Education Libraries, 48:1 (2026)

Case Study

Curriculum, Assessment, & Learning Materials Lab Renovation: A Space for Pre-service Teachers

JOANNA L. NEEL[1]
Ed. D., Associate Professor-Literacy, The University of Texas at Tyler, TX, USA

VANDY DUBRE[2]
Professional Librarian, The University of Texas at Tyler, TX, USA

Abstract

Pre-service teachers increasingly require access to current instructional materials, test-preparation resources, and hands-on manipulatives to meet rising state expectations and certification demands. This article presents a case study of the multi-year renovation of a School of Education resource room at a mid-sized regional university in the south-central United States. Through a sustained partnership between an Education Faculty member and the Education Librarian, the space evolved from a cluttered storage area into a structured, student-centered Curriculum, Assessment, and Learning Materials Lab. The narrative outlines the historical context, redesign process, cataloging system development, collection weeding, student worker training, and ongoing assessment plans. Lessons learned and future directions highlight the importance of collaboration, intentional design, and data-informed decision-making in supporting pre-service educators.

Keywords: CMCs, curriculum materials centers, pre-service teacher education, resource room renovation, faculty-librarian collaboration, student centered learning spaces, resource room organization, manipulative cataloguing

Microsoft Co-Pilot was used by the authors for editing and revisions.

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[1] **Joanna L. Neel** is an Associate Professor of Literacy at the University of Texas at Tyler, and teaches educator preparation, literacy, and literacy coaching courses. Her research interests include literacy development; literate conversations, dialogue, and thoughts of young learners; developing sustainable tutorial partnerships; and educator preparation.

[2] **Vandy Dubre** is the Fine Arts, Literature, & Education Librarian at The University of Texas at Tyler. She received her Master of Library Science degree from Texas Woman's University with an emphasis in children's literature and music librarian specialty at the University of North Texas. Her research interests include local history and education, ethnomusicology of Scottish folk music and life, and the promotion of inclusive literature.

Introduction

State-level education reforms and increasingly rigorous expectations for pre-service educators have amplified the need for accessible, high-quality instructional resources. Pre-service teachers must design experiential lessons, prepare for multiple certification exams, and engage in fieldwork that requires manipulatives, children's literature, and test-preparation materials. These needs are especially pressing at institutions serving rural and economically disadvantaged regions.

This article describes the transformation of a long-standing resource room within a School of Education (SOE) at a mid-sized regional public university in the south-central United States. Through a sustained partnership between an Education Faculty member and the Education Librarian, the space evolved from a cluttered storage area into a student-centered Curriculum, Assessment, and Learning Materials Lab. The narrative outlines the room's history, the redesign process, cataloging and shelving systems, lessons learned, and future plans for assessment and improvement.

Background: Before the Partnership

Assorted donations of old books, teaching tools, and mismatched manipulatives were stored in a small closet for faculty use within the School of Education (SOE) beginning in 1971. Over time, the collection expanded and migrated across several spaces before settling in the current room, informally known as the education resource lab. However, the space functioned more as a storage space than a usable resource center. In 2006, the university library and the resource lab explored a collaboration, in hopes of combining resources and using the library's structure to check out and track the items. In contrast, the main university library's Curriculum Materials Laboratory Room (CML) specifically housed children's literature books and K-12 textbooks, but no manipulative sets. The library cataloger declined to add the resource lab manipulatives to the catalog at this time due to the complexity of cataloging, storing, and circulating them. In addition, some of these materials were purchased by the School of Education and therefore needed to be kept separate from the main library collection. Because of the complexity, the project stalled, though relationships between the university library and the resources lab continued to develop over time.

In 2012, increased enrollment created a need for additional classroom space within the SOE. Because the resource lab lacked documented usage, it was nearly repurposed. To preserve the space, it was reorganized with tables, a few old computers, and a printer, opened to student use, and renamed the Curriculum and Technology Lab (CAT Lab). Students and faculty checked out materials using an honor-system sign-out sheet. The collection consisted largely of outdated donations and discarded materials.

