

## Literacy Learning and Geography Education

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Elementary teachers often decry the lack of time they are afforded for teaching anything other than tested subjects. Regarding geography, they cite mandates of the No Child Left Behind act (NCLB) that do not include geography education, along with testing pressures applied by administrators.<sup>1</sup> In addition to these demands on classroom time, Marzano calculates an average of 200 standards and 3093 benchmarks across 14 different content areas that teachers are expected to teach in an average school year.<sup>2</sup> He further estimates that teachers would need approximately 15,465 hours to adequately address the content articulated in those standards, but that teachers possess no more than 9,042 hours of actual instructional time in a typical school year. Obviously, it is not viable for teachers to address all mandated standards in the course of one school year.

Geography instruction at the elementary level is one area of the curriculum being curtailed, and, Jeannine Kuropatkin, a seventh grade teacher from Mesa, Arizona wanted something done about it. She told the coordinators of the Arizona Geographic Alliance (AzGA) of her fear that the push for language arts and mathematics standards and test-based reform was eliminating the teaching of geography in the elementary grades. This junior high school teacher worried that she would need to teach elementary concepts that her students had not learned in the earlier grades, as well as the higher level concepts that middle school social studies standards mandate. Her fears were real. Anecdotal reports as well as research literature conclude that social studies in the elementary schools is in trouble and that there are significant decreases in instructional time given to social studies, civics, and geography in K-5 classrooms across the country.<sup>3</sup>

In 2000, the AzGA began development of a curriculum based on the Arizona content standards that would integrate the subject areas of reading, writing, and geography in K-8 classrooms. They called the curriculum *GeoLiteracy*. With financial support from the National Geographic Society Education Foundation (NGEF), matched by support from Arizona State University and funds from the Arizona Department of Education, the AzGA assembled a group of teachers from around the state to design the lesson plans. The result was a CD and a website that contains eighty-five integrated lesson plans, assessments, and supplemental materials for K-8 teachers.

Designing, creating, and implementing eighty-five lesson plans involved twenty-six teacher-writers, two Alliance coordinators (one in charge of project management and the other in charge of technology), an editor, an assessment specialist, a website designer, an administrative assistant, a student assistant, and over one hundred teachers who volunteered to pilot the lessons before the final edit.

## **The Arizona *GeoLiteracy* Project's Evolution**

One emphasis of the *GeoLiteracy* Project is that classroom teachers actually wrote the lessons. They were teacher consultants (TC) with AzGA and National Board Certified Teachers from Arizona. Lesson writers were arranged into teams according to grade level: K-3, 4-5, 6-8. Each team was assigned a team leader who ensured that the state language arts and geography standards were being addressed and who was also responsible for motivating the teachers to complete their lessons in a timely manner. All the teachers were trained by an assessment specialist on how to create tests that mirror standardized assessments and measure the state standards each lesson addresses. Team members were also trained to input the lessons onto a specially created interactive Web site which enabled teachers to work from their home or classroom. Each section of the lesson plans was posted to the website so that the project manager, the team leaders, and the editor could access them to make any necessary changes.

The next step involved editorial review and content review. Team leaders and Alliance coordinators reviewed lessons and consulted with various experts to ensure content accuracy (e.g., a professor of religious studies advised the writers on lessons involving religion; geography and history experts checked facts on many lessons).

When the first lesson drafts were completed in spring of 2001, Kindergarten through eighth grade teachers from twenty different school districts in Arizona piloted their use. As a result, some lessons were scrapped, but most were revised to provide clearer directions and supplemental materials to make them more student-friendly (i.e., animations, maps, or graphic organizers).

