

Book Review

Orienteering Made Simple and GPS Technology: An Instructional Handbook

Nancy Kelly

Bloomington, IN: AuthorHouse, 2012

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With the rampant expansion of digital technologies and their transition into the classroom, many educators, parents, and schools are growing increasingly concerned about a decrease in the physical activity of children. Among this backdrop, Nancy Kelly's latest book titled, *Orienteering Made Simple and GPS Technology: An Instructional Handbook* attempts to not only address this concern but also implement an innovative form of learning that promotes adventure and physical activity. Her handbook builds on her previous publication, *Orienteering Made Simple: An Instructional Handbook* (2004), to include the use of modern Global Positioning System (GPS) technology. The latest book is divided into two main sections that deal with learning the basics of orienteering and using GPS technology. Her work encompasses a multidisciplinary approach and has several learning objectives that range from cooperative learning to problem solving. The work is targeted toward a wide range of teachers, including those from pre-school to high school, and seeks to engage students in a dynamic learning environment that is "fun and challenging" (p. 75). Ultimately, Kelly offers an innovative way for students to learn a useful life skill while getting up on their feet and learning a wide variety of subject matter through exploration and problem solving.

The book begins with a quick introduction to orienteering as "a sport that is all about maps" (p. 7). For Kelly, orienteering can be used as a recreational activity as well as a competitive sport that inspires teamwork, communication, and problem solving. The book argues that the multidisciplinary approach engages with the following subject areas to improve various skills: art, math, physical education, science, social studies, language arts, and technology. Her book actively incorporates this approach based on several examples including her exploration of the step-counting technique. When discussing how students can learn to estimate approximate distances from certain locations using the step-counting technique, Kelly links the practice to Roman soldiers who used this technique to count "double-steps" (p. 58) every time their right foot hit the ground, in groups of 1,000. It was referred to as *mille passus* in Latin and is where the word mile came from. Furthermore, Kelly also brings in the use of mathematics when discussing Cartesian coordinates as a reference to longitude and latitude. She implements this discussion within the activity of sinking battleships. Beyond these examples, the author also identifies the various ways in which these activities can be altered to be more versatile to the learning outcomes of teachers.

Orienteering can be a versatile activity that allows teachers to experiment with a broad range

of projects. Going beyond the simple changes of having students run, walk, bike, or canoe to locate specific targets, facilitators can have students complete a variety of tasks at each marker before they can advance to the next stage. For example, students may need to solve a math equation in order to receive a hint about the next target or answer a trivia question related to history or geography. Taking advantage of the limitless possibilities of Kelly's book can keep students engaged and promote learning through exploration and physical activity. Orienteering activities also promote collaboration and teamwork among the students. Students can have opportunities to highlight their strengths by helping the team complete any part of the physical or mental aspects of the orienteering challenge.

Kelly's book is complete with step-by-step instructions for teachers. Each lesson plan includes sub-headings to articulate both how to conduct the lesson as well as the derived outcomes and discussions of the exercise. These headings are clear and precise and include objectives, materials, preparation, activities, and discussion. In total there are more than 50 pages of supplementary materials, which include worksheets, maps, sample activities, and cut-out guides for teachers.

The second portion of the book introduces students and teachers to GPS technology, absolute directions, and geo-caching. Building on the skills learned in the first part of the book, Kelly explains the importance of understanding that each specific place on the earth carries a unique position in terms of longitude and latitude. Here, Kelly offers an excellent introduction to the idea of GPS. She begins with the basics of using a compass to explain the role of absolute directions, or locating a fixed point, and its importance to understanding the unique position of everything on earth. The following section discusses the specifics of GPS technologies and the role of satellites in identifying precise locations. Kelly also discusses geo-caching, which refers to "a high tech treasure hunting game" where teams attempt to locate secretly hidden objects all over the world and share their experiences of finding these "geo-caches" with others (p. 36). From this point onward, the book explores the use of handheld GPS devices and identifies how to use them to promote various forms of learning.

Ultimately, Kelly's book enables students to learn a wide range of skills while also being physically active. However, to implement the more advanced and challenging lessons from the book, teachers will need access to considerable resources including diverse terrain and proper GPS equipment. When engaging with more difficult orienteering lessons, students require larger areas and dynamic physical environments to provide more stimulating experiences. For example, with the route choice exercises it would be difficult for students to evaluate what might be the smartest path to the next destination if they are unable to access variable terrains that include hills, ponds, rivers, boulders, trees, or a host of other environmental factors. They would be able to do this on a map but would not be able to put this to practice outside of the classroom without being able to interact with the environment. Furthermore, there is a growing cost associated with using handheld GPS devices and increased preparation time for some of the GPS lessons. Some schools may not be able to afford handheld devices for each of their students and teachers may not be able to dedicate large portions of time to lesson planning. Lesson three in the GPS section of the book, *Team Relay Geo-Caching*, requires three days to fully implement and each day requires a specific event. This may detract from valuable class hours if teachers do not see Kelly's lessons as useful.

In conclusion, Kelly's latest book provides insightful details on how to engage students in an alternative and fun method of multidisciplinary learning that encourages physical activity. Her methodology promotes adventure and challenges students to interact with their physical world

while building several valuable social and academic skills. Each of the lessons are accompanied with sample discussion questions, supplementary materials, and learning objectives to assure teachers that they are creating the most enriched learning environment possible. Furthermore, there is plenty of room for individual creativity within each activity, which allows teachers to tailor their lessons to accomplish specific learning outcomes. Although there are some limitations in terms of diverse physical environments, cost, and time required by teachers, Kelly's work provides an engaging way for students to learning several new skills. Her multidisciplinary approach significantly highlights how teachers can get their students to be active learners both physically and mentally.

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