Partnership & New Goals

In 2019, Dr. Neel volunteered to start revising and updating the CAT Lab, as well as strategically updating its resources. Dr. Neel initiated the effort and partnered with the Education Librarian, Vandy Dubre, whose expertise in cataloging, collection development, and children's literature would provide the technical foundation for a sustainable system. Together, they established three primary goals:

1. Create a manageable organizational structure
2. Implement a digital checkout system
3. Group materials by content area for intuitive browsing

This partnership succeeded because it combined complementary strengths. Dr. Neel brought deep knowledge of teacher preparation, fieldwork requirements, and state regulations, while Dubre contributed extensive experience with cataloging systems, weeding processes, library operations, and the education department's history. The two had worked together for over a decade on various projects such as course designing, content teaching, writing projects (see Consalvo et al 2022; Consalvo et. al. 2024), and strategic initiatives. They knew of and respected each other's strengths and weaknesses; therefore, compromises were negotiable, and progress was able to move forward. This long-standing professional relationship enabled efficient decision-making and ensured continuity despite departmental turnover. The resource lab had experienced turnover across five SOE Directors and five administrative assistants between 2011 and 2024. Although leadership consistently supported the lab, tracking purchases, inventory, and subscriptions proved difficult due to these frequent staffing changes.

From CAT Lab to CAL Lab

The redesign gained momentum when a building expansion in 2021 created space for a dedicated computer lab down the hall from the CAT Lab. This allowed the CAT Lab's outdated computers and printer to be relocated, freeing the room to be reimagined as a collaborative workspace. With this shift, the room was renamed the Curriculum, Assessment, and Learning Materials Lab (CAL Lab), signaling a broader purpose focused on lesson planning, tutoring, and resource access.

Identifying Student Needs and Refocusing the Physical Space

The first step in the redesign was addressing the physical environment. The 589 sq. ft. room (31' × 19') had become cluttered with unwanted materials, broken furniture, and outdated resources. Figures 1-4 show the space one week into reorganization. To create a functional, collaborative environment, the redesign prioritized openness, organization, and reduced visual distraction.

Figure 1. Before re-boxing and organizing

Figure 2. Before re-boxing manipulatives

Figure 3. Bulletin board and wall mess

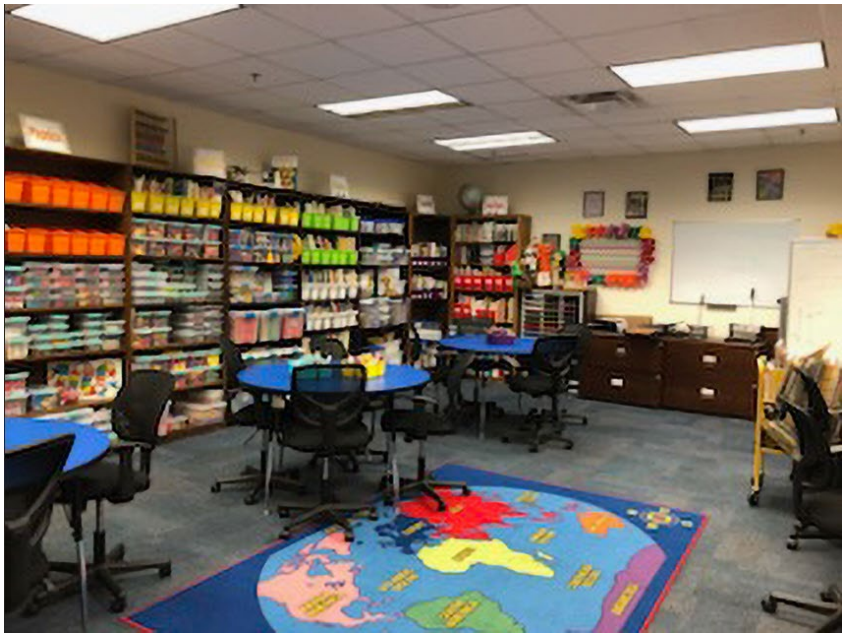
Figure 4. Bulletin boards, wall chaos and computers