Finally, the lessons, worksheets, assessments and supplemental materials (including copyright free maps, pictures, student samples, and video clips) were published in CD format. Within two years of completion, the AzGA conducted ten teacher workshops for interested teachers and school districts in underserved areas. As of 2005, over 40 workshops/conferences had been presented in Arizona, Michigan, Maryland, Illinois, North Carolina, Pennsylvania, Utah, Oklahoma, North Dakota, and Kansas—not including presentations for pre-service teachers in their college classes. Overall, 2,171 Arizona teachers had been impacted

by *GeoLiteracy* workshops. Assuming a conservative ratio of 25 students per elementary teacher and 125 students per middle school teacher, some 128,000 Arizona students were impacted by *GeoLiteracy* lessons.

Since development of the original program, two major innovations have taken place, both supported by the Model Grant Program of the National Geographic Society Education Foundation. First, each lesson was revised to help meet the needs of English Language Learners (ELLs). Methods and materials known to be beneficial for English learners are now included in each lesson. Second, a completely online virtual workshop demonstrating how to teach and adapt lessons for ELLs was developed. Furthermore, a subsequent national study revealed that the *GeoLiteracy* program adapted for ELLs significantly improves their reading achievement in grades 3-5 and 7-8. This study mirrors findings of a national study that was conducted on the original *GeoLiteracy* program, described below.

### ***GeoLiteracy* Lessons<sup>4</sup>**

Table 1 provides a sampling of lessons from each grade level, and Figure 1 overviews a sample *GeoLiteracy* lesson plan. In the sample lesson, students are introduced to the human features of various cultures through the use of an engaging book describing famous walls around the world. Specific literacy instruction is also included. Although the lesson meets standards for primary age students, teachers of upper elementary grades have found this to be a valuable lesson for their students as well.

### ***GeoLiteracy* Research<sup>5</sup>**

In 2004 Arizona State University (ASU) received a grant from the NGEF to conduct an evaluation of the effectiveness of *GeoLiteracy* instruction on the reading achievement of elementary and middle school students. In collaboration with AzGA and the Michigan Geographic Alliance, the ASU College of Teacher Education and Leadership (now named the Mary Lou Fulton Teachers College) conducted this evaluation across multiple school settings in Arizona and Michigan.

The evaluation employed a comparison group/intervention group research design to test and compare student achievement in reading comprehension reliability. The tests assess reading comprehension

**Table 1.** Sampling of the 85 *GeoLiteracy* lessons.

Grade	Title	Description
K-2	The Silly States: Where is Your State and City?	Through this lesson students will be able to differentiate between fact and fantasy. This skill helps them identify facts in non-fiction literature. The students will also be able to identify the state and city in which he or she lives from a map of the US or a globe.
K-2	As the Kids Come and Go: Mapping a Classroom	Working in groups and as a whole class, children create mini-maps of places in their classroom. These mini-maps are made into small books, and classmates read each other's books and follow the described routes.
1	I Am a Rock, I Am an Island: Describing Landforms and Bodies of Water	The children identify basic landforms and bodies of water. They use body movements to describe features of each. They also write simple riddles to demonstrate their understanding of these physical features.
2-3	If These Walls Could Talk: Seeing a Culture Through Human Features	There are many ways to introduce young students to culture. Some are obvious; some are not. Teaching students the importance of human features regarding a culture gives them an opportunity to see the factors that shaped it. Walls that stand for years can be a reflection of these cultures, their histories, values, and meaning to a group of people.
2-3	Through Time: Change in Sedona	Change of place over time is a core topic in geography. Colorful pictures and rich stores of children's literature help young children understand such changes in the context of one of Arizona's most famous places, Sedona.
3	Lights On! Lights Off! Exploring Human Settlement Patterns in the USA	Students explore settlement patterns using a map of the USA at nighttime, and practice writing informational paragraphs.
4-5	Mapping Roxaboxen	Imagination, creativity, and an engaging book combine to teach children lessons on mapmaking while reinforcing reading and writing skills.
4-5	The Gift of Water: Modifying Our Environment	Students learn important lessons about adaptation and the importance of water, while reinforcing reading and writing skills.
4-5	Westward Ho: The Difficulties of Emigrants Moving West	After reading the letters and diaries written by a fictional family who was moving west along the Oregon Trail, the students will map the journey and understand the causes and effects of some of the difficulties experienced by this family.
6-8	Where Did My Lunch Come From? A US Regional Tour	In this lesson, students identify the various agricultural products and food processing industries that characterize each of the five major regions of the U.S. and create a lunch menu that illustrates the interdependence among these regions.
6-8	Jerusalem: A Holy City	Students will learn about the three religions that consider Jerusalem a holy city. They will also learn what cultural landmarks can be found in the city and what cultural symbols each religion uses.
6-8	From Around the Corner to Around the World: How Technology helps in the Spread of a Product	Students examine the spread of one product (Coca-Cola) as aided by advances in technology. Students will mark on their maps the spread of a product and then mark their maps again after receiving and discussing information. Students will culminate the lesson by writing a summary paragraph.

