Using TRAILS to Assess Student Learning: A Step-by-Step Guide

By Patricia L. Owen

INTRODUCTION

School librarians nationwide seek to produce evidence of the library's impact on student learning and achievement. While classroom teachers demonstrate their impact through the use of standardized test scores including end-of-grade tests and SAT/ACT tests, school librarians have long used informal or in-class assessments to gauge student learning. While effective, these assessments can be augmented by the use of standards-driven information literacy tests, such as TRAILS-9 (www.trails-9.org).

WHAT IS TRAILS?

TRAILS-9 (Tools for Real-Time Assessment of Information Literacy Skills) is a knowledge test made up of multiple choice questions. Funded by ILILE (Institute for Library and Information Literacy Education) and based on Ohio K-12 Library Academic Content Standards as well as *Information Power* (Schloman and Gideon 47), TRAILS-9 offers two 30-question tests and ten 10-question tests focused on five information literacy areas: 1) Develop Topic; 2) Identify Potential Sources; 3) Develop, Use, and Revise Search Strategies; 4) Evaluate Sources and Information; and 5) Recognize How to Use Information Responsibly, Ethically, and Legally. Because TRAILS-9 is available free online, it's easy for both school librarians and students to access. School librarians can set up as many test sessions as they need and all student scores are password protected.

WHY DO TRAILS?

The primary reason to use TRAILS-9 is to assess student learning of information literacy skills. Additionally, because TRAILS-9 is formatted as a standardized test, it offers some unique benefits. First, tests like TRAILS-9 quickly capture a large amount of information about student learning (Oakleaf 236). By including questions in five areas of information literacy skills, school librarians can get a thorough picture of student skill weaknesses and strengths. Second, TRAILS-9 can be used for pre- and post-testing of students such as measuring differences in student learning from freshman year to graduation. Third, the report module in TRAILS-9 provides easy access to student scores, both individually and as a group. This minimizes the time school librarians spend analyzing assessment data. Available statistics include individual, class, local, state, and national performance levels (Kent State University Libraries and Media Services). Finally, tests like TRAILS-9 are widely accepted by stakeholders including students, teachers, parents, administrators, and library colleagues as acceptable measures of student learning. TRAILS-9 is a great program advocacy tool.

School librarians also understand that the assessment of student learning is a professional responsibility. The Ohio K-12 library media academic content standards, the NBPTS library media standards, and AASL's *Empowering Learners* guidelines underscore the importance of learning assessment (see Figure 1).

STEP-BY-STEP TRAILS-9 PROCESS

The process for using TRAILS-9 can be divided into five steps and further subdivided into multiple tasks (see Figure 2).

At my high school, I used this step-by-step TRAILS-9 process as a guide to collaborate with classroom teachers and gain an assessment of student learning that I am using to revise future information literacy instruction.

1 DEVISE AN ACTION PLAN

All freshmen are required to take social studies in my school district, so I began my action plan by getting on the agenda of the first social studies department meeting of the year. I shared the TRAILS-9 website and provided handouts to give teachers background information about TRAILS-9 and how it can be integrated into their social studies curriculum. At the conclusion, all of the social studies department teachers had a better understanding of how this pilot would eventually impact the information literacy instruction of all students. The freshman teachers agreed to allow their students to take the TRAILS-9 test, choosing a test date in October for the pre-test and one in May for the post-test. As an incentive, the teachers decided to give classroom points for taking the test regardless of their TRAILS-9 scores.

