Book Review

English, Kim Zanelli and Feaster, Laura A. 2003. *Community geography: GIS in action*. Redlands, CA: ESRI Press. ISBN 1-58948-023-6. 280 pages plus data CD-ROM, U.S. $24.95.

Community Geography: GIS in Action begins with a forward by Jack Dangermond stating that "the world is shaped by seemingly small ideas that are acted upon." This book is about students and teachers acting upon, or more precisely, *doing* geography through GIS with local and regional communities as the setting for active and authentic learning. However, from a teaching-learning perspective one of the most common barriers to serious and deep integration of technology in educational settings is that teachers are often indoctrinated in the technical operation of software (Harris 1998)—trained in the use of every whistle and bell found in any given application. This situation is analogous to the technology tail wagging the teaching dog, so to speak. In contrast, *Community Geography* steps beyond technical software operation by students and teachers and establishes a framework of applied geographical inquiry in a very methodical and straight-forward way with GIS as a tool. Using the same analogy, this book promotes the geography dog wagging his technology tail.

Authors Laura S. Feaster, an ESRI education specialist, and Kim Zanelli English, an ESRI instructional designer and former science teacher, assert that this book uses real-world case studies and hands-on activities to demonstrate to students how geographic analysis can offer a new perspective on issues—inspiring them to be the investigator and to solve problems in their own backyards. Indeed this book meets these claims. This is significant because many GIS books on the market and many GIS-for-education books focus either on hypothetical situations of what could be done with GIS, are high-end GIS showcase presentations, or they are step-by-step technical software manuals for GIS operation—none of which translate well to actual student use of GIS in terms of geographic inquiry or problem solving. Moreover, this book highlights and offers "how to" project support based on cases pulled from K-12 schools where the projects were actually conducted by students. Further reinforcing its value for teachers is that it also has key developmental support from the teacher-authors of ESRI's *Mapping Our World*, Malone et al. (2002).

Perhaps one of the more useful aspects of *Community Geography* is the organization of the book. Broken into eight modules and then a final chapter

on planning your own community geography project, the book is designed so students and teachers can begin at any one of the modules. Each module is organized into a case study section, an exercise section, and an "on your own" section. The case studies present projects actually conducted by students in the United States and Canada. The projects describe how students collaborated with local organizations to solve authentic problems using GIS. The case studies present maps, illustrations, and examples of each case. The exercises section of each module provides step-by-step activities modeled after the module's case study. These exercises guide students through predeveloped data found on the accompanying CD-ROM. The exercises typically begin with fundamental GIS skills and exploration of the data using ArcView Ó 3.x. Aiding students in the step-by-step exercises are screen shots presenting how the students' screens should generally appear once they have completed a step. The exercises then transition from fundamental data exploration to more advanced GIS software skills such as combining themes or creating buffer zones around an existing feature. From a theoretical education point of view this transition in the activities offers teachers opportunities to move from a predetermined outcome and behaviorist teaching perspective toward one of cognitive learning through constructivism. It also offers a framework for problem solving and inquiry—an opportunity that is seldom supported in GIS publications for training.

Further supporting opportunities for teachers to move from lock-step, how-to technical skills and toward critical thinking through spatial analysis is the "on your own" section of each module. These sections "provide a road map to completing a similar project in your own community" by coupling the five-step geographic inquiry model of: 1) ask a geographic question, 2) acquire geographic resources, 3) explore geographic data, 4) analyze geographic information, and 5) act on geographic knowledge, with each case presented in the module itself.

Since the exercises in each of the eight modules begin with basic, step-by-step exploration of "canned" data then move toward technical aspects of using the software and existing data to create new shape files that expand on students' GIS software skills in an authentic way, it provides a strong guide for teachers to scaffold their technical software operation instruction with their students (van Merriënboer et al. 2003). Likewise, it sets teachers up to offer cognitive scaffolding for student learning in that the exercises use the students' newly created themes from the provided data as a basis for having them make critical decisions.

Community Geography also offers scaffolding to the teacher who may be a novice with ArcView Ó 3.x. Given that the exercises move from basic ArcView Ó operation to more advanced operation of features, the teacher

who may not be fully comfortable with GIS software can work through the activities on his or her own to enhance their skills. It can also be viewed as offering scaffolding for instructional design since it can aid a teacher in moving from *2-by-4 teaching* (two covers of the book and four walls of the classroom) (Stangohr 1999) toward active student learning in authentic learning environments outside of the classroom. Through *Community Geography* teachers are guided to take student projects to any number of levels ranging from simplistic in-the-computer-lab activities to more complex real-world projects involving outside-the-school entities.

Worth mention is the References and Resources appendix. This appendix contains module-by-module sources for data and information including URLs to several World Wide Web sites for additional materials and data. Like many of today's books aimed at classrooms, this one transcends the hard copy format and points readers to an associated Web site. While the book touts a discussion forum and "other valuable information" on the ESRI Web site, the forum, upon checking, had only three questions posted in the last year, none of which had anything to do with the book or teaching in a K-12 environment. Nevertheless, the "Web resources" online companion area did house well over 50 links to Web sites containing data or information that expands the scope of each module found in the book.

Community Geography is a book that teachers can utilize for geographic instruction in courses ranging from physical science to environmental education to social studies and beyond. It transcends grade level, although, judging by their complexity, the projects are aimed at secondary educators. On the other hand, the projects need not be constrained only to secondary education. This book works at many levels for educators. It could serve as a preservice geography education text book or even as a book for graduate-level inservice teachers in addition to working well for K-12 educators. Likewise, it is universal enough to be applicable to any number of school subjects as well as in countries other than Canada and the United States where data is openly available. Moreover, at a price point of US$24.95, this book is affordable even to resource-strapped schools. Finally, a companion teacher's guide is available through ESRI Press. The teacher's guide picks up where the "on your own" components of this book end. Overall, *Community Geography* is a strong compliment to ESRI's recent suite of books aimed at GIS in K-12 education.

REFERENCES

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