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Developmentally Appropriate Geography

S. Kay Gandy

By laying the responsibility for saving the rain forest and protecting endangered species on seven- and eight-year-olds, we alienate rather than connect children with the natural world. Children need to learn the beauty and intricacies of the natural world before they can save it. —David Sobel [1]

Children begin to learn at an early age their "place in the world." Through their natural curiosity and in using their five senses to explore nature, children begin to understand human-environment relationships: sensing how to get from point A to point B on their own, experiencing the movement of products and people, and observing how places change over time.[2] Parents and teachers can lay the foundations for geographic concepts by understanding what is developmentally appropriate for the early years of childhood and then encouraging rich and playful activities that build skills and knowledge.

A Sense of Place

Geography learning in the early years begins at home with the family.[3] According to psychologist Jean Piaget, children develop their sense of space and place at a young age. Informal geography can be taught to children as early as ages two and three.[4] Caregivers can begin by using directional terms (next to, left, right, above, below, between, beyond, near, far) in everyday language. For instance, saying things like, "put your shoes next to the door," or "at this stop sign we are going to turn left," prepare children for reading directions on a map. Another relevant activity would be to talk about weather and proper clothing to wear for the different conditions. Dressing paper dolls for the different seasons would reinforce the connections between humans, the environment, and the passage of time.

The Michigan Geographic Alliance developed the Family Geography Challenge, which encourages parents, once a week, to find places that are mentioned in the news on maps and discuss characteristics of those regions with their children. Based on the "five themes of geography",[5] teachers and parents can ask children questions such as:

- Where is this city in the news located?
- What is it like to live in this place?
- How has the environment affected the way humans live in this place?
- How have humans affected the environment?
- What is changing in this place, and how is it changing?
- What region of the world is this city located in?

Being Outdoors

Exploring the outdoors is an essential method of introducing geography to children. Author and educator Howard Gardner included a naturalist intelligence to his original list of multiple intelligences, advocating an experience in the natural world. Educational philosopher John Dewey also suggested using the natural environment for teaching and learning.

Whenever it can be arranged and weather permitting, lessons about geography can be taught outdoors on the school lawn, playground, or in the neighborhood nearby. For example, a teacher could lead students on a short "field trip" around the block and then, in the classroom, reconstruct what was seen and heard on the adventure (see the articles on pages 15 and 24 in this journal). Students can tour the school grounds and attempt to draw a map showing the features of the landscape that they have observed themselves. Teachers can demonstrate the use of a compass and how to orient a street map. Students can help create a grid with pegs and string on the lawn, and then place themselves at various positions according to the teachers' statements ("Sam, place yourself in row 4, column E"). There are many classroom geography activities that are made more memorable by doing them outdoors.

Games Books, and Globes

Teachers can begin by introducing early map concepts to kindergarten students through games like the Hokey Pokey (moving left and right) and BINGO (reading a grid system). Quality children's literature should be introduced to early learners that include basic geographic concepts. *Me on the Map* indicates how a young girl recognizes her place and space in a bedroom, home, street, neighborhood, city, state, country, continent, and world.[6] *As the Crow Flies* introduces children to map perspectives from the view of an eagle, rabbit, horse, crow, gull, and the moon.[7]

Young learners can work with globes as well as flat graphics. Inflatable globes are quite inexpensive and can be used for a variety of activities. Toss the Globe is a standard lesson that has been used by classroom teachers for many years. Have students sit in a circle and catch the

globe with both hands. Ask if her or his right thumb is on water or land. Using sticky Post-It Notes, let the children make a pictorial graph of the results. It will soon become obvious to students that the Earth has more water than land. For a follow up activity, children can make a model of the Earth with balloons and paper mache, or by stuffing large paper grocery bags with newspaper and taping into a rounded shape. Paint the model entirely with blue tempera paint and let it dry. Third graders can cut out paper shapes (line drawings of the continents) and glue them onto the model, using a globe for guidance. Younger students can use pre-cut shapes.

Mastery through Play

Young children learn geographic skills primarily through play, rather than formal instruction.[8] Playing with toy trucks and cars on the carpet or in the sandbox, moving furniture around in a dollhouse, and building designs with blocks develop perceptions and skills that can apply to more abstract concepts in later years. Young children need to work with models to help develop mental images necessary for mental mapping skills. There were many milk cartons in my 27-year career as an elementary teacher that became buildings in a community. Today, software programs such as Tom Snyder's Neighborhood Map Machine provide line drawings that can be printed out, cut, folded, and glued together to form 3-D models of buildings with different shapes.