Drawing on research about visual attention and cognitive load (Beck & Kastner, 2009; Godwin et al., 2022), the team removed overstimulating posters, mismatched decorations, and busy bulletin board backgrounds. Walls previously covered with posters and chevron-patterned boards were simplified. Bulletin boards were recovered with black washable vinyl and labeled with chalk markers for clarity. Rainbow chevron borders were retained as a subtle unifying theme and used consistently across labels, bins, and signage (see Figure 5). The before image of this space can be seen in Figure 4.

Figure 5. Bulletin board after renovations

Shelving was moved to the perimeter to open the floor for round tables and rolling whiteboards. Broken chairs were replaced with comfortable, uniform seating. Out-dated video equipment was removed, and a wall-mounted green screen was installed for students who needed to record lessons (see Figure 6). Before can be seen in Figure 2.

Figure 6. Six months into reorganization



Materials were reorganized by subject area in a clockwise layout, beginning with teacher prep materials and moving through literacy, math, science, Spanish, and social studies. High-theft items, such as test-prep books, were relocated to more visible areas. A single computer was installed for checkout and cataloging, freeing space for big-book carts and improving workflow.

Minor Details That Matter

Before cataloging could begin, the team established a visual location scheme. Items were grouped by subject, then by type, with books on upper shelves and manipulatives below. Original manipulative packaging—often bulky or damaged—was replaced with clear, durable storage boxes in standardized sizes. This improved browsing, transport, and shelving efficiency. Each subject area was assigned a color (e.g. yellow for math, green for science), applied consistently across signage and bins to support quick identification and reshelving. See Figure 7.

Figure 7. Visual Location Scheme

Moving to Digital Checkout

Because the SOE materials could not be added to the university's KOHA library catalog system, the authors selected TinyCat, a low-cost, customizable cataloging platform designed for small libraries. The School of Education funds the subscription, and the Education Librarian manages cataloging and trains SOE student workers on using the system for check-out.

In the past, barcodes had been purchased for the collection, and there were attempts to barcode the room for checkout, though this was done inconsistently. All

misplaced barcodes were removed or covered, and a standardized placement system was implemented. A handheld scanner was added to streamline checkout.

Students register using their university ID to check out materials, though temporary barcodes are provided when needed. Faculty barcodes and orientation registration drives are planned to increase adoption.

Shifting Collection Development: From Hoarding to Purpose

The redesign required shifting from a "keep everything" mindset to a purpose-driven, standards-aligned collection. All materials and resources were evaluated to ensure they aligned with the state education guidelines, Texas Essential Knowledge and Skills (TEKS) educational standards.

Materials were evaluated based on:

- Alignment with TEKS
- Physical condition
- Relevance to current classroom practice
- Usefulness for lesson planning and certification exams

Resources were sorted by content area and subtopic e.g., math: number sense, operations, time, money; science: Earth, physical, life; ELA: writing, phonics, reading. Gaps were identified for future purchasing.

Book Weeding & Organization

In addition to clearing out the space, weeding the manipulatives, and disposing of the unused materials, the vast collection of books was also weeded. As faculty members retired, they would often leave their office materials in the resource room, for future use. However, with so many books, most of which were not useful, students struggled to find appropriate materials, especially since it was mainly a browsing library. By clearing the superfluous materials, students would be able to find what they needed with ease. Having an education faculty and a librarian weigh in on the importance or unimportance of each item helped to create the balance needed to identify and discard unneeded items. In terms of books, we initially went through three separate weeding cycles.

