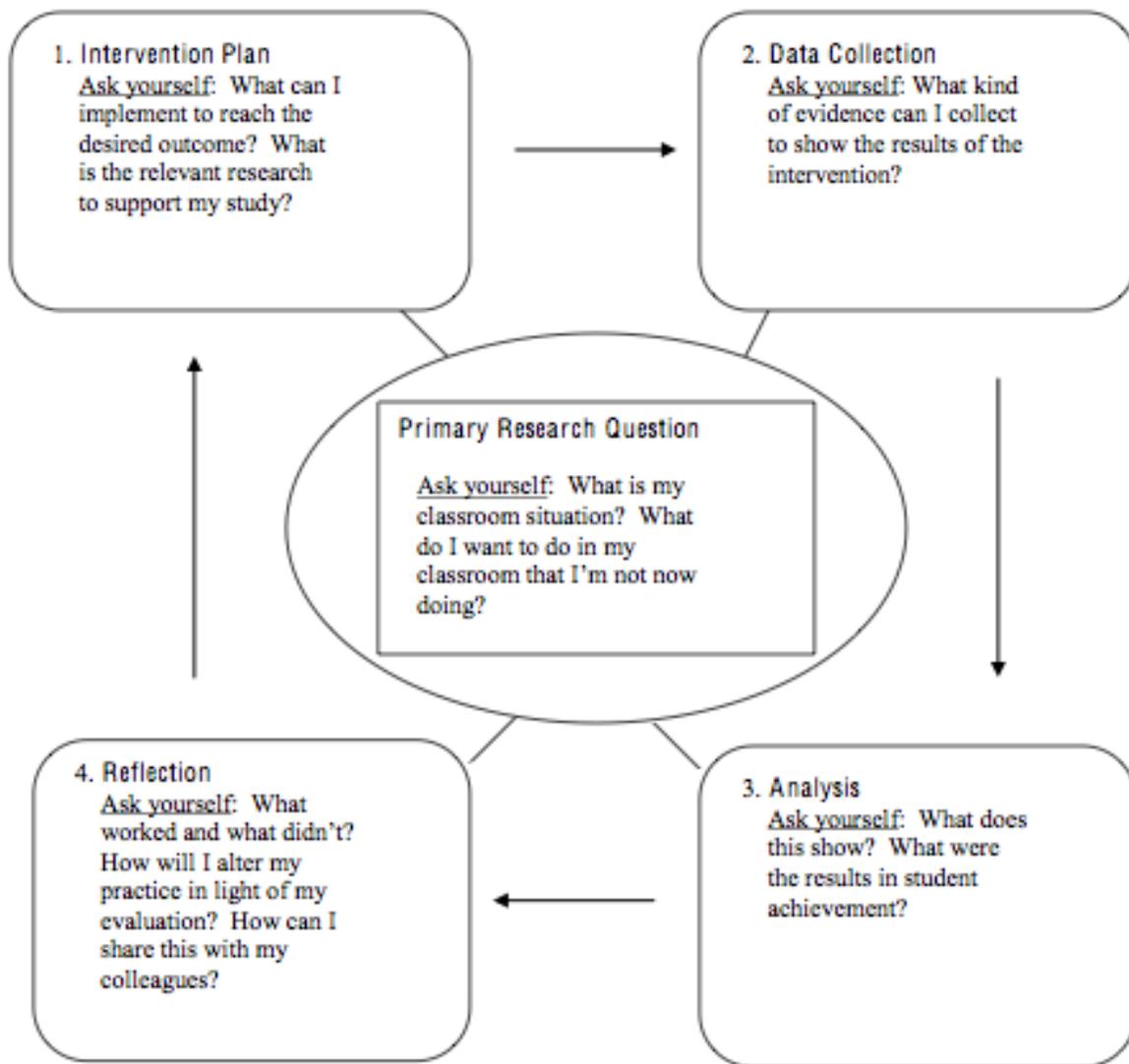
- What do you want to do in your classroom that you're not now doing?
- What's preventing you?
- What support would you need to be able to carry out a new strategy, curriculum, or project?

Figure 1. The Action Research Cycle⁷

⁶ Adapted by Sarah Anderson for the Professional Development Program for Teachers of Linguistically Diverse Students, University of Wisconsin–Whitewater, from E. Chiseri-Strater and B. S. Sunstein, *What works? A practical guide for teacher research*, Portsmouth, NH: Heinemann, 2006, and C. Hendricks, *Improving schools through action research: A comprehensive guide for educators*, Boston: Pearson Education, Inc., 2006.

⁷ Adapted from E. Chiseri-Strater & B. S. Sunstein, B. S., *What works? A practical guide for teacher research*, Portsmouth, NH: Heinemann, 2006, and C. Hendricks, C., *Improving schools through action research: A comprehensive guide for educators*, Boston: Pearson Education, Inc., 2006.

Figure 1. The Action Research Cycle⁵



DEVELOPING HABITS OF MIND FOR NUMERACY IN A LOW-LITERACY CLASSROOM: A FOCUS ON ATTITUDES

Rachel Johnson

ABSTRACT

Many of today's adults, both native and non-native speakers of English, do not have the necessary math skills to be considered numerate in the world around them. Their lack of skill may lead to serious anxiety about mathematical concepts or a negative attitude towards learning new concepts. Simple tasks, such as the "Math Problem of the Day," when used deliberately to develop key "Habits of Mind," can help students develop positive attitudes towards mathematical knowledge. This will ultimately result in a more successful mathematical experience in academics and the world around them.

FRAMING THE ISSUE

When 58.6 percent of the general U.S. population and 91.6 percent of learners in adult education are assessed as lacking the numeracy skills necessary to be successful in life (Manly, 2008), adult numeracy instruction becomes critical on a national level. Numeracy is composed of the mathematical skills needed within the context of everyday life, and as such, is constantly changing to meet the demands of circumstances in the home, workforce or other cultural situations (Kerka, 1995). Adult students, both native and non-native speakers of English, must be taught to use mathematical content flexibly to meet the needs of their context.

In order to equip adult educators with tools for effective numeracy instruction, the state of Minnesota has introduced an intensive teacher training program, the Minnesota Numeracy Initiative (MNI), which provides access to online courses, peer observations of mathematic instruction, and discussions on coursework and curriculum with educators across the state. Since joining MNI in September, 2010, my emphasis has been on sound practices for numeracy development in an adult low-literacy classroom, composed primarily of English language learners. Initial curriculum changes included the introduction of explicit mathematical content, such as addition or basic algebra, as well as themed units related to academics or the workforce, such as working with historic timelines or measuring liquids for cleaning.

When I began introducing these aspects of numeracy instruction into my classroom, many of the students exhibited fear and discomfort, or in some cases, simply shut down for the day. This is not uncommon in adult education classrooms, unfortunately (Ginsburg, Manly, & Schmitt, 2006). Attitudes and myths about math must be understood, considered and worked through in order to guide students towards a healthier understanding of their numeracy needs and abilities. In addition to expanding students' mathematical abilities, I began to focus on

encouraging students to have positive attitudes toward numeracy in their lives and in the classroom, through an adaptation of “Habits of Mind” for mathematical learning.

Habits of Mind

Costa and Kallick (2000) describe a series of sixteen behaviors and attitudes that can be applied to problem solving and learning, particularly when information is not completely understood, called Habits of Mind. These Habits of Mind, when used as patterned behaviors, result in critical thinking about problem solving and learning that leads to better outcomes in real-world situations. The sixteen listed Habits of Mind, Costa and Kallick emphasize, are not unchangeable; additions that improve problem solving are encouraged.

Taking this as a starting point, the Massachusetts Department of Education (2005), in their Adult Basic Education Curriculum Framework for Mathematics and Numeracy, identifies key Habits of Mind critical for numeracy instruction. Rather than asking teachers simply to focus on a list of patterns or algorithms to teach students, the framework posits these Habits of Mind train students to acknowledge not only what is learned, but also how and why concepts are learned. Once teachers have internalized the Habits of Mind themselves, they are better equipped to demonstrate them to students in a meaningful way. Massachusetts Department of Education includes the following Habits of Mind, described in detail below: Curiosity, Respect for Evidence, Persistence, Ownership and Reflection (Massachusetts Department of Education, 2005, p. 16).