Children ages five to six should play hide and seek to explore the topography of the schoolyard, map the route from home to school, and build models (the bigger the better). Kinesthetic activities lay the foundation for spatial learning. By ages seven and eight, children should make and read panoramic view maps, build Lego villages, read grid lines, and create imaginary worlds. Nine and ten year-olds can create relief models, read scale and topographic maps, and participate in field trips with mapping activities.[9]

A developmentally appropriate sequence for learning about "geography for life" was published in 1994 by the Geography Education Standards Project.[10] A summary of the curriculum standards (described in detail in that book) appear on page 5 of this issue of Social Studies and the Young Learner, and related teaching activities are available at **www.nationalgeographic.com/xpeditions/standards/matrix.html.**

I often refer as well to the earlier (1987) *Guidelines for Geographic Education* with its "five themes of geography" because of the detailed discussion and examples in it that pertain to the elementary grades (see note 5 and the Sidebar). This publication is summarized at **www.nationalgeographic.com/resources/ngo/education/themes.html.**

New Technology

Technology and geography are an integral part of school curriculums today. Upper elementary students should be taught how to read a compass, then how to use a GPS (global positioning system) to find location. Fourth, fifth, and sixth graders can benefit from GIS (geographic information systems) instruction to learn how map layers are constructed. With Google Earth, Topozone, MapQuest, and/or ESRI websites, they can learn to read and interpret satellite images, aerial photographs, and maps.[11] Computer technologies are not necessary, however, for students in grades K-3 to gain competence in basic geography skills and comprehension of basic concepts. These can be had at low cost with some guidance from teachers and parents and time and space for a healthy dose of creative play.

Knowledge for the Future

Why is geography important in the early years? One never knows in what ways knowledge may be useful in a child's life. Tilly Smith, a ten-year-old girl from Surrey, England, and her family were enjoying a day at Maikhao Beach in southern Thailand in 2004 when the sea rushed out and began to bubble. Tilly recognized these occurrences as warning signs of a tsunami, voiced her fears, and saved her family and everybody else on that beach. "Last term, my geography teacher, Mr. [Andrew] Kearney, taught us about earthquakes and how they can cause tsunamis," explained Tilly after the event.[12]

This is an especially dramatic application of Earth science but, clearly, geography is an essential part of living in the world today. After teaching a newly developed course called Geography for Teachers, I asked my elementary teacher candidates to tell me why they think geography matters. Their responses give me hope that a new generation of teachers will be sure to include geography in their elementary curricula:

- Seeking to understand geography can help us to have a higher degree of awareness of how people, places, and events are connected. Then, hopefully, we will be able to make better environmental, economic, and political decisions . . . .

The Five Themes of Geography

1. **Location**: A specific point determined by latitude and longitude.
2. **Place**: Physical (hills, rivers, and animal life) and human characteristics (architecture and land use) of the landscape.
3. **Human/Environment Interaction**: All the effects—positive and negative—that occur when people interact with their surroundings.
4. **Movement**: Resources, products, information, and people constantly travel from one place to another.
5. **Region**: Geographers divide the Earth into "manageable units for study" according to physical, human, or cultural characteristics.

A fuller description of these five themes and related teaching activities are available at **www.nationalgeographic.com/resources/ngo/education/themes.html.**

Source: Joint Committee on Geographic Education, *Guidelines for Geographic Education* (Washington, DC: National Council for Geographic Education and the Association of American Geographers, 1987). See also notes 5 and 10.

- Geography matters because it involves everything. Aspects of every subject occur in Geography. It is important to know where you are and how you got there and, more importantly, "why."
- Geography is like a link that connects people, countries, and history together. Geography is all about space and place, and under those two key terms everything else just falls into place.
- Geography looks at people and culture and the whys and hows of what is taking place.

Geography matters to me because it is integrated into almost everything I teach. It is definitely more than just studying maps. It allows students the chance to explore and understand where they come from, where they live, and all of the places surrounding them. As their awareness of the world grows, children use their geographic skills to feel a connection with people they have never met and places they have never been. Essentially, geography brings the world alive to students.

Notes

1. David Sobel, *Mapmaking with Children: Sense of Place Education for the Elementary Early Years* (Portsmouth, NH: Heinemann, 1998): 66.
2. Carol Sue Fromboluti and Carol Seefeldt, *Early Childhood: Where Learning Begins—Geography* (Washington, DC: U.S. Department of Education, 1999).
3. Gary Paul Nabhan and Stephen Trimble, *The Geography of Childhood: Why Children Need Wild Places* (Boston: Beacon Press, 1994).
4. Roger Downs, "How Young is Too Young to Learn Geography?" *The Geography Teacher* 2 (2005): 10-12.
5. Joint Committee on Geographic Education, *Guidelines for Geographic Education* (Washington, DC: National Council for Geographic Education and the Association of American Geographers, 1987): 11-14. The home page of the National Council for Geographic Education is www.ncge.org.
6. Joan Sweeney, *Me on the Map* (New York: Crown, 1996).
7. Gail Hartman, *As the Crow Flies* (New York: Aladdin Paperbacks, 1993).
8. R. Downs.
9. D. Sobel.
10. Geography Education Standards Project, *Geography for Life: National Geography Standards* (Washington, DC: National Geographic Society, 1994).
11. Marsha Alibrandi, "How To Do It: Interactive Online Mapping," *Social Studies and the Young Learner* 17, no. 3 (January/February 2005); Eui kyung Shin and Marsha Alibrandi, "How To Do It: Online Interactive Mapping Using Google Earth," *Social Studies and the Young Learner* 19, no. 3 (January/February, 2007). These articles may be downloaded free by NCSS members at www.socialstudies.org.
12. B. Marsden, "Reflections on Geography: The Worst Taught Subject?" *International Research in Geographical and Environmental Education* 14 (2005): 1-4; "Tsunami Family Saved by Schoolgirl's Geography Lesson," news.nationalgeographic.com.

S. Kay Gandy *is an assistant professor in the Department of Curriculum and Instruction at Western Kentucky University in Bowling Green.*