Then I launched the TRAILS-9 pilot project. The third week in September, I created a bulletin board to attract student and teacher interest in TRAILS-9 and put a flier in the social studies teachers' mailboxes and the teachers' lounge. I mentioned

FIGURE 1. Professional Responsibility for Assessment

Ohio K-12 Library Media Academic Content Standards	• 1.C.3. Collaborate with teachers to assess student learning. • 1.C.4. Assess the progress of and collect data on all library instructional activities.
NBPTS Library Media - ECYA Standards	• Standard IV. Accomplished library media specialists integrate information literacy through collaboration, planning, implementation, and assessment of learning.
AASL Empowering Learners Guidelines	• Guideline: The school library media program is guided by regular assessment of student learning to ensure the program is meeting its goals—implements critical analysis and evaluation strategies • Guideline: The school library media program is built by professionals who model leadership and best practice for the school community—uses research to inform practice and makes evidence-based decisions.

details of my plans in casual conversation with colleagues. Next, I generated a list of TRAILS-9 student codes and familiarized myself with the website by examining the sample tests, reports, and the related resources. Since the October test date coincided with Teen Read Week, I decided to motivate students by placing the names of all students taking TRAILS-9 in a random drawing for prizes. Advertising the drawing generated a lot of interest; students asked repeatedly how they could win.

2 ADMINISTER TEST

Just before the pre-test, participating social studies teachers reminded me about sharing the class and individual test results with both teachers and students, so a date for sharing was set in early December. Students could come to the library and view their individual results at their leisure.

I launched TRAILS-9 by explaining the directions and handing students strips of paper that contained their names, pre-assigned codes, and the TRAILS-9 session Web address. During each class period, the teacher and I reminded students that they would receive classroom points for taking the test and noted that points would not be deducted if some of their answers were wrong. I told them we were trying to find out how "information literate" the freshmen were, and that the TRAILS-9 results would help their teachers and me learn what skills to teach this year and what changes to make to future information literacy lessons.

> "Teacher-librarians nationwide can use the TRAILS-9 process to collaborate with classroom teachers, assess student learning, revise their information literacy instruction, and produce evidence of their library's impact on student achievement to share with stakeholders."

Students displayed various behaviors during the test ranging from confusion to excitement. One or two students in each class typed in the wrong address and could not access the test until I helped them re-type the correct URL. A few students simply clicked answers randomly and hit "finished." Others labored for up to 40 minutes, working diligently to respond to all of the questions. I overheard the term "Boolean?" muttered frequently.

As each student finished TRAILS-9, they placed their student code strips into the random drawing and received a candy treat. Students who had been absent came in during the next week to "make up" the test. No technology glitches occurred during any TRAILS-9 sessions.

3 ANALYZE RESULTS

During the first week of November, I generated reports and began the analysis by skill area. I mapped incorrect answers to each skill area and created an informal report of the results. Some of the initial information was significant. Most of my freshmen students understood the concept

FIGURE 2. Step-by-Step Process for Using TRAILS

Devise an Action Plan	Administer Test	Analyze Results	Share Results with Teachers & Students	Revise Instruction
• Initiate conversation to set up meeting with teacher(s). • Arange specific time, location, place, and resources. • Place meeting date on building calendar to avoid schedule conflicts. • Invite teachers in other departments. • Inform and invite principal. • Prepare short presentation demonstrating TRAILS. • Create a bulletin board and a flyer to ignite interest. • Hold meeting and discuss selection of target classes with teacher(s). • Decide whether to collect class results vs. individual student results. • Discuss workarounds to any barriers to the administration of TRAILS.	• Finalize specific testing dates and periods with teacher(s). • Continue sharing information with teacher(s) about the uses of TRAILS results. • Offer to share TRAILS results with students and teacher(s). • Open a TRAILS session for all students and assign codes with or without names. • Assemble students in library at computers. Provide directions and explain goals. • Distribute codes to students. • Administer 30-question test. • Close session (when all students are finished).	• Generate and print reports. • Begin analysis of TRAILS results by skill area. • Map incorrect answers to matching information literacy skill areas. • Create an informal report analyzing the significance of the TRAILS results.	• Secure a spot on department team meeting schedule. • Prepare informal presentation of aggregated results. • Share results with teacher(s). • Specify date to share results with students. • Share results with students. • Gather feedback from students and teachers.	• Identify areas of information literacy skill weakness. • Align skill weaknesses with instruction content. • Collaborate with teacher(s) to discuss skill weaknesses. • Replace/revise current instruction targets with ones designed to address weaknesses. • Prepare new instruction.