Curiosity involves a willingness to try new things in relationship to mathematics, not only related to new math content, but also including new methods or approaches to problems. Students learn to ask questions such as, “Why,” “How,” or “What if?” as they pursue different ideas in order to keep their minds open, even when concepts might become confusing.

Related to this is Respect for Evidence, which involves evaluating the answers to the questions raised above. Students must train themselves to listen to the explanations given by others, including teachers and other students, and in turn be able to explain their own methodology clearly and concisely. It is not enough to be able to complete a mathematical function; students must be able to understand and explain the reasoning behind their work.

Perhaps one of the most important Habits of Mind is Persistence. It can be difficult, especially after years full of anxiety and misapprehensions about math, to continue to work with numeracy. Becoming numerate is a long-term process that includes any number of challenges. Students must be encouraged to keep trying to understand and

explain their numeracy work, even when it becomes very difficult. Teachers can facilitate this by high levels of encouragement, particularly in determining what students already can do mathematically, and building on those skills.

Students also need to feel a deep connection to the work itself. They take Ownership of the work they are doing when it has value for them. Teachers may need to demonstrate the importance of concepts initially, but ultimately students need to be able to make such connections as they continue to grow as numerate individuals. This will help them learn as they experience new and difference mathematical concepts and methods.

The final Habit of Mind is Reflection, in which students look back on what they have learned and how they learned in order to prepare for future experiences. This is an important step to becoming a self-aware, autonomous learner. Students will continue to encounter new mathematical concepts after leaving the classroom and will need to remember the tools learned in the classroom to face these challenges. Leaving school knowing what and how they have learned will enable students to succeed at acquiring additional skills when there may not be a teacher present.

These five Habits of Mind encourage a numeracy teacher to go beyond theorems and equations into the meaning of mathematics, producing learners who are eager, excited and willing to work to understand, explain and continue in math classes as they become numerate individuals. Providing a classroom that encourages and models these characteristics in connection with explicit math content instruction will change students' attitudes towards math and assist them in meeting their numeracy goals.

Participants

Learning Lab A (LLA) serves students who are in the very initial stages of preparing for the GED. This includes both native and non-native speakers of English. All are reading below a fourth grade level, with the majority around second grade. Most have math scores around a first or second grade level. The goal of the class is to improve reading, writing and math skills while teaching content knowledge in science, social studies and literature.

The majority of LLA students, around 75%, are non-native speakers of English. Most of these learners have taken ESL classes in adult education programs already, and teachers have noticed that their oral skills have developed at a normal rate, while they continue to have significant struggles with written English. Many are uneducated in their native language, due to spending much of their life either in a refugee camp or working an entry-level job. Many have self-reported mental health problems or physical injuries that led to difficulty learning. These

students tend to have very strong mental computation skills, though they may struggle with written conventions in the U.S., and they also tend to have trouble with applied mathematics, primarily due to vocabulary.

The other 25% of LLA students are native speakers of English. These students often report that they were in special education programs while in the K-12 system, have significant learning disabilities (or low cognitive function), or have mental health concerns. Some are also recovering from some sort of trauma, such as stroke or head injury. Many of these students tend to be strong in basic written computation, have a strong dislike of applied mathematics, and have mathematical procedures memorized very well, though they have limited understanding of why they work.

NARRATIVE

As my knowledge of numeracy best practices grew, I continued to teach explicit math concepts, but I was determined to bring more mathematics into the classroom in a way that gave me the opportunity to model and teach Habits of Mind. One of the lessons in an MNI course recommended doing an activity called “Number of the Day,” in which students could create equations to express a particular number (Foundations, 2009). I decided to alter this activity to “Math Problem of the Day.”

“Math Problem of the Day” is relatively simple. Every morning I write a math problem on the board and lay out some manipulatives that students enjoy using. The problem is always related to explicit math concepts the class has studied and often involves current science or history content. Students have a set amount of time to solve the problem before it is reviewed as a class. Students are encouraged to work first on their own, then ask a neighbor if they are confused, and finally ask me or a volunteer teacher for additional. I do not give students the answer. Getting the right answer is only a secondary goal; the primary goal is to be able to discuss the mathematical concepts involved and the process needed to find the correct answer.

The introduction of the “Math Problem of the Day” was met with excitement by many students, typically those who were at higher levels of math or reading ability. Students at lower levels of ability displayed frustration or resistance, particularly if they had already given up on acquiring mathematical skills. The more excited students took the opportunity to explain their work to others and encourage them to continue learning. Frustrated or resistant students listened to their peers explain with curiosity and attention. Table 1 below presents an example of a “Math

Problem of the Day,” the solutions the class came up with, and some explanation of how each Habit of Mind was explicitly part of the class.

Table 1. Sample “Math Problem of the Day” with Student Solutions

Xuan ¹ needs to buy three pounds of grapes. Each pound costs \$2.99. She has \$10.00. How much money will she have left after buying her grapes?			
Solution 1	Solution 2	Solution 3	Solution 4 (done mentally)
$\$2.99 \times 3 = \8.97 $\$10.00 - \$8.97 = \$1.03$	$\$2.99 + \$2.99 + \$2.99 =$ $\$8.97$ $\$10.00 - \$8.97 = \$1.03$	$\$10.00 - \$2.99 = \$7.01$ $\$7.01 - \$2.99 = \$4.02$ $\$4.02 - \$2.99 = \$1.03$	$\$2.99$ is about $\$3.00$ $\$3.00 \times 3 = \9.00 $\$10.00 - \$9.00 = \$1.00$ Add in 3 cents = $\$1.03$

This math problem was part of a larger unit on reading ads, buying items and making change. I had trays of quarters, dimes, nickels, and pennies for students to work with, though most chose to complete the problem without manipulatives. As students finished with the problem, they moved on to other materials. Most solved the problem within about fifteen minutes using Solutions 1, 2, or 3. One person did the problem mentally, using Solution 4.

I typically start conversations about each problem by asking the class, “How could you solve this problem?” This phrasing is particularly helpful in reminding students that there are different ways to answer, promoting Curiosity. The question also serves as a reminder that I am focused on the explanation of their methods, rather than their answer itself, demonstrating Respect for Evidence. In the problem above, four solutions were given. The first two were the most common, with the students who could multiply opting for Solution 1, and those who could not yet use multiplication, Solution 2. Most students assessed Solution 3 as too time-consuming, due to the amount of borrowing, though they acknowledged that it led to the correct answer.

Everyone was impressed by Solution 4, though the majority of the class believed it was too difficult for them. The student who presented that solution had owned a business stall in her country. She was known in the class as one of the lower readers, but she was exceptional at mental math. Presenting her solution and being recognized by her peers and teacher gave her a level of personal satisfaction not demonstrated before. Her solution also led to a discussion of when students might use mental solutions, if they ever had and why the method has value, encouraging Ownership. As the class discussed the solution, students were surprised to learn that many of them use estimating while they shop, and that it was not as inaccessible a solution as they believed.

¹ I typically rotate through the names of my students when creating math problems; the name has been changed here to protect student privacy.

Table 2 shows some of the important ideas to remember while facilitating the conversation about “Math Problem of the Day.” It can be difficult to have much larger group discussion on the topic of Reflection, which is best suited to one-on-one conversations as students work through course material. I ask individual students where their difficulties persist, and have them assess what has been most helpful for them; reading solutions on the board, listening to others talk it through, using manipulatives to “act out” the problem before solving, or some combination of these. Students are not always accustomed to this process, so it takes time, but eventually they see the benefit to understanding their learning process, when I take the time to be explicit about it.

Table 2. Habits of Mind in the “Math Problem of the Day”

Habit of Mind	Ideas for Inclusion in discussion
Curiosity	Ask students “How?” and “Why?” and encourage them to ask the same questions of each other
Respect for Evidence	Allow time to discuss every possible method; encourage students to assess the practicality of each themselves
Persistence	Be present to encourage students to ask each other for help; share progress observed with students; ask students to share personal success stories with each other
Ownership	Use students’ names in the problems; discussing the spheres of life types of math will be useful for; discuss experiences using the type of math.
Reflection	Take time for longer-term one-on-one conversations between student and teacher about progress in acquiring mathematical skills and strategies that have helped the progression.

