An Olympian Speaks Up!

Reviewed by Tim Sabbald

Book review of:

This is an inspired book that reads easily, while presenting a first-hand account of some formidable math challenges. The book begins with a Grade 12 student being dropped off by her mother at the school board office, where a superintendent supervises her participation in the Canadian Math Olympiad.

The five problems that constitute the Olympiad are presented near the start of the 475-page book, and the reader is made aware that there is a three-hour time limit. Much as the mathematics is rich and accessible: there are many flashback snippets of school experiences and lessons learned along the way for Bethany to have reached the competition. In many respects, the experiences are what makes the book compelling.

As a teacher, I was quite struck by some of the classroom recollections and vivid portrayal of bullying experiences. Accounts are presented of teachers who attempted to draw the shy student out, but inadvertently added to the potential for the student to feel awkward because her shy demeanor was being challenged. Some sections are excellent food for thought, especially for less experienced professional teachers and for teacher candidates. The portrayal of a vice-principal, who meets the student where the students’ needs are, is illuminating.

The mathematics is presented as a flow of thoughts, and this is wonderful for anyone who has wondered about the process used by high-performance problem solvers. The strategies are provided in relatively small steps, and many strategies are evident. Often the strategies are presented through flashbacks to tutors, who used simpler examples that help the reader understand the strategy. The approach is very well suited to high school readers, and many teachers will enjoy it as well. In terms of more detailed resources, there is a mention of www.artofproblemsolving.com that provides an opportunity to go beyond the book itself.

Within the pages, many smaller issues are addressed. Consider, for instance, that question #3 is presented as there being 25 men sitting around a table. “I roll my eyes, twenty-five men” (p. 184). While the gender issue is not as prevalent as it once was, it continues to be an area that is in need of attention. What is more, at high levels, there are gender issues, and the approach used to address it is effective. The protagonist does not give up in the face of an unnecessarily gender-bias question; rather, as she works through the problem, she uses all female names.

The story goes beyond math problems and broaches the challenge of choosing universities. It also presents tension between a father and daughter regarding the role of spirituality, specifically Christianity, and how one might reconcile faith with mathematics. On both accounts, I wondered about the suitability for students and the extent they were potentially biased by the author’s point of view. However, I concluded that they were suitable and handled significant issues quite well. In the case of selecting universities, there is a push and pull between two specific universities that the author has experience with, but the issue for readers will be seen to be broader because the two specific universities are at opposite ends of Canada.

In terms of spirituality, it represents a turning point in the maturation process of the characters, where they have to address personal psychological elements in order to continue making progress. While this is developed through a spiritual component with one friend, it is also supported through the mother of the main character studying psychology. It is not overdone for students, but is minimal for teachers. For example, the mention of the “self-esteem movement” (p. 430) that suggests that students are not generally sufficiently challenged today is debatable.

While the book is an invaluable resource for mathematics teachers, it has one significant limitation: it only presents competitive enrichment. The issue of co-operative versus competitive involvement is addressed in a few spots, such as remarks made about teammates on a co-operative math challenge: “They were all keen,
but none were competitive” (p. 219). However, the co-operative element is couched in a competitive environment, such as a team relay competition. Similarly: “I’m not interested in how many people I beat, or what place I finish. It is me versus the clock” (p. 74). However, this vision is not consistent when an episode of playing the rules is explained. In the account, the protagonist constrains the possible solutions and repeatedly hands in answers (allowed by the rules) until she reaches the correct one.

As a teacher, I have always wrestled with the dominance of contest-oriented enrichment. This book, in spite of its strength of providing a valuable resource in math education, does not address non-competitive enrichment. Given the Canadian math landscape, I was not surprised by this. However, teachers should be aware that the book provides an in-depth view of a very specific form of enrichment.

Overall, Richard Hoshino has provided an important contribution to math educators and should be applauded for this book. The spirit it brings makes it an excellent enrichment prospect for high school students. It is well suited to school libraries, a classroom bookshelf, and as a potential motivational gift for students who deserve special treatment.

THINKING ABOUT
TEACHING, LEARNING, AND
MATHEMATICAL MINDSETS
LEADS ME TO LEARNING
SKILLS

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“All learning begins when our comfortable ideas turn out to be inadequate.” ~ John Dewey

The Ontario math curriculum states that assessment and instruction should be seamless (OME, 2010); others say that classroom management and instruction should be seamless (e.g., Jones, Jones, & Jones, 2000); and some state that curriculum and assessment should be seamless (e.g., Drake, Reid, & Kolohon, 2014). Each of these statements comes from a particular perspective that is theoretical, practical, or a combination of both. I would like to focus these perspectives into a mathematics classroom context—the space teachers live and work in for hours a day with hundreds of students. It is what has happened in my mathematics classroom that has helped me realize, over time, when my comfortable ideas of teaching mathematics became inadequate, when student learning was as uninspired as the routine of my teaching, and like a badly designed spiral curriculum, I was going around in circles and never really feeling like everything came together at the same time. Don’t get me wrong, I saw regular successes in my students’ achievement, and felt I had many good teaching moments, but a growing sense of inadequacy prodded me to broaden my knowledge base and then my professional practice.

I began to conceptualize my professional practice with the metaphor of the centre of gravity, or centroid, of a