- **Cycle one**: Removed damaged books, evaluated multiple copies, and reorganized reading sets.
- **Cycle two**: Reassessed usefulness, reduced excessive duplicates (e.g., 16 copies of *Charlotte's Web*), and redistributed books to students and staff.
- **Cycle three:** Final weeding during cataloging to ensure quality and identify gaps. Empty shelf space was intentionally left visible to signal collection needs to administration.

Cataloging and Shelving System Design

Cataloging the collection proved challenging. In libraries with a Curriculum Materials Laboratory, manipulatives are typically only available for in-library use and cannot be checked out through the regular circulation system. After contacting a couple libraries that we knew provided manipulatives, we found out one had stopped offering manipulative sets altogether. The other library was in the process of phasing out their manipulative offerings. Furthermore, their manipulative set call number system, devised

in the 1960s, was still in use; however, the origins and reasoning behind the system had been lost. Therefore, the Education Librarian had to devise her own system that would accommodate the use of the materials, the needs of the patrons, and the ease of training student workers to reshelve the materials. Because of the way the room was to be used by the education department, and given specific student needs, it was decided that the room would be organized with sections by activity type for read-aloud, chapter books, guided reading, teacher prep materials, and then by subjects, such as math, science, and social studies.

Room Use Equals Set Up

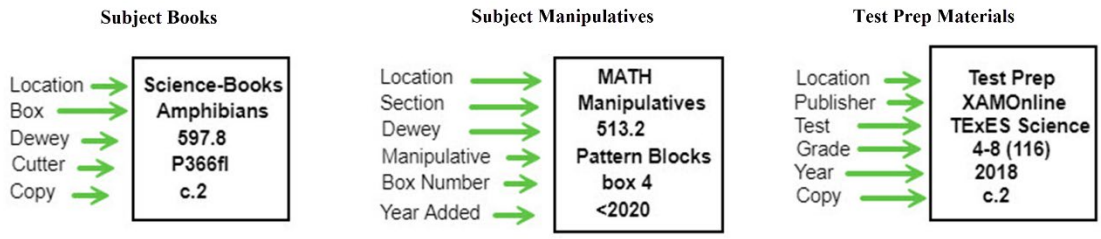
Since the room would not be staffed by a librarian like a typical departmental or central library, a custom shelving system was required to simplify browsing and reshelving. This enables students to locate materials easily and supports student workers in shelving items efficiently. The shelving system also needed to accommodate the complicated mixture of books and manipulatives, as well as the unique needs per subject. To start, we determined how students would utilize the room. Different from a typical library, education students need to identify items by type of activity.

- Are they going to use the book for reading aloud?
- Do they need guided reading sets to work with a group of students at a particular reading level?
- Are they working on a lesson for a specific topic and therefore needing books and tactile manipulatives to teach?

Answering these questions lead us to group materials by either activity type (read-aloud, guided reading, chapter books, teacher prep), or subject area, and an assigned location code was added to the call number. For instance, Read Aloud books were given the location code of RA, Guided Reading Sets were GR, and Math materials were given the MA location code. The location is part of every call number, making it easier for students to find and reshelve materials. Next**,** within the different locations, unique call number systems were created, as the expository books and fiction books needed to be arranged in a unique manner, as did the guided reading sets. Read aloud and chapter book sections, containing primarily single fiction books, were organized by a Cutter number system devised by the author's last name initial, a number assigned to said author, one to three letters of the title, and a copy number. This ensures the author’s books are kept together and helps to identify each book specifically. Other unique call numbers included (see Figure 8 or example labels):

- **Fiction (read-aloud & chapter books):** Cutter system based on author, author designated number, and title abbreviation
- **Test prep:** Organized by publisher, test, grade, publication year
- **Social studies:** Organized by TEKS-aligned subtopics
- **Subject books:** organized by main topic (math, science, etc.) then by subtopic book bin label (addition, subtraction, animals, etc.), Dewey number, cutter number, and copy number
- **Manipulatives:** Organized physically by type and box size, then assigned sequential box numbers, and year added to the collection

Figure 8: Call number label examples



This system allows for easy browsing, consistent shelving, and future expansion while remaining intuitive for student workers.

