Using technology enhancement in the literature circle as an accommodation for learners with special needs

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Abstract: Today’s teacher has many responsibilities, including that of a reading literacy teacher, which are affected by the rising number of students with special needs being served in an inclusive classroom setting along with non-disabled students. Educational professionals are charged by law to make accommodations to education to allow all students access to the educational situation. One method of accommodation to education is through the use of technology. The literature circle is a cooperative activity involving higher level thinking that is being used to support literacy learning. Technology can be used to accommodate students with special needs in a literature circle by providing accommodations to student interactions, reading material, and role activities and assignments.

Today’s teacher is not only a subject area teacher, but also a reading teacher, a technology teacher, and a teacher of students with special needs.

Today, every teacher is now a reading teacher, because every teacher is responsible for promoting literacy in his/her content area. Teachers are also expected to teach their students to use higher level and critical thinking skills and are required to make accommodations for students with special need in their class, an occurrence that has become more common in today’s schools. The literature circle is an ideal literacy activity for practice in higher level thinking in a collaborative environment. By integrating technology into literature circle activities, teachers can provide enhancements for all students and accommodations for students who need them.

1. Reading

While reading literacy has always been a key ability for student success in school, today there is a strong push for assisting and ensuring that every student is literate. Programs such as No Child Left Behind (NCLB) and Reading First require that states, school districts, and schools address the reading literacy issue. Today’s teacher must focus on the five key areas that scientifically based reading research has identified as essential components of reading instruction: phonemic awareness, phonics, vocabulary, fluency, and reading comprehension (U.S. D.O.E. 2002). NCLB not only affects regular students, but also special needs students. NCLB goals state that all students, including students with special needs, should be held to challenging, though modified or accommodated, achievement standards that enable them to approach, and even meet, grade-level standards, and that schools must ensure access to the general curriculum (U.S. D.O.E. 2005).

The meaning of the term literacy has changed. Previously literacy was the ability to read words on paper, such as from books and newspapers. In 1991 the U.S. Congress, with the National Literacy Act, redefined literacy as "an individual's ability to read, write, and speak in English, and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential" (NIFL 1991 “What is the NALS?”). This new concept of literacy goes beyond reading from paper to include reading from computer screens and personal devices, and includes media, technology, information, and other critical literacies (Semali 2001). Educators should integrate these information and communication technologies into today’s literacy curriculum in order to prepare students for their future. The International Reading Association (IRA) believes that much can be done to support students in developing these new literacies. IRA (2002) states that students have the right to:

- have teachers who are skilled and effective at using new literacies for teaching and learning;
• a literacy curriculum that integrates these new literacies into the instructional program;
• instruction that develops these literacies for effective use;
• assessment practices in literacy that include electronic reading and writing;
• opportunities to learn safe and responsible use of information and communication technologies; and
• equal access to information and communication technology.

2. Inclusion

A concern for many teachers, is teaching these new literacies within the changing model of the classroom. Today’s classroom model is an inclusion model. The inclusion classroom involves teaching students with disabilities in regular classrooms, rather than in special schools, classrooms or pull-out locations. The federal Individuals with Disabilities Education Act (IDEA) calls for serving children with disabilities in the least restrictive environment, the regular classroom, if possible (Education Week, 2001).

The IDEA regulation states: "Each State must establish procedures to assure that, to the maximum extent appropriate, children with disabilities ... are educated with children who are not disabled, and that special education, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily.” 20 U.S.C. 1412(5)(B).

The size and growth in the numbers of students classified as special needs students and providing them accommodations to participate in classes is a concern for all teachers. During the 1997-98 school year between 94.7 and 97.8 percent of students with disabilities were served in schools with their nondisabled peers (US Dept. of Education 2000). Teaching students with special needs should not only be focused on students with physical and cognitive disabilities, but should also include students to whom English is a second language, the ESOL (English for Speakers of Other Languages), ESL (English as a Second Language), or LEP (Limited English Proficient) student. Currently forty-two percent of all public school teachers have at least one ESOL/ESL/LEP student in their classes (NCES 2002).