REFLECTION

Using a “Math Problem of the Day” to explicitly model and talk through math problems has resulted in changed attitudes towards math, generally corresponding to the Habits of Mind described above. Rather than spending a large amount of time fearing new mathematical concepts, students are excited to see whose name is on the board and curious to learn what type of problem they will be solving. Because problems are connected directly to their lives in and outside of the classroom, they see the relevance and are determined to persist in understanding the content. Students take ownership of their own work when they are asked to explain their solutions and learn to respect each other’s while listening to additional solutions. When all of these attitudes combine, they work together to mold a student into an individual who is ready and eager to become a numerate adult.

“Math Problem of the Day” has a special impact on non-native speakers of English in the class. As the students have the opportunity to explain their work using methods from their country, they feel confident in their understanding of math concepts. They are also given the opportunity to learn the traditional U.S. methods of writing particular math problems when other students or the teacher present additional solutions, which helps to prepare them for standardized testing.

Students have reported seeing difference in their lives, both in the classroom and outside, since beginning “Math Problem of the Day.” Some tangible results students have reported include: pride in improved test scores, particularly on applied math standardized tests; willingness to try mathematical skills in the real world, such as making change with coins instead of simply using a card; passing an employability math test with such high scores that an employer found an opening to hire a student; and the ability to give meaningful assistance to children completing homework (including asking children “How,” and “Why?” as they complete work).

EXTENSION

These successes lead me to believe that creating positive attitudes towards math has a long-reaching, measurable effect in students’ lives. I feel that many of the 58.6 percent of the general U.S. population and 91.6 percent of learners in adult education who struggle with numeracy skills (Manly, 2008) could benefit from the deliberate introduction of Habits of Mind in their learning and ultimately their lives. I would call on all Adult Basic Education teachers, of both native and non-native speakers of English, to encourage students to develop these Habits of Mind in their attitudes towards numeracy as they build explicit numeracy skills.

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AHA! MEASURING PRE-SERVICE TEACHERS' LEARNING OF CONTENT-BASED INSTRUCTION

Kate Mastruserio Reynolds and Jingjing Jiao

ABSTRACT

This research study investigated the effect of Content-Based Instruction (CBI) and its influence on pre-service teachers' (PSTs) perceptions of their existing knowledge and capabilities for teaching English language learners (ELs). Our goal was to examine the PSTs' development in content-based instruction during a 16-week CBI course and their insights and changes resulting from the experience. The researchers hoped to determine what aspects of CBI methodology were new, noteworthy and important for PSTs in order to identify what they were not receiving in their general education teacher preparation courses. Over the course of three semesters, 49 participants took pre- and post-course surveys comprised of open-ended questions and five Likert scale close-ended questions to measure their insights and changes. Findings revealed substantial changes to pedagogical philosophy, instructional practices, curricular and materials development, awareness of ELs' needs, and stance toward advocacy.

With the benefits of learning a language in a meaningful context and developing language and content knowledge and skills simultaneously so as to remain on grade level while being integrated into the mainstream classes, Content-Based Instruction (CBI) is becoming more commonly applied in academic language learning in U.S. public K-12 schools (Platt, Harper & Mendoza, 2003; Harper et al., 2007). This results in ever more English learners (ELs) in general education classes all day where teachers need to have the skills to work effectively with them (Berube, 2000). Furthermore, educators are required to demonstrate adequate yearly progress in content knowledge and English language acquisition according to No Child Left Behind (2002). Many researchers and teacher educators in the field have called for appropriate preparation for general educators (Ballantyne, Sanderman & Levy, 2008; Batt, 2008; Gándara & Baca, 2008; Gándara, Maxwell-Jolly & Driscoll, 2005; Gutiérrez, Baquedano-Lopez, Asato, 2000; Li & Protacio, 2010; Lucas, 2011; Lucas & Villegas, 2011; Lucas, Villegas, Freedson-Gonzalez, 2008; National Center for Education Statistics, 2002; Reeves, 2006; Verplaetse, 1998), but only 17 states require general educators to have any preparation to include ELs effectively into their courses (Ballantyne et al., 2008). However, general education teacher preparation programs are full with myriad state-mandated requirements which exclude those needed to teach ELs. Some pre-service teacher preparation personnel view preparation for EL inclusion as either literacy development similar to that of first-language literacy or multicultural education/ diversity (Gibson, 2009; Gutiérrez et al., 2000). Eight states view EL instruction as an issue of linguistic diversity (e.g., Arkansas, Montana, New Mexico, North Carolina, Ohio, Oregon, West Virginia, Wyoming) according to Ballantyne et al. (2008). The question is then how does content-based ESL instructional preparation

compare to general education preparation in literacy and multicultural education and culturally-responsive instruction. Are pre-service general education programs, without explicit CBI preparation, adequately preparing future educators for inclusion in their mainstream, content courses?

Our research took place in a public Midwestern regional university with 10,500 students enrolled annually. At this university, there are teacher preparation programs for elementary, secondary and k-12 programs in a variety of core and specialty content areas, which are widely respected in the region. At this university there is no course requirement for EL inclusion or CBI instruction preparation for general educators/PSTs. Instead, PSTs are taught in 18 credits hours of coursework diversity sensitivity, inclusiveness, and culturally-congruent pedagogy. The pre-service teachers who enrolled in the CBI course did so as part of the ESL licensure requirements, supplemental to their general teacher education preparation. Our research questions were: 1) How did pre-service teachers view their role as “teacher” in respect to their expectations and duties? 2) What were the most important revelations, or “aha” moments, for PSTs that resulted from their learning in CBI methodology? 3) How did PSTs’ understanding of teaching general education courses change after learning about CBI instruction?

Our objectives were to determine whether, after taking the CBI course, 1) PSTs were more knowledgeable of ELs’ needs in the classroom; 2) PSTs felt more competent in teaching; 3) PSTs felt more confident to teach in multi-level and diverse classrooms. It was hypothesized that this research would reveal the impact of CBI in teacher education as compared to the teacher preparation received in general teacher preparation courses. Our research inspected the PSTs’ development through taking a CBI course and the noticeable changes of pedagogical philosophy and awareness of English Language Learners’ needs.

LITERATURE REVIEW

Content-based instruction (CBI), the teaching of language using academic subjects such as history, science, and math, has been promoted for its ability to integrate English language learners (ELs) into mainstream grade level classrooms, to provide subject matter instruction from an expert content-area teacher, to connect ELs with their native speaking peers, to develop ELs’ critical thinking skills (Chamot, 2009), and to increase learners’ academic language abilities, along with other benefits (Echevarria and Vogt, 2010; Echevarria, Vogt, and Short, 2004; Short and Fitzsimmons, 2007; Vogt, 2000). Furthermore, the population of ELs in public K-12 schools is currently outpacing the number of adequately-prepared teachers of English as a Second Language (ESL); thus, teaching

content outside the ESL realm has become necessary (American Association of Colleges for Teacher Education, Committee on Multicultural Education, 2002; Echevarria, Vogt and Short, 2004; National Clearinghouse for English Language Acquisition, 2005). Due to these recent trends, pre-service teachers (PSTs) must now more than ever think critically and have knowledge in not only professional development but also content-based learning and language learning methods as a means to accommodate the particular needs of ELs (Menken and Antunez, 2001; Willet, et al., 2007).

The transition from isolated language-preparation courses for ELs to content-based instruction has transformed the language teaching discipline (Colombo and Furbush, 2009; Kaufman and Crandall, 2005; Snow & Brinton, 1997, Vogt, 2000), as well as the preparation of ESL and mainstream, content-area teachers (Lucas, 2011; Lucas and Villegas, 2011; Lucas, Villegas and Freedson-Gonzalez, 2008; McGraner and Saenz, 2009; Telléz and Waxman, 2006). Various approaches have been taken to help in-service teachers meet the academic and linguistic needs of ELs (Reynolds, 2011), to meet adequate yearly progress requirements (NCLB, 2001), and to change the way pre-service teachers are prepared, so they have the range of knowledge, skills, and dispositions necessary to include ELs into their classes in effective ways.