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**Lesson Title: If These Walls Could Talk: Seeing a Culture Through Human Features**

**Lesson Author:** Mimi Norton

**Grade Level:** For grades 2-3

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**Overview:** There are many ways to introduce young students to culture. Some are obvious; some are not. Teaching students the importance of human features regarding a culture gives them an opportunity to see factors that shaped it. Walls that stand for years can reflect these cultures, their histories, values, and meaning to a group of people.

**Purpose:** Teach students to think of events that shape a culture and develop student awareness of human features in their own community.

**Objectives:** The student will be able to: (1) Locate the country or continent where each wall in the story is located; (2) Discuss the events that surround the history of each wall; (3) Make a list of possible events that could have happened in view of a wall in the community; (4) Write a paragraph about a particular wall chosen by the student while on a class walk.

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**Procedures:**

SESSION ONE

1. Introduce the book *Talking Walls*.
2. Ask warm-up questions such as: *Can walls really talk? What do you think the title means? What is on the wall on the cover of the book? How do you think the pictures got there? What art materials do you think the artists used? What do you think the children are talking about?*
3. Read *Talking Walls*. (Due to the book's length, teacher may read portions of the book instead of the whole book in one sitting.)
4. Discuss the importance of each wall in the book to its culture.
5. Show students the locations of each wall on a world map.
6. Distribute a copy of a world map to each student.
7. Using the world map, assist students in placing a sticky dot or star on each country (or continent) mentioned in the book

SESSION TWO:

1. Review *Talking Walls* and discuss the importance of walls to a culture.
  2. Ask if students think any important walls are in their city/ neighborhood.
  3. Take students on a walk to look at walls such as walls around shopping malls, parks, restaurants, garbage containers, and backyard fences. Also, use the various enclosures, fences, or walls at the school.
  4. At each wall, discuss what the students may have seen happen around the wall. Have students pretend to be one of the walls and describe what they have experienced. Encourage use all of the senses.
  5. Ask students to choose one wall from their walk. Explain the assignment saying, "We are going to write about some of the events that your wall has experienced. Pretend to be the wall and make a list of what you see, hear, feel, taste, or smell. Use words that describe the senses so that the list comes alive to a reader. Then draw a picture and write a paragraph about something that your wall experienced. Your paragraph must have an introductory sentence, two or three sentences describing what your wall experienced, and a concluding statement."
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**Assessment:**

World Map Checklist

Based on the countries described in the book, students will place sticky dots or stars in the following countries (or continents) on a world map with 80% accuracy (11 or more correctly identified):

- Great Wall of China - China (Asia)
- Aborigine Wall Art - Australia (Australia)
- Lascaux Cave - France (Europe)
- Western Wall - Israel (Asia)
- Mahabalipuram's Animal Walls - India (Asia)
- Muslim Walls - Saudi Arabia (Asia)
- Great Zimbabwe - Zimbabwe (Africa)
- Cuzco, Peru - Peru (South America)
- Taos Pueblo - United States (North America)
- Mexican Murals - Mexico (North America)
- The Canadian Museum of Civilization - Canada (North America)
- The Vietnam Veterans Memorial - United States (North America)
- Nelson Mandela's Prison Walls - South Africa (Africa)
- The Berlin Wall - Germany (Europe)

Paragraph Assessment Checklist:

- Is there an introductory statement?
- Are there two or three descriptive sentences about what the wall saw?
- Is there a concluding statement?