With the growing focus on addressing the needs of all students, including those with disabilities, inclusion is a component of school restructuring agendas (McGregor & Vogelsbert, 1998) and today’s classroom teachers need to be prepared to adapt instruction by changing one or more aspects of the material being taught, such as the method, amount, evaluation, assistance, environment, and material (Beninghof & Singer, 1995).

Assistive Technology

Assistive technology (AT) devices are tools that can assist students with special needs, by which many students can decrease their isolation and become part of regular subject area classrooms. Assistive technology can provide a method for an individual who is experiencing a disability to participate in a classroom. As the inclusive education of all students occurs more frequently within the standard classroom, it becomes important to incorporate assistive technology approaches and accommodations for those students who need them.

Assistive technology is “…any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities…” 20 U.S.C. 1401 (33)(250)

The use of assistive technology tools and devices can increase student independence, increase participation in classroom activities and simultaneously advance academic standing for students with special needs, by providing them equal access to their school environment. One example of the application of high-technology is having students use voice input for writing with a word processor (ATEN, 2002). Assistive technology, in a broader sense, is a technology that helps someone participate in his or her environment through adaptation and accessibility such as
by using computers as an electronic aid (NSNET n.d.). The use of technology in a literature circle can be a form of assistive technology, enabling all students the opportunity to participate.

3. Literature Circles

A strategy that is becoming more common in teaching students higher level thinking and literacy skills is the literature circle. First introduced in 1994 by Harvey Daniels in his book, Literature Circles: Voice and Choice in Book Clubs and Reading Groups, literature circles provide a way for students to engage in critical thinking and reflection as they read, discuss, and respond to books or other reading materials. All literature circles share the following three basic elements: diversity, self-choice, and student initiative (Daniels, 2002).

Literature circles are known by different names including: literature studies, literacy circles, book clubs, literature discussion groups, book clubs, and cooperative book discussion groups. A literature circle can be much more than a book club. Usually a book club's discussion only centers on events and plot, while a literature circle promotes discussion from varying perspectives. This type of discussion can provide circle members with a deeper understanding of the text. During the reading of the selected materials, students complete various jobs or roles emphasizing skills such as questioning, vocabulary development, and writing (MCPS 2000).

This student centered cooperative learning reading activity is designed for groups of four to six students at any grade level or subject area. Within each group individual members are assigned specific roles, with specific responsibilities, which are used guide the group in a discussion of the text material they are all reading. The literature circle assignments or roles help guide students to deeper understanding of what they read through structured discussion and extended written and artistic response. Literature circles are a way for students to cooperatively share reading experiences.

4. Technology Integration

By integrating technology into literature circle activities, instructors can use the technologies as accommodations for their students with special needs, and as instructional enhancements for all students. Teachers can integrate technology into the literature circle along three dimensions: communication between students; the text material being read; and the student role activities (see Figure 1).

![Figure 1: Technology integration continuum](image)

Communication between students can range from a non-technology, face-to-face, interaction in class, to having students interacting through a telecommunications system, such as by using an online course management system. The text material being read for the literature circle can range along the technology continuum from text printed on paper, to fully digitally presented text, such as reading material on web pages or in eBooks. Student activities or
roles can be accomplished using paper and pencil or can be enhanced by integrating activities that use search engines, paint programs, concept mapping software, digital recording, and other software programs. Within a class, these technology activities can be integrated for just a few students using technology, such as those needing accommodation, to all student activities integrating technology.

5. Interaction Accommodation

One common issue that can affect the students with physical disabilities is that they often have extended absences from school. These students become hospital/homebound students and are usually unable to physically attend school for some period of time for medical reasons.

Allowing a hospital/homebound student to interact with the other students in a class through telecommunications technologies is an accommodation allowing the student to continue in his/her lessons. Using telecommunications to work with other members of the literature circle allows the student to continue in the cooperative learning activities, even when the members cannot physically get together. In this case the teacher may integrate distance learning technologies for a few members of the class. An internet or video conference system could be used as an accommodation if a class held a literature circle with one or two students from a discussion group who are unable to physically attend class, but who can still participate virtually. Another option is to use an asynchronously internet based online course management system, where the discussion circle could interact with each other using applications such as threaded discussions and or email.