Across the U.S., an increasing recognition of the need for modifications to teacher education is occurring. Short and Fitzsimmons note the need for “Setting a national teacher education policy to ensure all teacher candidates learn about second language and literacy acquisition, reading across the content areas, and sheltered instruction and ESL methods.” (2007, p.2) In spite of this increased awareness, in our particular context, at a Midwestern regional university, general education teacher educators were resistant to modifying the current preparation programs to include coursework, adjunct instruction, or other attempts at preparing general educators to include ELs effectively into their mainstream courses while educating ELs on their content area academics and language. One repeated claim from university teacher educators was, “we already teach them how to work with ELs.” Their belief was that if they raise general educators’ awareness of cultural and linguistic diversity and culturally-congruent pedagogy in their courses, they were preparing their PSTs sufficiently. Essentially, they likened a positive orientation on the part of the PSTs toward diversity in mainstream classes as being enough to educate the ELs in content areas and second language acquisition. In order to disprove this assertion, we undertook to investigate how and in which area general educators changed as a result of one content-based ESL instructional methods course (see appendix A for an outline of course topics).

Culturally-congruent pedagogy (Lucas & Villegas, 2011) is one way teacher educators have attempted to prepare PSTs to work with diverse learners. Culturally-congruent pedagogy is teaching in ways that work for learners based on their home culture patterns. For example, Au & Mason (1983) researched native-Hawaiian populations in the 1980s and noted the culturally incongruent practices of white teachers when working with native-Hawaiian learners, such as mandating only independent work as opposed to cooperative learning, which was a pervasive pattern in the culture. “Tellez & Waxman, 2006 report that the major teacher organizations have been largely absent from conversations about teaching English language learners but have focused attention on preparing teachers for culturally diverse classrooms (as opposed to culturally and linguistically diverse classrooms;) likely contributing to the lack of required coursework” (from Arens et al, 2008). This research study sought to determine if PSTs were being sufficiently prepared to include ELs effectively into content-area courses and meet ELs language acquisition needs.

At this time, there is no research present in the published literature on effective general educator preparation in EL inclusion and content-based instruction with the exception of opinion articles. Discussions have been primarily focused on what general educators need to know in order to work with ELs: 1) Knowledge of language (Murray & Christison 2011a, 2011b; Schleppegrell, 2004; Wong-Fillmore & Snow, 2002), second language acquisition processes, ELs' backgrounds; 2) Performance of creating welcoming learning environments, scaffolding and modifying instruction to meet ELs' needs, providing interactional opportunities in oral and written language (Echevarria & Graves, 2003; Echevarria & Short, 2003, 2004, 2005; Echevarria, Vogt, and Short, 2004; Short, 1993, 1994, 2002), explicit instruction of learning strategies (Chamot, 2009), and culturally-responsive pedagogy (Lucas and Villegas, 2011) and 3) Which models are the most effective, such as additional pre-service coursework, “infusion” of competencies and knowledge into previously existing courses, in-service teacher preparation in workshops, learning communities and continuing professional development/coursework (Reynolds, in press).

RESEARCH METHODOLOGY

Population

This qualitative study gauged the perspectives of 49 general education PSTs, and their learning on working effectively with ELs. These 49 PSTs were pre-service teachers entering general education fields ranging from

elementary education to foreign languages (e.g., Spanish, French and German), history/social studies, English/language arts/literature, sciences, special education, music, and art who were adding on a state TESOL license. The vast majority were Caucasian females (87%). The group had limited ethnic diversity, which was typical of the university's population. Four participants were Chinese, Hmong (2) or Malaysian (8%). With only two exceptions, the participants were all in their early 20s.

Surveys

The future educators opting to participate answered a series of open-ended qualitative questions and quantitative, Likert-scale, close-ended questions based on the objectives of the course prior to participating in a 16-week, three-credit content-based ESL methods course at regional public university in the Fall terms of 2006, 2009 or 2010. Over these three years, the 49 participants enrolled in a university-required (for the state ESL license) content-based ESL instruction course and took electronic pre and post course surveys consisting of 37 questions in the pre-course survey (the initial 37 questions listed in Appendix B) and 61 questions in the post-survey which were open and close-ended questions (see Appendix B). The electronic survey was web-based and utilized Qualtrics survey software. The close-ended questions employed choices on a Likert scale. Open-ended questions allowed participants a maximum of 10 sentences of space in which to respond. During the final week of the term, these students took a complementary survey of 61 questions (see appendix B).

The research questions focused on the participants' views of course objectives prior to and after the CBI course. In particular, the focus was the PSTs' views of the expectations and responsibilities of a teacher when working with ELs in the mainstream classroom. We also sought to determine if these future educators changed their instructional stance or philosophy as a result of content-based ESL instruction coursework and whether the coursework impacted their future instruction.

Course Objectives

The course consisted of the following objectives and topics. Upon completion of the CBI course, pre and in-service teachers would be able to:

1. Describe and implement various affective, instructional, materials development, and curricular strategies to make course content meaningful to the English language learner;
2. Integrate four skills and instructions into content courses (core and specials) through interactive, authentic and hands-on ESL techniques;

3. Utilize linguistic modifications in oral presentations of material to make auditory input for ELs more comprehensible;
4. Analyze and describe the linguistic features of oral and written discourse so as to be able to bridge the gap between ELs and a wide variety of genres, subject areas, and academic discourse communities and texts.
5. Address varying ESL competency levels by differentiating instruction and utilizing a variety of instructional techniques within a single lesson and single content topic;
6. Design a content-based unit for English language learners (EL);
 - a. Utilize Backward Design in course planning to develop sheltered, adjunct, Push-In and Pull-Out CBI units.
 - b. Outline and explain steps involved in content-based curriculum design for EL.
 - c. Write measurable and intertwined language and content objectives.
 - d. Obtain, create and/or modify materials to enhance comprehensibility of content lessons.
 - e. Integrate TESOL's new K-12 ESL, WIDA and/or content-area State/core standards into curriculum design.
 - f. Create and/or modify subject-area assessments to gauge ELs true comprehension, knowledge and skills in the content areas.
7. Discuss laws pertinent to ELs' K-12 education;
8. Advocate for the needs and rights of their ELs;
9. Collaborate productively with colleagues, administrators and parents to enhance ELs learning and create EL-friendly schools and communities.

Not written into the course objectives, but topics read about and discussed were various models of content-based instruction and programs for CBI training (e.g., SIOP and SDAIE) (see Appendix A).

Survey Process

Using the Qualtrics survey software, all data were collected online and stored electronically until they were analyzed. The software provided compiled data by question, provided basic descriptive statistics for close-ended questions and compilations of responses to all open-ended questions as well as summarizing individual participant perspectives anonymously. Researchers were thus able to see all the data holistically and view individual perspectives.

Data Coding and Analysis

During the data coding and analysis, pre- and post- surveys were assigned pseudonyms and matched to be able to evaluate change over time. Following Grounded Theory (Glaser and Strauss, 1967), the open-ended responses were read in light of identifying patterns that were present in the data. In other words the findings were *grounded* in the data itself. In order to do this, codes were developed from the qualitative data using open techniques by two coders. Then axial coding techniques were employed by two coders (Strauss and Corbin, 1990) to identify relationships in the data (Borgatti, n.d.). This content analysis allowed us to study, sort, and categorize concepts and

themes common among participants as well as the major patterns of change between pre- and post- surveys across all three data sets. Both coders read and discussed the codes and coding and provided feedback in order to norm codes. Data sets were revisited three different times to validate the emerging trends in the data. Examples of codes were ROLES, CI (i.e., changes in instruction), CP (i.e., changes in planning), CA (i.e., change in awareness), NEEDS, COLL (i.e., collaboration), LAWS, MULT/DIFF (i.e., multiple proficiency levels in one class/differentiation of instruction), and OBJ (i.e., focus on both language and content objectives). Simultaneously, we ran descriptive statistics on the five Likert scale questions using the McNamara formula to determine significant changes over time of the 49 pre- and post-tests.

FINDINGS

Through analyzing the data, we discovered three major trends that encompassed PSTs' transformation during the CBI course: philosophical shifts in roles and responsibilities, changes in awareness of ELs' needs and rights, and changes in instructional practices and planning. According to the PST's responses from the pre- and post-course survey, no other education course in their general teaching preparation program adequately provided information on serving ELs that had significant impact on their future instruction.