Student & Faculty Benefits

Student Benefits

Students utilize the room and resources between and after classes to study, design lesson plans, and for tutoring. With the office supplies and large tables, they can create projects for classes and even have a space to gather. The open space in the room, along with its calm, organized, and cheerful aesthetic, provides a pleasant and welcoming atmosphere. One advantage of having the lab space in the main hallway of the School of Education is that students have access to the space between classes to study, rest, and collaborate on projects. Students can locate items quickly and enjoy a speedy checkout system using their student ID cards.

Again, our teacher program is heavily focused on real-world scenarios and hands-on applications, so having access to appropriate and high-quality manipulatives and resources available for free check-out is a significant benefit. Since there is no educational store in our region dedicated to teaching materials, it is essential that the university offer access to high-quality teaching materials.

Students also benefit from having free access to teacher test prep materials. Many of our students take multiple subject-specific content exams. Purchasing the study manuals for these can quickly add up, especially for students already struggling with education costs. Now, they no longer have to worry about taking on that financial burden or studying with outdated materials.

Faculty Benefits

University faculty often use the resources in their classrooms as examples. Since the room is not in the university booking calendar, it is also useful for large class study sessions and as a class space for independent study or ad hoc classes. Faculty members also have access to the space for strategic small group sessions. One of the literacy professors hosts a Shakespeare ad hoc class in the lab space and makes use of the round tables and dry-erase boards for each group.

The lab space is also convenient for faculty members to host tutorial sessions. Examples of study sessions and other lab uses include weekly state certification exam study sessions; biweekly Science of Teaching Reading study sessions; Texas Reading Academies study and application sessions; recording of video artifacts for courses as needed by students; midterm and final exam preparations; lesson planning preparation and teaching practice; field supervision updates; clinical teaching preparation; etc. School of Education faculty members can also reserve the lab during the summer months for study sessions. For instance, Neel hosts week-long study sessions for the Science of Teaching Reading exams, state certification exams, and other week-long preparation sessions for the Texas Reading Academy throughout the summer months.

Student Workers and Training

While faculty members occasionally volunteer to help when books or materials are donated, daily workers are needed to keep the room organized, assist students in finding materials, and manage the checkout system. Multiple student workers, typically two to three, are hired each semester to extend the lab's operating hours for School of Education students. The workers are usually School of Education students who have time to work a part-time job. To ensure consistent training despite turnover, the Education Librarian created a Canvas-based training program that includes:

- Self-paced training lessons
- TinyCat tutorials
- Quizzes
- Hands-on shelving and checkout practice

This structure ensures that all workers receive uniform training without placing additional burden on faculty.

Moving Forward

The redesign revealed several important lessons. Some faculty initially resisted new checkout procedures, having grown accustomed to unrestricted access. Clear communication, consistent enforcement, and transparent policies were essential in shifting expectations. Moving forward, we hope to introduce:

- A part-time staff member to ensure continuous supervision
- A faculty barcode directory
- Improved communication among faculty and administrators

Looking ahead, the CAL Lab team plans to:

- Install security cameras for safety and loss prevention
- Add a Wi-Fi extender to improve connectivity
- Offer additional student certifications (CPR, First Aid, ServSafe, CDA)
- Register new students during orientation
- Conduct a two-year usage study
- Gather faculty and student feedback
- Implement a three-year weeding cycle
- Establish five-year purchasing priorities

These steps will ensure that the CAL Lab continues to evolve in response to student needs and program requirements.

Conclusion

The CAL Lab renovation has already improved student access to instructional materials, increased circulation, and enhanced collaborative learning. Through intentional design, sustained partnership, and ongoing assessment, the lab now serves as a vital support system for pre-service teachers. Continued refinement will ensure that it remains responsive to evolving educational standards and student needs.

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