Grounded Technology Integration: K-6 Literacy

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Web 2.0 tools, digital stories, podcasts, and concept-mapping software all offer exciting possibilities for supporting K–6 literacy development. Assisting young readers and writers is a complex and challenging task. With so many technology resources available for literacy learning and teaching, technology use must be a connected and meaningful part of instruction instead of “one more thing to do.” How do we integrate technology effectively in K–6 literacy learning? How can we support teachers in this process?

Learning Activity Types

One way to help teachers integrate technologies is to focus on instructional planning. Research indicates that teachers plan instruction primarily according to students’ curriculum content-based learning needs. They typically organize lessons, projects, and units around content-based learning activities. Our work suggests matching technology-integration strategies to how teachers plan, rather than asking teachers to design instruction around a particular educational technology.

To assist teachers with technology integration, we offer a comprehensive set of learning activity types for each curriculum area, with specific educational technologies that can best support the types of learning done within each activity. We have organized the K–6 literacy learning activity types into subcategories to form an informal taxonomy according to the instructional processes involved in reading and writing. Once teachers determine the learning goals for a particular lesson, project, or unit, they can review the learning activity types, then select and combine the activities that will best help students achieve the targeted learning goals. As educational technologies are also listed for each learning activity type in the taxonomy, choosing the activities also helps teachers select technologies that support the instructional plan in functional and constructive ways. We think of this as “grounded” technology integration, because it is based in content, pedagogy, and how teachers plan instruction.

K–6 Literacy Activity Types

K–6 literacy activity types are classified according to two processes: reading and writing. To date, we have identified 88 activity types. Space restrictions do not permit us to share the entire list here, but it is available on the Activity Types Wiki. Sample activity types are presented on page 31, with one example for each subcategory.

Each includes a brief description and a list of possible integrated technologies.

Combining Activity Types: An Example

Rarely, if ever, would a teacher use a literacy learning activity type in isolation. The following example illustrates how several activity types might be combined during a literature circle project between two fifth grade classrooms in two different locations.

Literature circles (a reading activity type) are used in elementary classrooms to encourage literary interest and discussion. Typically, students meet in small face-to-face groups to discuss the book they are reading. This process can be extended by including activity types such as making predictions, discussing, and drawing conclusions. In one example, a fifth grade teacher chose to create several “book blogs” to help students discuss their books with peers from a different school, thus providing opportunities to share ideas and perspectives with a broader audience.

By Denise Schmidt, Judi Harris, and Mark Hofer
## Sample Activity Type

### Reading-Process Activity Types

The 56 reading-process activity types offer a variety of ways to help students build, practice, and reinforce their reading skills. They are divided into six subcategories: pre-reading, reading, post-reading, vocabulary, comprehension, and fluency.

### Six prereading activity types prepare students for reading, activating their prior knowledge.

**Introduce Vocabulary**
- Students learn unfamiliar keywords before they read
- Example Technologies: Educational software, Read•Write•Think, Reading Pen, interactive whiteboards

### Twelve reading activity types help students check their understanding as they read, integrating new learning with existing knowledge.

**Literature Circles**
- Students choose their own books regularly to read and discuss the books
- Example Technologies: Storyline Online, BookFlix, e-books, blogs, wikis, online discussion groups, podcasting

### Nine postreading activity types assess students’ interpretation and comprehension of the text.

**Projects/Artifacts**
- Students create a project or artifact as a culminating activity that illustrates what they have learned
- Example Technologies: Comic- and/or video-creation software, drawing software, multimedia software, podcasting

### Three vocabulary activity types increase the number of words that the reader recognizes and uses.

**Vocabulary Analysis**
- Students build and sort words to study their patterns
- Example Technologies: Word processing, Read•Write•Think, drawing software, interactive whiteboards

### Sixteen comprehension activity types ascertain a reader’s understanding of a text.

**Compare and Contrast**
- Students identify how things are alike and different
- Example Technologies: e-books, concept-mapping software, educational software, Read•Write•Think, interactive whiteboards

### Ten fluency activity types improve reading speed and the ability to read with expression.

**Storytelling**
- Students tell stories or narratives, often by improvisation or embellishment
- Example Technologies: Video-creation software, voice-recording software

## Writing Process Activity Types

Thirty-two writing process activity types are organized into five subcategories: prewriting, writing, postwriting, writing conventions, and writing genres. One sample activity type is shown below for each subcategory.

### Eight prewriting activity types prepare students for writing by activating their prior knowledge.

**Brainstorming**
- Students list as many topics as they can to write about
- Example Technologies: Concept-mapping software, word processing, Read•Write•Think, interactive whiteboards

### Five writing activity types help writers improve by revising, editing, and considering feedback from others.

**Responding**
- Students offer suggestions to peers for improving content, organization, and clarity of writing
- Example Technologies: Word processing, videoconferencing, wikis

### Five postwriting activity types provide opportunities for students to share, publish, evaluate, and present their final writing pieces to an audience.

**Presentation**
- Students combine textual and visual elements to present their writing for peers/others
- Example Technologies: Drawing software, multimedia software, video-creation software

### Five writing-conventions activity types help writers enhance the readability of their work.

**Grammar**
- Students use formal rules about language use (parts of speech) when writing
- Example Technologies: Word processing, Gamequarium, Read•Write•Think, interactive whiteboards

### Nine writing genre activity types prepare students to write across genres while understanding form, purpose, and content for each.

**Poetry**
- Students express imaginative awareness by using repetition, meter, and/or rhyme
- Example Technologies: Word processing, Read•Write•Think, drawing software, multimedia software
As a culminating activity, students in both classrooms created projects/artifacts as “digital book talks” to extend their understanding and get others interested in reading the books. Each book talk provides the audience with a glimpse of the book’s plot by sharing its major conflict, but to entice others to read the book, it does not reveal the plot’s resolution. Students begin the process by brainstorming ideas. Then they collectively write a summary that becomes the script for their book talk. Using that script, students develop a storyboard that outlines which visuals and audio they will use. The students locate pictures, capture video, and record the narration for their book talks. After gathering these digital resources, each group produces a book talk using digital editing software. Once students complete their digital book talks, they share them with multiple audiences. Both classes can upload their videos to TeacherTube or exchange their media files via e-mail. The goal of these presentations is to motivate their viewers to read the featured books.

**Invitation for Collaboration**

We recognize that teaching reading and writing at the elementary level is complex and challenging. Although we’ve identified 88 K–6 literacy learning activity types, we expect that number to change along with the technologies that support them. We invite you to help expand, refine, and further develop this taxonomy. Please visit the Activity Types Wiki and share your ideas via the online survey there.

**Resources**

Learning Activity Types Wiki: http://activitytypes.wmwikis.net/World+Languages

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