*Outstanding* – Students write an introductory statement, three descriptive sentences, and a concluding statement.

*Satisfactory* – Students write an introductory statement, one or two descriptive sentences, and a concluding statement.

*Needs Improvement* – Students are missing an introductory statement, write one or no descriptive sentences, or are missing a concluding statement.

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**Sources:** Knight, M. B. 1992. *Talking Walls*. Gardiner, ME: Tilbury House Publishers. ISBN 0-88448-154-9

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**Figure 1.** Sample *GeoLiteracy* Lesson Plan.

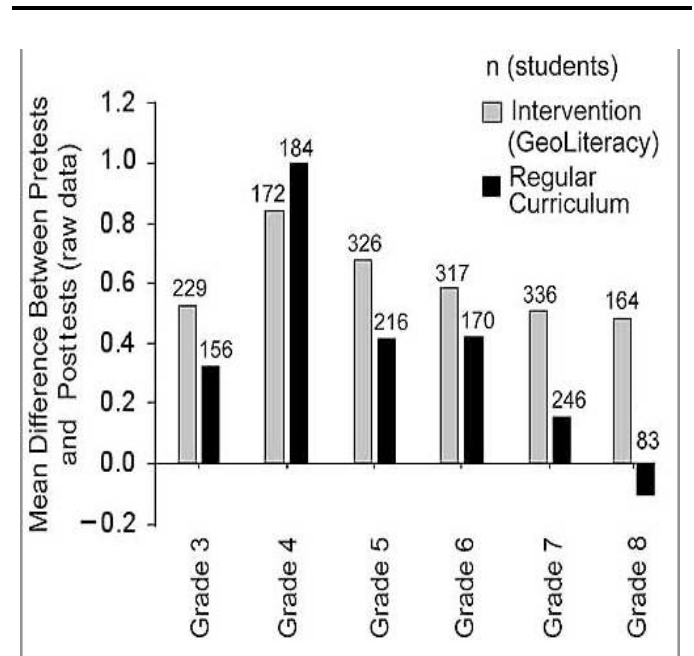
By measuring student performance on tasks such as finding a main idea, sequencing, summarizing, and identifying cause and effect relationships. Intervention group teachers administered a reading pretest, then taught three to five predetermined *GeoLiteracy* lessons over a three to six month time period. Afterwards, the reading test was administered again as a posttest so that student scores could be compared. Comparison group teachers came from the same schools and grade levels as intervention group teachers. Comparison teachers administered the same reading pretest and then taught their regular reading curriculum, without use of *GeoLiteracy* materials during the same time period as the intervention teachers, and also administered the posttest.

The study, involving two states, 28 schools, 78 teachers, and 2,086 students, revealed that integrating geography with reading improves reading comprehension. Results indicated that in most grades students receiving *GeoLiteracy*-enhanced instruction differed significantly in reading comprehension achievement from students who did not receive instruction using *GeoLiteracy* (Figure 2). The extent of gain varied by grade level, but it is clear that with *GeoLiteracy*, there was a positive trend in student achievement in reading comprehension. We also explored whether school Title I status was related to reading performance. Results indicate that the difference between pretest and posttest achievement was consistently higher for students receiving *GeoLiteracy*-enhanced instruction, regardless of Title I status; there was no meaningful relationship between Title I status and *GeoLiteracy* group for any grade.