Finding 1. Philosophical Shifts in Roles and Responsibilities

Roles and Responsibilities to Teach All Learners

This finding answers the first research question – “How did pre-service teachers view their role as ‘teacher’ in respect to their expectations and duties?” Many PSTs learning CBI practices experienced deep philosophical shifts in how to approach instruction. These shifts in philosophy dealt with more than making instructional courses about the technical aspects of writing objectives or sequencing activities; rather, PSTs noted profound changes in the way they viewed their teaching roles, responsibilities, and approaches to instruction. For example, one PST explained the philosophical shift she experienced in this manner:

I can remember having to fill out this survey at the beginning of the semester and it took me forever because I had no idea what to say. I feel as though *my outlook on teaching in general has completely changed*. Before, it seemed impossible to be able to teach students from many different backgrounds at many different levels. Now, I feel as though I have the tools necessary to reach all of my students. I also feel as though the way I go about lesson planning has changed too. I now am aware of the benefits of scaffolding instruction and I put that into my lesson plans. I also now know that I cannot completely rely on any teacher's edition or textbook when creating lessons or units. – *Heather, 2009, Elementary Education*

Heather explained the transition in her professional development from not knowing how to deal with diverse a student population to feeling confident in her abilities to reach out to all students. She acknowledges this as an important improvement for a future educator; this change was a significant “aha” moment for Heather. It also illustrated her changed stance to that of a teacher responsible for all students from all backgrounds and at all levels.

One participant described his role as an educator being greatly influenced by a specific philosophy introduced by this CBI course. He noted:

B. Kumaravadivelu's Postmethod Pedagogy and the '3Ps' Particularity, Practicality, and Possibility. With particularity, I must find a holistic way toward understanding my place as a teacher situated within the specific time, place, culture, and so on in which I am teaching. In terms of practicality, I refuse to become an unthinking practitioner, relying solely on the cult of expertise. My teaching must be an active dialogue between both professional and personal theories that develop along with other practitioners in order that education continues to transform to meet the needs of an evolving student body. As far as possibility, I need to work with what my students bring me and help them realize that they are the ones who will ultimately determine what is possible in the future in terms of their position in society and the shape of society as a whole. – *Wilson, 2010, English Language Arts*

Like Heather, Wilson's “aha” moment related to his shift in viewpoint as a result of his learning in this course, which highlights his change in role and expectations as a teacher for all children in the changing U.S. demographic environment. of K-12. A thread uniting these excerpts is that the future educators realized they needed to play a different instructional role than they had hitherto anticipated, one in which the ELs' cultures and the educational context play an important part in teaching English language learners. This was a definitive shift from their understandings of their role in teaching general classes, in which they had previously viewed the learners as having relatively similar background experiences, culture, and needs.

One other interesting area in which these PSTs, who had been previously trained in culturally-congruent pedagogy and creating culturally welcoming classes, noted deep philosophical change was on whether or not English language learners should be included in regular content courses. In response to a Likert prompt, “22. I think diverse language learners should be included in regular content courses,” a statistically significant (Chi Square=14.73, $p=.004$) change occurred during the course. Originally, significantly fewer of these future educators thought that ELs should be included in regular content courses. Without specific discussions on this issue, a profound shift from non-inclusivity in the pre-course survey to an inclusive stance was noted in the post-course surveys, in which the vast majority of participants reported that ELs should be included in regular content courses.

Role and Responsibility Shifts to Needs-Based, Learner-Centered Instructional Environments

Even though the general teacher preparation program methods courses taught PSTs to have learner-centered courses as well as to employ inquiry learning and hands-on activities, these objectives do not seem to have permeated the PSTs vision of how to teach. Most participants reported significant changes on their view of the teacher's role in comparison to their pre-survey responses. One PST stated the strong shift he felt:

I want to move away from the traditional teacher-centered classrooms that I have experienced to a more hands-on classroom. I want to give students the chance to explore the language and learn by doing. -- *Mark, 2010, Spanish*

Mark continued to describe his changed instructional responsibility upon realizing that he could address all learners' specific needs and abilities.

I hope to integrate many different area/subjects into my instruction to help students with many different learning styles and intelligences to have equal opportunities to learn. It's hard to know what methods I will use without knowing who my students will be and what the environment will be like. I will obviously modify my instruction and methods as these factors change. -- *Mark, 2010, Spanish*

One PST noted this in the need to scaffold and differentiate instruction for learners' proficiency levels, while another saw her teaching role changing to a needs-based curriculum. Also present is a shift from reliance on textbooks and others' curricula to the modification and development of materials for their specific populations in order to reach out to learners where they need assistance. The qualitative evidence and the quantitative data are congruent on this finding.

Role and Responsibility Shifts to Serving as an EL Advocate

Findings show that PSTs' perspectives toward their role as advocates for ELs changed considerably between the pre- and post-course surveys. Most students reported in post-course surveys that they needed to play an active role as an advocate for ELs so that learners had what they needed to learn the language and the grade-level academics. PSTs commonly said:

I think that I am much more prepared as well to advocate for my ELs. I know much more about the legal side of ELL education and more about different models, and I feel as though I will be able to help students get a good English education. This of course, will go along with the idea of collaboration, which I've learned is so important. I will try to work with the other professionals at school to make sure they ELs are getting a fair chance at learning. -- *Cadence, 2010, French Education*

I want others to know about these things we learned because they will not only benefit their ELs, but their other students as well. -- *Salena, 2006, Elementary Education*

I am now ready to be an advocate for including modifications in mainstream classrooms, and getting all mainstream classroom teachers aware of how they can help ELs. -- *Bridget, 2010, MCEA and TESOL*

Intuitively, the course instructor knew these changes were occurring. She had witnessed the learners' shifts in their philosophy of instruction/ roles and responsibilities, during the terms she taught, but had a difficult time explaining and justifying how the course offered PSTs more than just a series of instructional strategies.

Finding 2. Changes in Awareness of ELs' Needs and Rights

This finding directly addresses the second research question – “What were the most important revelations, or ‘aha’ moments?” All PSTs indicated a significant shift from the pre to post-course surveys in their awareness of ELs learning, challenges/needs, strengths and perspectives. In pre-course surveys, all PSTs noted a high degree of comfort and confidence to work with ELs, but in the post-course surveys, they expressed a surprise at their previous limited knowledge.

Before I took this class, I had never thought of how ELL students might find a mainstream classroom difficult. I knew it may be hard for them, but I didn't know what areas or concepts would be challenging. I never realized how idioms and other parts of speech could be so confusing. I also never understood how important it was to have visuals...I think all future teachers or even current teachers NEED to take this course. It is our job to help every student and we can't do that unless we know ways of helping them learn.
– *Harley, 2006, Elementary Education and Science*

One student said, “I have become more aware of how to create a classroom that caters to the specific needs of my students, even ELs, but not having to water-down content in doing so.” – *Stella, 2010, ESL*

I became much more aware of the ELs' personal variables, the ESL teacher's uphill battles, and found that ESL is not as similar to speech and language therapy as I thought it would be. – *Cindy, 2006, Speech/Language therapy*

Mainly, I think that I am just much more aware of the difficulties ELL students face. I didn't realize how much extra effort they need on behalf of the teacher. And a lot I don't think requires that much extra work for the teacher, just thought. – *Elaine, 2006, Elementary Education*

One specific area in which participants' awareness was raised was the Federal and State laws pertinent to ELs in public K-12 schools. There was a statistically significant change (Chi Square .003, $p = .000$) in PSTs' awareness of laws pertinent to ELs' education and public schools' responsibilities and obligations to educate ELs fairly and equitably.

Finding 3. Changes in Instructional Practices and Planning

Finding three addresses the third research question – “How did the understanding of teaching general education courses of PSTs change after learning about CBI instruction?” This finding has two parts: changes in 1)

daily instructional practices and 2) curricular/lesson planning.

Daily Instructional Practices

A trend shown by the comparison of the pre/post survey results is the change in the day-to-day instructional practices of how to go about teaching the content/subject. PSTs reported dramatic development in their mastery of instructional strategies and practices; for example, 41% of PSTs noted that they must make modifications to the way they speak when delivering a lesson (i.e., linguistic modifications).