The distance learning environment can also be used for all members of a discussion group or the class, in which students participate in their discussion groups as a homework activity. This approach would require that all students have internet access from their home. The web-based learning environment can itself be an accommodation for many students with special needs. A large number web-based interactions in a course management system are asynchronous, and which provides accommodations required by many students with special needs by allowing them extended time to communicate. Assistive technology specialists from the Florida Assistive Technology Education Network (ATEN) state that when accommodating for students with special needs, instructors should still expect the students to communicate and they should provide students with: opportunities to interact with others; varied models of print use; choices, sufficient time for them to respond; and opportunities to communicate (2000, 2002). All of these expectations can be accommodated in most asynchronous distance learning environments and relate well to the principles and activities of a literature circle.

6. Reading Accommodation

One of the most common accommodations provided for students with special needs is to offer the text material as electronic text. For example printed text and textbooks can create a barrier for dyslexic and visually impaired students. Electronic forms of text can be easily adapted to better meet student needs by using technology, such as enlarging the font size, creating an audible version, improving the contrast between the text and background, and creating reading summaries. By using an electronic version of the material to be read teachers can make information more accessible to students with variety of disabilities that can effect reading.

The reading material for a literature circle can be changed to an electronic format. The text in a digital form provides features that traditional paper books do not – users can often control the look of the electronic text, write and save notes within the text, and highlight text, all with a computer display. Handheld reading devices are accommodating because of their size and weight, and handheld devices are usually touch screen based with controls usually using a single finger, features which are important for students with limited mobility and strength. Electronic text can also be transferred to other types of displays, such as enlarging video displays, and refreshable Braille displays.

The reading material can be supported with audio versions of books, such as books on CD. Students reading from a printed text while listening to an audio recording of the book have been shown to have improved fluency and comprehension (Recorded Books 2004). With electronic text, students can use a computer with text-to-speech
software to have a computer read the text aloud. Using additional tools a teacher or student can adjust the text such as by using MS Word’s Autosummarize tool, reducing the length or creating summaries of the content.

One form of electronic text is the eBook. In eBook programs the text display is usually adaptable, allowing selection from a variety of font sizes and styles. Students can select the one that is most appropriate or accommodating for themselves. Larger text sizes can assist students who have vision issues or have motor disabilities that affect eye movement. Some of the eBook programs have integrated text-to-speech programs to read aloud when on a desktop or laptop using either speakers or headphones. Many eBook programs provide interactive dictionaries that allow users to select any word within the eBook and get a definition instantly, or find a translation to another language, supporting cognitive and second language issues. Some eBook programs will allow the reader to interact with the book, such as by writing notes, highlighting text, bookmarking pages, and adding their own drawings. All of these engagements can increase a student’s attending to and comprehension of a given work.

7. Activity/Role Accommodation

For students participating in literature circle activities the use of technology to complete their assigned task or role can be an accommodation. Many students with learning or physical limitations can complete assignments more easily and better by using technology tools, while they may be impaired by tools such as paper and pencils. For example many students with dyslexia, Tourette’s, attention deficit hyperactivity disorder (ADHD) have problems with handwriting (Bright Solutions for Dyslexia, LLC 1998, Tynan 2005, Jewers n.d.) and therefore have trouble completing assignments involving writing on paper. For some students with fine motor control issues the inputs and controls of a computer are easier to operate, decreasing the amount of time and frustration for them to complete their work.

Even students with severe disabilities can often participate in literature circle activity when using a computer. Many of these students have mobility or coordination issues and a computer gives them options for how they input their work, such as by voice controls. While some students may need specialized keyboards, mice, or microphones, the end result is that the student participate actively and at the same level with the other students in his/her class. While some may think of the computer as an advanced form of typewriter, a computer can provide much more than just word-processing. For a student with disabilities a computer can provide him/her opportunities that would be impossible without the computer, including communication, writing, and drawing.

Conclusions

Literacy is one of the main concerns of today’s educational system. Beyond reading and writing are a wide range of literacies that include technology and media for all students. The literature circle is an excellent collaborative activity that enables students to work at higher thinking levels while they are engaged in literacy learning. The use of technology in the literature circle, for student communication, as a reading tool, or in the completion of assignments, can be an excellent enhancement for many, and a necessary accommodation for others.

References