As previously mentioned, a second study conducted in Arizona, Indiana, and Oklahoma during the 2006-2007 school year revealed that reading comprehension achievement of students who used *GeoLiteracy*, especially ELLs, improved or was maintained for students in grades 3-5 and 7-8. Thus, similar to the findings of the first *GeoLiteracy* research, offering geography education to elementary students, especially ELLs, promotes the discipline and also improves reading comprehension.

### Conclusion

Evidence continues to mount that what is not tested does not get taught. Reports from North Carolina, Washington, Maryland, and Missouri



**Figure 2.** In grades 3, 5-8 the mean pretest and posttest scores, and the pre/posttest difference were higher for the intervention teachers. In 4th grade, comparison groups scored higher. However, both groups showed improvement in reading from pre to posttest.

show that teachers are substantially curtailing their teaching of content areas that are not tested on mandated assessments.<sup>6</sup> Rabb<sup>7</sup> points out that because of NCLB provisions, history, civics, geography, and social studies in general are experiencing substantial reduction in the elementary curriculum. Teaching literacy integrated with geography is one strategy to combat this disturbing trend. The Arizona *GeoLiteracy* Project, the brainchild of practicing teachers, meshes geography with language arts standards and gives students a chance to practice skills assessed in reading tests, which results in improved scores, and we hope, will keep crucial geography instruction present in the classroom.

### Notes

<sup>1</sup>Hinde, E.R. 2003. The Tyranny of the test: Elementary teachers' conceptualizations of the effects of state standards and mandated tests on their practice. *Current Issues in Education* vol. 6 no. 10; available from <http://cie.asu.edu/articles/index.html> (last accessed April 1, 2011).

<sup>2</sup>Marzano, R.J. 2003. *What works in schools: Translating research into action*. Alexandria, Virginia: Association for Supervision and Curriculum Development.

<sup>3</sup>von Zastrow, C. and H. Janc, 2004. *Academic atrophy: The condition of the liberal arts in America's public schools*. Washington, DC: Council for Basic Education.

<sup>4</sup>For more detailed information about *GeoLiteracy*, *Geoliteracy* for English Language Learners, or the Virtual Trainings for ELL Adaptations to *GeoLiteracy* contact the Arizona Geographic Alliance at [GBEkiss@aol.com](mailto:GBEkiss@aol.com) or 480-965-5361, or explore the project home pages at <http://alliance.la.asu.edu/geoliteracy/general.html> (last accessed April 28, 2011).

<sup>5</sup>For more information see Hinde, E.R., S.E. Osborn Popp, R.I. Dorn, G.O. Ekiss, M. Mater, C.B. Smith, and M. Libbee. 2007. "The integration of literacy and geography: The Arizona GeoLiteracy program's effect on reading comprehension." *Theory and Research in Social Education* 35:343-65. Additional research can be found in Hinde, E. R., S. E. Popp, M.

Jimenez-Silva, and R.I. Dorn. 2011. Linking Geography to Reading and English Language Learners' Achievement in U.S. Elementary and Middle School Classrooms. *International Research in Geographical & Environmental Education*: 20(1):49-63.

<sup>6</sup>In North Carolina see Jones, M.G., B.D. Jones, B. Hardin, L. Chapman, T. Yarbrough, and M. Davis. 1999. The impact of high-stakes testing on teachers and students in North Carolina, *Phi Delta Kappan* 81 no. 3: 199-203. In Washington see Bach, D. 2004. Standards-based focus to schooling gets a failing grade, *Seattle Post-Intelligencer*, March 4. In Maryland see Perlstein, L. 2004. School pushes reading, writing, reform: Sciences shelved in effort to boost students to „no child“ standards, *Washington Post*, May 31. In Missouri see Smith, D.A. 2005. Social studies get short shrift, *Kansas City Star*, January 21.

<sup>7</sup>Theodore K. Rabb, "NCLB: Leaving history behind?" *History Matters* 16 no. 8 (2004):1.