> "The primary reason to use TRAILS-9 is to assess student learning of information literacy skills."

of primary resources, which pleased social studies teachers because it is an Ohio Graduation Test (OGT) requirement. 91% of my students placed importance on asking a librarian for help and 95% knew that the public library is the best source for new books.

4 SHARE RESULTS WITH TEACHERS AND STUDENTS

I created a results chart and began an ongoing discussion about the information literacy skill strengths and weaknesses revealed by TRAILS-9. Next, I shared the TRAILS-9 results with each class of freshmen students and told them about the post-test scheduled for May. Some freshmen came to the library and viewed their individual results online.

In addition to the quantitative results, interviews and personal observation revealed some notable affective and behavioral results. My freshmen thought some of the questions had "too many parts" causing them to lose focus so they moved on to the next question. One freshman said he liked to do anything that involves a computer. A few students were worried about running out of time but then just settled in, relaxed, and advanced through the test pretty quickly. Another student was surprised by the charts and screen shots on the test. He mentioned the OPAC and book title pages. Another student liked that she could go back at the end and check her answers. One student said the prizes weren't that great. A sample of student comments is below:

- "What's Boolean?"
- "Did anyone get all the answers right?"
- "It took too long; I skipped to the end."
- "Doing the test online made me nervous."
- "How come we had to put numbers [codes] in?"
- "Are we going to take more tests and draw prizes?"
- "The OPAC question was easy; we did it in middle school!"

Some students concentrated the entire period and reviewed earlier questions because I challenged the freshmen to surpass the Ohio and national averages I shared with them. One person muttered about the chart that covered nearly half a page and indicated it was complicated.

The comments of teachers and administrators were also revealing:

- "The codes were interesting."
- "I didn't realize the test questions would be in a different order for each student."
- "My students heard about it; can they take it too?"
- "Will you share the results with my students?"
- "Can you tell me how each student did?"
- "Teachers seem okay with it so it's okay with me."

5 REVISE INSTRUCTION

Throughout the balance of the school year, the social studies teachers and I worked collaboratively to determine the information literacy skills on which freshmen need to concentrate as revealed by TRAILS-9. Once we identified their strengths and weaknesses, we addressed future freshmen orientation lesson content, and I revised my current and future lesson objectives in collaboration with several subject area teachers.

I began adding new content across grade levels in order to bridge all of my students' information literacy skill gaps. For example, TRAILS-9 revealed that 85% of the freshmen understood a table of contents; 81% recognized a book publisher, 87% knew how to search by title in a library OPAC, and 85% have internalized MLA citation format elements. I will limit coverage of these terms to a brief review and insert more complex skills into future lessons.

In May a TRAILS-9 post-test was administered to freshmen to determine skill acquisition. These results also contributed to the revision of future freshmen library lessons. In a separate development, senior teachers agreed to permit graduating seniors to take the TRAILS-9 test to establish a graduate benchmark for the purposes of comparison with future classes. (Note: TRAILS-12 and TRAILS-3 tests for seniors and third graders are being developed and will be available soon.)

CONCLUSION

By using this step-by-step approach, any school librarian can devise a TRAILS-9 action plan, administer tests, analyze the results, share reports with teachers and students, and revise instruction. School librarians nationwide can use the TRAILS-9 process to collaborate with classroom teachers, assess student learning, revise their information literacy instruction, and produce evidence of their library's impact on student achievement to share with stakeholders. TRAILS-9 is an effective assessment tool to use to measure your information literacy instruction program and demonstrate the value of the library's contribution to student achievement.

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Patricia L. Owen *(NBCT) is a school librarian at Eastwood High School in Pemberville, Ohio, and can be reached at powen@eastwood.k12.oh.us.*