Three students' comments revealed the varying ways they described their changes in daily instructional practices:

No matter what I do, it is vital that the learning is authentic to the students' experiences in real life. I also would like to weave the instruction and use of learning strategies within my lessons. – *Lenny, 2009, Elementary Education and ESL*

I feel as though I actually know now what I can do in my classroom to help my students learn English! I have learned many great strategies and know that there are more TESOL people out there who have my back when I become a teacher. – *Kitty, 2010, Math*

I have grown more in this semester as a teacher than any other so far...I also have a much deeper understanding of the challenges that arise in CBI and how to deal with them...I will be able to use all of this knowledge to inform and improve my future teaching and will apply what I can to my content area... -- *Maggie, 2010, Spanish*

Another PST underwent a significant change on his methods and approaches. He expressed his excitement of learning the CBI methodology:

I will definitely be using a large variety of different methods and, of course, I will be adding, removing, or modifying the methods in my repertoire as I gain experience. I have learned about so many new methods in CBI and I'm excited to try them out. I really like the idea of using thematic units throughout the whole year. I find it enjoyable to plan these and I also think it's an effective way to connect the material for students. I am a believer in communicative methods; I believe that both input and output are important factors in building proficiency and will give ample opportunities for both. My class, even if it is not a content class, will be very context/content focused.. – *Mark, 2010, Spanish*

This finding is simultaneously unsurprising and surprising. It should not come as a shock that this course would offer the pre-service teachers instructional, materials development and linguistic modification strategies. The surprise is that these students thought that they already knew how to work with ELs from their learning in general teacher education methods courses. Kitty's statement that, "I actually know now what I can do...", confirms this belief.

Another unexpected twist was that the course not only opened PSTs' minds to new approaches to making meanings with ELs through new instructional strategies, but also that it gave them a deeper understanding of the

need for a variety of different strategies and increased frequency of their use in order to make meanings. In other words, making one modification to a lesson for native English speakers is not enough to bridge the language barrier for ELs. Skilled content-based ESL teachers employ a wide variety and a tremendous frequency of strategies in lesson planning and delivery in order to connect with ELs and convey meanings. This understanding can be seen in this quote:

I have learned that teaching ESL students is more than just making a few adaptations or making things easier. It is about scaffolding, creating meanings, and giving students the support they need to succeed in the K-12 setting. -- Nancy, 2009, *Spanish Education*.

Curricular and Lesson Planning Changes

This part of the findings also addresses the third research question – “How did the understanding of teaching general education courses of PSTs change after learning about CBI instruction?” However, it relates more to the planning rather than the implementation of instruction.

PSTs noted growth in their abilities to construct effective curricula and lessons after taking the CBI course. They developed various skills in designing thematic curricula and lesson plans, including objective writing of intertwined content and language standards and objectives; developing and/or modifying instructional materials; sequencing lessons so that pre-teaching techniques are employed prior to readings, etc.; and scaffolding instruction/differentiate instruction for various levels of proficiency in multilevel classes. For example, one student reported her learning in these words:

I have learned many new ways of modifying texts for my learners and how to create appropriate objectives and lesson plans. I have learned that working with my colleagues is imperative for myself and my students. – Calleigh, 2009, *Elementary Education*

Another student could not wait to apply thematic instruction in ESL classes:

I have learned about so many new methods in CBI and I'm excited to try them out. I really like the idea of using thematic units throughout the whole year. I find it enjoyable to plan these and I also think it's an effective way to connect the material for students. – Mark, 2010, *Spanish*

This CBI course opened a new window for all the participants to reexamine the possible materials in classroom and also taught modifications to render textual information more accessible to ELs:

Posters, pictures, transparencies, maps, charts, vocabulary cards, stories on CDs, guided reading, videos, math manipulatives, educational games, graphic organizers are all possible materials in my ESL classroom. I will make sure to find visuals that narrow down the concept to what I am teaching, chunk info verbally and visually to help with comprehension, and search for and use materials that will help to organize the info into a more meaningful assignment. -- Drew, 2006, SPED

At the beginning of the course, not all participants felt that teachers should make extra modifications for ELs in their courses. After taking the CBI course, all participants agreed or agreed strongly that teachers should make extra modifications for ELL students. A statistically significant (Chi Square=0.72, $p=.02$) change occurred for these PSTs on the need for teachers to make extra modifications for ELs.

DISCUSSION

The most important notation on finding one, *Philosophical Shifts in Roles and Responsibilities*, is that the course brought about profound changes in the PSTs' pedagogical philosophy. In attempts by researchers, teacher educators, and consultants nationwide to prepare general educators to include ELs into their grade-level content classes, the complexities of content-based instruction have been reduced at times to instructional "sound bites" or easily remembered strategies/ideas. Four to five instructional strategies, such as cooperative learning have been proposed to "solve the problem" and to provide ELs everything they need for content and language learning. This oversimplification is a weighty disservice to ELs. Effective inclusion of ELs in a general education classroom means that teachers need more than just a handful of instructional strategies (de Jong & Harper, 2005, Menken & Antunez, 2001; Willet, et. al., 2007).

Most notably, based on the general education courses, all PSTs recorded a high degree of comfort and confidence working with diverse learners, such as ELs, prior to class, but at the end of the course expressed a degree of shock at their lack of prior knowledge. Finding two, *Changes in Awareness of ELs' Needs and Rights*, lifts the veil between general education and ESL preparation in a powerful way by demonstrating that general educators and teacher educators feel that a linguistically and culturally welcoming environment and general education methodologies are sufficient for the instruction of ELs as well as the PSTs realization that diversity training is not alone sufficient in preparation for their future teaching. This finding is congruent with assertions from many other students that mainstream educators hold strongly to the belief that ELs do not need anything different in terms of *instruction* from native-English speaking students (de Jong and Harper, 2004, 2005; Harper and de Jong, 2004; Harper, de Jong and Platt, 2008; Lucas, Villegas and Freedson-Gonzalez, 2008; Mohan et al., 2001; Yoon, 2008). It seems that discussions in general teacher preparation courses are occurring about the changing demographics of K-12, because all students knew they would have ELs in their courses. However, all PSTs mentioned a dramatic increase in their awareness of ELs' academic and linguistic needs and the need to productively include ELs into

their courses (de Jong & Harper, 2005, Wong-Fillmore and Snow, 2000). Finally, PSTs became aware of Federal laws relevant to ELs in U.S. public K-12 schools, that discuss State and Federal educational laws to which they had not been previously exposed in their required Foundations of Education courses.

Lastly, finding three reveals the types of information PSTs are not receiving in their preparation programs and general education methods courses in daily instructional delivery and curriculum/lesson planning. They have not learned about language structures, language use/typical discourse patterns in their content area, or linguistic modifications they can make to their own speech to increase EL's comprehension (Hite & Evans, 2006; Wong-Fillmore and Snow 2000). Although knowledge of SIOP objectives are common and pervasive in K-12, PSTs have not learned about how to write combined content and language objectives, nor about providing, adapting or designing materials to support ELs in their content studies (Hite & Evans, 2006). There seemed to be recognition of the need for a wide variety and frequency of instructional strategy usage on the part of the teacher (Reynolds, 2009) in the PST's post-survey responses. They came to understand that non-native speakers need extra modifications to make meanings (Hite & Evans, 2006; Wong-Fillmore and Snow, 2000), so the use of one instructional strategy per 50 minute class, such as predicting topics of a reading passage, would not be sufficient for full comprehension of a reading passage. Interestingly, this summary reads like a need-to-know laundry list from a content-based instruction textbook's table of contents or the topics of discussions among ESL teacher educators.

These findings offer insights into the differences in preparation of general and ESL educators. Previous to this study, TESOL teacher educators have strongly encouraged teacher education programs to include more preparation of all teachers in the areas of 1) Knowledge of language (Murray & Christison 2011a, 2011b; Schleppegrell, 2004; Wong-Fillmore & Snow, 2002), second language acquisition processes, ELs' backgrounds; 2) Performance of creating welcoming learning environments, scaffolding and modifying instruction to meet ELs' needs, and providing interactional opportunities in oral and written language (Echevarria & Graves, 2003; Echevarria & Short, 2003, 2004, 2005; Echevarria, Vogt, and Short, 2004; Short, 1993, 1994, 2002), explicit instruction of learning strategies (Chamot, 2009), and culturally-responsive pedagogy (Lucas and Villegas, 2011). This research suggests that other areas should also be included in PSTs' teacher preparation programs, such as advocacy for ELs (Wilcox Peterson, 1997), study of ELs' abilities and challenges at various proficiency levels/differentiated language learning, meaning construction through the use of a wide variety and higher frequency of instructional, linguistic and materials modifications, and learner-centered instruction, as these were significant

areas of change for the PSTs in the content-based instruction course.

