

Stimulating a Stagnant STEM Collection: Spotlight on the Revitalization of MTSU Library's K-12 STEM Education Resources

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Carlton, J.M. (2018). Stimulating a Stagnant STEM Collection: Spotlight on the Revitalization of MTSU Library's K-12 STEM Education Resources. *Tennessee Libraries Journal* 68(1).
https://www.tnla.org/page/TL68_1_STEM



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Abstract:

The Curriculum Collection at MTSU's James E. Walker Library is a specialized collection that serves pre-K through 12th grade undergraduate education majors, graduate students enrolled in M.Ed., Ed.S., and Ph.D. programs in education, local K-12 educators, and the community at large. The collection contains approximately 53,000 titles made up of K-12 textbooks, young adult fiction, children's literature, juvenile nonfiction, games, and teaching materials. These materials are used by pre-service educators to develop curricula and lesson plans and may also be used by teachers in K-12 instructional settings.

Keywords: collection management | school libraries | STEM | instructional resources

Article:

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Background

As education reform has placed more emphasis on critical thinking skills, school libraries have responded to the mandate for complex and quality informational texts in order to comply with Common Core State Standards (CCSS). The standards require nonfiction texts to account for varying amounts (from 50% to 70%) of all reading assigned in the classroom. To reflect the needs of the educators the Curriculum Collection serves, we began looking at the collection's holdings. Numerous changes within the department had left the collection outdated and lacking current resources to support teaching and learning in science, technology, engineering, and mathematics (STEM). Because providing relevant STEM education materials to our future teachers would better prepare them for their chosen profession, we commenced a much-needed overhaul of the collection.

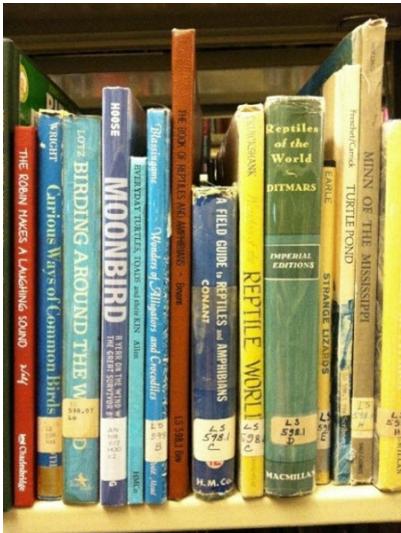


Figure 1. Multiple award winner *Moonbird* was difficult to find among the older titles on the shelf.

The first step in the revitalization effort was a massive deselection project. Having a large number of outdated and irrelevant materials limits users' ability to find desired items (see Figure 1). Most of the collection was between 10 and 30 years old. Common Core State Standards were only beginning to be developed in 2007 (Common Core State Standards Initiative, 2015). This means that the majority of the collection was purchased with prior instructional standards in mind. Furthermore, the shelves in the collection were overstuffed and visually unappealing (see Figure 2).



Figure 2. The collection's shelves were overstuffed and visually unappealing.

Candidates for Deselection

We looked at a random sampling of the 510 (mathematics) section of the collection to help us assess the age of some of the STEM materials. The library catalog reported 143 results of materials with 510 as the starting call number and including any decimals following 510. Of the 143 books, only 16 were published in the 2000's, with 49 books being published before 1985, the oldest of which was a 1946 edition of *Take a Number: Mathematics for the Two Billion*. Deselecting books from the collection was an important part of revitalizing the holdings. "Outdated books give students misinformation and promote stereotypes. There is a mistaken

notion that students can get their information needs met on the Internet. Even though electronic sources are available . . . books are still crucial, since many non-fiction books are not in an electronic format" (Education World, 2003).

The existing collection could be considered useful, though incomplete and overwhelmed by irrelevant and outdated materials. One of the books that might have distracted users from more useful items was *Breakthroughs in Science* by Isaac Asimov. This book was published in 1960 and provides information that today's readers would not consider breakthroughs. Although the author is well-known and popular, this obsolete book needed to be discarded. The materials representing technology were also in desperate need of revitalization. One example is the 1987 book, *Classroom Computers: A Triad of Creative Applications*, by Richard Shade, that teaches students about computer commands and floppy disks using a TRS-80 microcomputer. These items, along with books such as *IDEAS from an Arithmetic Teacher* (1982), were immediate candidates for deselection.

The Weeding Process

In order to identify titles for deselection, we created shelf lists of the collection that included each item's author, title, call number, and publication information. These lists were organized first by call number, and then copyright year. We also examined circulation statistics for the collection for the period January to December 2014. Transaction records indicated that the least used items were those with a copyright date before 1994. This information led us to set a copyright year of before 1990 as the primary factor for deselection.

Additional factors we took into consideration during the weeding process included the condition of the book and its relevancy. Because these elements required a hands-on inspection of materials, we determined that working from shelf lists alone would not be sufficient for the project. Instead, we examined each item individually.

The Updated Collection

From 2015 to 2016, we deselected approximately 12,000 books that ranged from irrelevant or dated to damaged, making room for the 2,424 new books ordered for the collection in the same time frame. When deciding which books to order for the collection, we focused on purchasing engineering and technology books because the collection did not have many materials in these fields. While we attempted to focus on these two subjects, we also included books in science and mathematics if they received good reviews and we felt that they would benefit the collection (see Figure 3).



Figure 3. Some of the new titles selected for the collection.



Figure 4. One of the collection's shelves after the revitalization project.

Overall, the project has been well-received by our users. The updated materials add to both the appeal of the collection and its relevancy (see Figure 4). With access to current materials, education students will gain experience implementing these texts into their lessons. The homeschooling families in our community who use the collection will also be better served by having access to materials that align with the current standards. Area teachers will have access to additional materials they can consult when planning lessons. Our collection development of STEM material is ongoing. STEM subjects are constantly being studied and new developments occur frequently. It is important to have new and current materials available for educators, requiring frequent evaluation of the collection's accuracy and relevancy.

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