

Inventory Barcoding Methodologies

The system used for barcoding your instructional materials can greatly affect the efficiency of your campuses, warehouse, and district as a whole. There are two widely adopted methodologies to automate textbook inventory management: single-barcode and dual-barcode. The single-barcode approach focuses on reporting details about a specific book, whereas the dual-barcode approach is more suitable for generating details about inventory counts.



Single vs. Dual Barcode

We strongly recommend a dual-barcode system for tracking instructional materials within your district. School districts must be able to quickly and efficiently transfer and account for quantities of inventory located at campuses. Tracking instructional materials in the same manner as a library system, using a single-barcode, would be counterproductive and time consuming. A single-barcode system requires individual books to be scanned when moved within a district. A dual-barcode system only scans a book when it is assigned to a student or teacher, greatly increasing productivity.

Single-barcode vs. Dual-barcode Inventory Methodology

Single-barcode Method

Single-barcode methodology for textbook automation originates from the library process of cataloging individual copies of materials, which is the foundation of this system. Creating a record in the database for each copy is how “inventory” is recognized in the system. Every transaction (distribution to a student/teacher or transfer to another building) is assigned to that copy for its lifetime of use.

Highlights of a Single-barcode System

- Detailed transaction history for copies
- Configurable loan policy creation
- Auto conditioning based on number of check-outs

We do not recommend implementation of a single-barcode inventory methodology for textbooks.

Dual-barcode Method

Dual-barcode methodology for textbook automation is native to inventory control systems where the focus is on supervision of supply, storage, and accessibility of items in order to ensure an adequate supply with calculated oversupply. Dual-barcode systems focus on providing planning and operations staff with data for inventory oversight. Tracking individual copies of materials is incorporated as part of the accountability process of assigning materials to students and/or teachers.

Highlights of a Dual-barcode System

- Fast inventory creation and recognition
- Easy inventory transfer and adjustment processes
- Detailed charge history for copies

Critical Requirements

Utilizing a system with a single barcode designed only for “check-in/check-out” processes doesn’t offer efficiencies for critical textbook management challenges. Specialized software with the following functionality is required to effectively manage instructional material inventory at K-12 school districts:

District Level Functionality

The district version of a library system lacks functionality because the majority of districts do not have a district librarian managing campus inventory distribution or a warehouse for surplus library materials. Campus request management, district order fulfillment, bin location management, and pick tickets are a few examples of district-level features found in a native textbook management system with dual-barcodes. Reporting capabilities for inventory needs analysis by school and inventory transaction history by school should also be evaluated.

Inventory Transfers

With a single barcode system, transferred books must be scanned one at a time by either the shipping or receiving location for the transfer process to occur and inventory counts to adjust. If Hayes HS needed to transfer books to Carson HS, Hayes HS would have to scan or manually enter each unique book number transferred to make the reassignment in their software. Transfers cannot be initiated in the software until the exact books to be transferred have been identified and collected together for scanning. Thus, applying a pick-ticket process to campus-to-campus transfers will either not work, or will require searching for specific copies among all the books at the site.

New Adoptions and Replacements

With schools receiving thousands of textbooks at the beginning of a school year, the intensive scanning process required to enter new books into a single-barcode system takes countless man hours. For example, when a new order of textbooks arrives, books receive a barcode label and then each book is scanned one-by-one into the single-barcode system, creating a record for each book and adding that copy into available inventory for distribution. The books will then need to be individually scanned again in order to issue a book to a student or teacher.

Process Comparison

	Single-Barcode Methodology	Dual-Barcode Methodology
What processes require scanning barcodes?	Copies are scanned to create an assignment link to a title (increase inventory counts), an assignment link to a student or teacher, and a transfer to another site.	Books are scanned to create an assignment link to a student or teacher.
When a new shipment of textbooks arrives...	Each book receives a barcode label and then each book is scanned one-by-one into the system by title for inventory counts to increase.	The quantity received of each title in the shipment is recorded, and each book receives a barcode label.
How are books assigned to students and teachers?	Scan or enter the person's ID number and scan or enter the one barcode on the label - unique copy number.	Scan or enter the person's ID number and scan or enter the two barcodes on the label—book title number (ISBN) and the unique book number (Accession).

How are books collected from students and teachers?

Scan or enter the unique copy number.

Scan or enter the Accession.

How do I transfer inventory?

Either the shipping or receiving location would scan or manually enter each unique copy number to be transferred to adjust inventory counts at each location.

Either the shipping or receiving location would indicate the quantity transferred of each title to adjust inventory counts at each location.

Hayes's TIPWeb-IM textbook management system helps K-12 school districts to reduce textbook losses, simplify audits, and increase the accountability and transparency of their inventory.

[Learn More about TIPWeb-IM](#)