CONCLUSION

EL teacher educators and researchers need not oversimplify the processes of working with ELs; rather, we need to scaffold this instruction for PSTs. We need to alter the way general educators view their daily practices in an approachable and reasonable manner and collaborate with colleagues to promote philosophical shifts in PSTs' understandings of the teaching role and responsibilities to work with all learners. Better communication with our general educator peers resulting in shared understandings and goals needs to occur. We must share with them the disservice of reducing CBI for ELs to exclusively a paradigm of culturally and linguistically sensitive, multicultural education, which is insufficient for ELs' learning. As the third finding illustrates, productively working with ELs is more than sensitivity; it is the modification of daily instructional practices and planning for learners' diverse needs. Creating a welcoming environment *is* an important first step in including ELs into the mainstream, but it is not the last step.

An important oversight illuminated by finding two is that even in "high quality" teacher education programs in which diversity, inclusiveness, and culturally-congruent pedagogy is encouraged, PSTs are not developing their awareness of ELs' backgrounds, perspectives, learning strengths, challenges, and needs, or their rights according to U.S. Federal laws.

This study suggests that PSTs are not being prepared, as general teacher educators believe, in the ways to include ELs effectively into their general education courses. Finding three strongly suggests that PSTs should have intensive coursework in EL content-based instruction and inclusion to better prepare them for meeting the content and language needs of their ELs, or that the PSTs need some other powerful equivalent to a course that will profoundly change their perspectives (finding one), since effective EL inclusion is more than just good teaching or a series of instructional strategies.

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Appendix A Outline of CBI Course Topics

Discussion Topics
Introduction to course, course goals and each other. Discuss the "Atlas" Complex: Roles and Responsibilities in the Classroom. Check out Heinemann Raintree Content/ELL set.
Discussion of CBI methodology (i.e., integrating content and language), learners' considerations, theoretical framework and CALLA. Discussion of research and theory supporting CBI. Laws pertinent to ELs.
Discussion of the sheltered content, adjunct, and a priori approaches to CBI. Modifying content; Issues of "dumbing down" or slowing down the curriculum.
Discussion of affect issues and learning strategy instruction. Discuss Comprehensible Input.
Consideration of academic language/discourse. Adjusting the Classroom Discourse for ELs. Linguistic modifications. Considering multicultural classrooms.
Curriculum Development and Adaptations. Syllabus Design. Functional Notional Syllabus. Thematic Units. TESOL Standards PK-12. Discuss lesson framework (goals and objectives). PK-12 differentiated Instruction by Proficiency Level.
Teaching of CBI math.
Teaching of CBI whole language, language arts, composition, and literature.
Teaching of CBI social studies and history. Samples of content-based instruction in practice. Vocabulary instruction.
Teaching of science(s). Analysis of a science content-based lesson presented in a foreign language.
Discussion of CBI Arts, Music, PE, etc.
Discussion of CBI assessments, evaluation of learner progress. Remainder of class time: Work on instructional units. Bring all necessary materials.
Discussion of practical issues surrounding enacting CBI and collaboration with others.

Appendix B Survey Instrument

CBI Post-Course Survey

1. Imagine yourself teaching. Please describe your (future or current) students. Who are they? Where are they from? What are their strengths/weaknesses? In terms of their abilities, what do you anticipate they will be like?
2. Will you/do you have any students who are? Please check all that apply.
 - At risk
 - Learning disabled
 - Gifted
 - Have experienced interrupted schooling (changing schools often or missing some schooling)
 - Born outside of the United States
 - Have non-native speaking parents
 - Are non-native speakers of English
 - Bilingual
 - Illegal immigrants
 - Refugees
3. Will you/Do you regularly have English language learners in the courses you teach?
 - Yes
 - Maybe
 - No
4. Which program model will you/do you teach in?
 - Mainstream/general education courses
 - Sheltered content courses
 - Push-in ESL
 - Pull-out ESL
 - English as a Second Language (ESL) courses
 - Other:
5. Please describe with details, but be concise and use any appropriate field-related vocabulary, what your methodology will look like when you teach.
6. How has your methodology and approach to teaching changed as a result of the ES 408 Content-based ESL Instruction course?
7. When you are teaching your primary content (i.e. major area subject), what kinds of strategies, techniques and activities will you/do you employ for learners who are “at-risk”?
8. How have your strategies, techniques and activities for working with learners who are “at-risk” changed as a result of the Content-Based ESL Instruction course?
9. Considering your future classes, what will your role be? What is the role of your students? What will be your learners' responsibilities?
10. How have your perspectives of students' and teachers' roles changed as a result of the Content-based ESL Instruction course?
11. When you have multi-level classes, what groups of learners should you target during instruction? How would you do differentiate instruction?
12. How has your approach to differentiation changed as a result of the Content-based ESL Instruction course?
13. What is the importance of a safe learning environment for English Language Learners (ELs)?
14. How has your understanding of the importance of a safe learning environment for English Language Learners (ELs) changed as a result of the Content-based ESL Instruction course?
15. When presenting lessons to your (future or current) classes, how should you speak?
16. How has your understanding and speaking while presenting lessons to your (future or current) classes changed as a result of the Content-based ESL Instruction course?
17. Please describe what a lesson objective should look like.
18. Have you encountered any other standards than your content area? If so, which?
19. Has your approach and understanding of curriculum design changed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
20. What materials, aside from text books, do you think you need regularly when teaching?
21. Has your approach and knowledge of materials available, material usage and materials development changed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
22. I think diverse language learners should be included in regular content courses.
 - Strongly Agree
 - Agree
 - Disagree
 - Strongly Disagree

23. In reference to the statement above, has your attitude or opinion changed or morphed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
 24. I think non-English speakers should have extra modifications made for them.
 Strongly Agree Agree Disagree Strongly Disagree
 25. In reference to the statement above, has your attitude or opinion changed or morphed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
 26. Teaching a general education course does not require any knowledge of language structures.
 Strongly Agree Agree Disagree Strongly Disagree
 27. In reference to the statement above, has your attitude or opinion changed or morphed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
 28. I am aware of the legal responsibilities of school districts for the education of English languages learners.
 Strongly Agree Agree Disagree Strongly Disagree
 In reference to the statement above, has your attitude or opinion changed or morphed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
 29. I am open to new ideas.
 Strongly Agree Agree Disagree Strongly Disagree
 30. In reference to the statement above, has your attitude or opinion changed or morphed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
 31. I think teachers have too many responsibilities or too little time worry about English languages learners.
 Strongly Agree Agree Disagree Strongly Disagree
 32. In reference to the statement above, has your attitude or opinion changed or morphed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
 33. I think including English language learners into content area/general education classes is easy.
 Strongly Agree Agree Disagree Strongly Disagree
 34. In reference to the statement above, has your attitude or opinion changed or morphed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
 35. To teach English language learners you don't have to do anything special; It's just good teaching.
 Strongly Agree Agree Disagree Strongly Disagree
 36. In reference to the statement above, has your attitude or opinion changed or morphed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
 37. I am willing to take extra steps in planning, instruction, and assessment if it means my students will really learn.
 Strongly Agree Agree Disagree Strongly Disagree
 38. In reference to the statement above, has your attitude or opinion changed or morphed as a result of the Content-based ESL Instruction course? If so, how? If not, why?
 39. Please rate how much you feel that you have LEARNED in this course OVERALL:

Woe is me: No Learning	Vague Learning: I recognize terms/concepts, but I couldn't explain them.	Moderate Learning: Understand a lot, but still cloudy on some stuff.	Above Average Learning: I'm fairly conversant. I can recognize terms/concepts & I could explain them fairly well.	Ultimate Learning: Detailed and Deep
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Please indicate your degree of LEARNING on the following course objectives: Scale:

Woe is me: No Learning	Vague Learning: I recognize terms/concepts, but I couldn't explain them.	Moderate Learning: Understand a lot, but still cloudy on some stuff.	Above Average Learning: I'm fairly conversant. I can recognize terms/concepts & I could explain them fairly well.	Ultimate Learning: Detailed and Deep
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40. Describe and implement various affective strategies to make course content meaningful to the English language learner;
41. Describe and implement various instructional strategies to make course content meaningful to the English language learner;
42. Describe and implement various materials, material usage and material development strategies to make course content meaningful to the English language learner;
43. Describe and implement various curricular strategies to make course content meaningful to the English language learner;
44. Integrate 4 skills + instruction into content courses through interactive, authentic and hands-on ESL techniques;
45. Utilize linguistic modifications in oral presentations of material to make auditory input for ELLs more comprehensible;
46. Analyze and describe the linguistic features of oral and written discourse so as to be able to bridge the gap between ELLs and a wide variety of genres, subject area, and academic discourse communities and texts.
47. Address varying ESL competency levels by differentiating instruction and utilizing a variety of instructional techniques within a single lesson and single content topic;
48. Design a content-based unit for English language learners (ELL);
49. Utilize Backward Design in course planning to develop sheltered, adjunct, push-in, pull-out, mainstream inclusive CBI units.
50. Outline and explain steps involved in content-based curriculum design for ELL.
51. Write measurable and intertwined language and content objectives.
52. Obtain, create and/or modify materials to enhance comprehensibility of content lessons.
53. Integrate TESOL's new K-12 ESL, WIDA and/or content-area State/core standards into curriculum design.
54. Create and/or modify subject-area assessments to gauge ELs true comprehension, knowledge and skills in the content areas.
55. Discuss laws pertinent to ELLs k-12 education;
56. Advocate for the needs and rights of their ELLs;
57. Collaborate productively with colleagues, administrators and parents to enhance ELLs learning and create ELL-friendly schools and communities.

58. What advice would you give someone else entering this course?

59. Would you recommend this course to other educators?

No

Yes, with reservations

Yes, wholeheartedly

If you answered "No", why?

If you answered "Yes, with reservations", why?

If you answered "Yes, wholeheartedly", why?

60. Should this course be required for general educators. Why or why not?

61. Is there any other information you wish to tell us in this survey?

**WHAT A WORLD READING AND LISTENING SECOND EDITION PEARSON LONGMAN
COPYRIGHT 2011.
AMAZING STORIES FROM AROUND THE WORLD, BY MILADA BROUKAL**

Reviewed by Ruth Tweto

I was able to read through Books 2 and 3. The book one that was not included is labeled as beginning. Book 2 is high-beginning and book three is listed as intermediate. The introduction page is clear and easy to read for the student. It would be a lesson in itself.

Book 2 contained 18 units while book 3 had 16 units. Each unit begins with a large one-page picture with three questions to get the reader thinking ahead. The What a World Listening levels coordinate well with their matching thematic units. The first lesson in the listening book is, What are some Different Types of Inventions? While the first lesson in the reading is, Who is the Most Important Person from History? The two match up well because the listening is about modern technology and the reading is about Gutenberg who invented the printing press.

The units contain a one-page reading, vocabulary practice, word phrase practice, comprehension segments, partner work, discussion items, a writing piece, grammar practice, and extensions for Internet activity.

The stories are non-fiction and interesting. The stories are from around the world, so interest level should be high for the ESL student. There is something for everyone from around the globe. The books also tie in history with present day problems and questions for finding solutions.

There are five pages of work with each reading so there are plenty of choices for the teacher to use depending on the needs of the student.

For assessment purposes the books each have two comprehension tests. One test covers units 1-9, the second goes to the end of the book. This test format is completely a select the answer format. Each question has a.b.c. and d. to choose from. I am not certain if this sort of assessment would be affective for the students, there are too many choices that are very similar. Also the test is over too many topics, unless it would be an open book test.

I would recommend this resource as a supplement to a reading series. It would be a wonderful refresh for occasional use.

COLLABORATION AND CO-TEACHING

By Andrea Honigsfeld and Maria G. Dove

Collaboration and Co-teaching is an excellent resource for ESL teachers, mainstream teachers, and school administrators. This text not only justifies the need for collaboration between ESL and mainstream teachers but also provides examples of ways to make collaboration successful. Designed to be a guide for all schools wishing to meet the needs of their English language learners (ELLs), this text offers many different models of collaboration for a variety of classroom settings. This text's greatest asset is that it gives such an array of collaboration scenarios that any teacher should be able to find a model that works for them. It is also great because it proposes solutions to the challenges of collaboration.

This text is nicely organized in that it begins with a strong argument for the need for collaboration between mainstream and content teachers. It states the ever-growing population of ELLs in U.S. schools and how those schools are often unequipped to meet the needs of these students. The authors propose that collaboration between ESL and content teachers is the key to meeting the needs of ELLs. They then go on to carefully outline the components of successful collaboration defining who's involved, where and when collaboration can take place, and the nuts and bolts of how it can be done. Throughout the chapters there are vignettes that illustrate the various issues involved with collaboration. The vignettes personalize the text and make a strong argument for the need for collaboration. The text ends with several case studies of different collaboration models in elementary, middle, and high school settings. This wraps the text up nicely and shows how the components of collaboration that were explained in previous chapters work in real scenarios.

A good portion of this book is dedicated to making the case for collaboration. This is both effective and necessary for there are many obstacles to collaboration, such as time, space, and lack of training, that make it seem too difficult to attempt. Administrators and mainstream teachers need to understand that ELLs are not just the responsibility of ESL teachers but the entire school. Chapter two addresses the challenges that ELLs face and offers ways collaboration can help ELLs meet those challenges. For example, it can be difficult for ELLs to acculturate to a new school climate. ESL teachers are often trained in responding to the needs of culturally diverse students. Through collaboration ESL teachers can share this knowledge and training with administration and mainstream teachers so that they, too, understand the cultural differences of their students and can better help them meet their needs. After reading the ways collaboration can address the needs of ELLs, it's hard to not to want to adopt collaboration as part of ELL instruction. This section of the book provides the inspiration needed to take on a new way of teaching.

After providing the rationale for collaboration, the authors go on to explain the nuts and bolts of effective collaboration. They define who's involved: administration, ESL teachers, mainstream teachers, and students. They instruct that teachers need administrative support, time, encouragement, and team-building skills to effectually collaborate. They also outline instructional activities such as joint planning, curriculum mapping and alignment, parallel teaching, co-teaching, and collaborative assessment and non-instructional activities such as joint professional development, teacher research, and conducting joint parent-teacher conferences for successful collaboration to take place. These activities are explained in detail and great examples are given as to how these activities will look in practice. Throughout the chapters there are diagrams and charts that illustrate the concepts of collaboration. There are also a

number of different ways these concepts can be applied to different scenarios, making this text very adaptable for many different teaching situations.

The authors do a nice job of tackling the obstacles involved with collaboration. The biggest hurdle for teachers to collaborate is time. Because there are so many demands placed on teachers, they are always pressed for time. Chapter six offers a protocol for making the most of time constraints. Example charts are given that offer ideas to make time for collaboration such as staff development days, time within class periods, and decreasing student class time so that teachers have time to work together. The authors also state that incentives must be provided to teachers if they are to do the work that's involved with collaboration. The idea of asynchronous time is also brought up. An effective way to communicate is often online, and teachers can use this method to their advantage when it is difficult to find time to meet face to face.

This text is a very practical guide for schools in how to incorporate successful collaboration between ESL and mainstream teachers so that ELLs receive the best possible education. It is crucial that administrators understand the need for collaboration when it comes to educating ELLs and this book does an excellent job of justifying the need for ESL and mainstream teachers to work together. Although the authors do touch briefly on joint assessment for ELLs, I wish this book had covered this issue more deeply. It did, however, address many of the concepts of collaboration, clearly spelling out what is involved in successful collaboration, giving examples of various forms of collaboration and ending with stories of how collaboration looks in various settings. Collaboration is a crucial step in helping ELLs succeed. I believe administrators and ESL and mainstream teachers should read this book so they understand the need for collaboration and have the tools needed to successfully work together.