Seventh grade students were tested on their knowledge of sentences and nouns in a language arts classroom. The classes consisted of 28 males and 31 females. All students were Caucasian with the exception of two African-American males. Students were predominantly from middle class families. All three classes were grouped heterogeneously. During instruction for two units, classes were taught with the following approaches: (1) using traditional methods of book work and handouts for one unit, and (2) using technological aids such as Microsoft PowerPoint for a second unit. Test results from three classes during both units were compared. The data indicates that when using technological aids as teaching tools, student test grades increased, especially for low-achieving students or for those with learning disabilities. A technology survey was also used to establish each student’s comfort level with technology and their attitudes towards the use of technological aids in the classroom.

**Keywords:** classroom instruction; classroom technology; technology enhanced learning; technological integration; pedagogy; powerpoint presentations; student centered learning

**INTRODUCTION**

The Bellefonte Area School District recently acquired ceiling-mounted LCD projectors for use in all school classrooms. The projectors have the capability to project images and video from teacher computers, VCRs, DVD players, and television sets. Teachers were also given a remote to turn on the projectors, as well as a wireless remote to change between computer and video sources. This remote can also be used as a wireless means of operating PowerPoint presentations and as a “mouse” for searching the internet.

Seventh grade language arts teachers have been plagued by a lack of grammar textbooks for our students. There are not enough books for each student to have his or her own copy. As a result, many teachers utilize overhead projectors with transparencies and homework packets to teach grammar. Many students find this means of teaching as stoic and ineffective. Therefore, the purpose of this research was...
to measure the attitudes and achievement of students when comparing traditional methods of teaching versus the use of an overhead LCD projector in conjunction with PowerPoint presentations.

REVIEW OF THE LITERATURE

Technology is everywhere in today’s schools and larger society. For the current youth generation, the Internet has **always** existed. Online technologies have profoundly contributed to a dramatic technocultural shift in contemporary society, transforming how we learn, work, play, and socialize (Steinkuehler, C., University of Wisconsin–Madison). For those who have grown up with such technologies, this heterogeneous, networked, online global, “flat” (Friedman, 2005) world is the unremarkable mainstream.

Technology is available in our classrooms, and it is changing the way educators think about teaching and the way students think about learning. Research shows us that technology generally improves performance when the application directly supports the curriculum standards being assessed (Cradler, McNabb, Freeman, et al., 2002). A review of studies conducted by the CEO Forum (2001) emphasizes that “technology can have the greatest impact when integrated into the curriculum to achieve clear, measurable educational objectives.”

Extreme advances in the use of technology as a teaching tool are more apparent every day. Many researchers point to the great value that technology brings in motivating students and increasing achievement. However, others still find that technological resources are misused and abused and can create more problems than good. The technological debate will continue to ignite the flames of controversy among teachers across the country. It is clear that technology will continue to change the way students learn for decades to come.

In reviewing the vast field of information related to technology, most authors highlight the many positive uses of technology. Today, many new programs exist that were mere dreams 10 years ago. Students now use laptops, reading programs, countless word-processing software programs, and the Internet to gather, learn, and present information. Most proponents of technology point to the great increase in student motivation over the past 10 years. Students at this point in education have grown up with computers and are more than happy to show others how to use them. Students today are those of the millennial generation. The millennial generation are those born between 1982 and 2002. “When Generations Collide” (Butterfield, The Forbes Group, 2005) shares the following about millennial, “The millennials are realistic, optimistic, progressive, loyal, inclusive, collaborative, and scheduled. They have always been consulted. Millennials have always known diversity. They want constant feedback and they want it to be timely and two way. They are great collaborators and see leadership as participative. Millennials were born with technology.” Butterfield’s comments clearly illustrate the need for students to “branch out” from the more traditional assessment methods of yesteryear. They have a tremendous mastery of surfing the Net and creating extraordinary presentations. The applications for students seem endless. The American educational system has done its best to keep pace, providing Internet connections to virtually all schools (99 percent in 2001), 87 percent of which are accessible to students via classrooms, libraries, computer labs, and other regulated spaces (Kleiner & Farris, 2002). Still, the culture of schooling carries on with business as usual—as it was 10 or 20 years, ago, that is. As a Pew Internet & American Life Report (Levin & Arafeh, 2002) on the digital disconnect between children and their schools details with excruciating clarity, what students do with online technologies outside the classroom is not only markedly different from what they do with them in schools (e.g., instant messaging, blogging, sharing files, consuming and producing media, engaging in affinity spaces, gaming, building social networks, downloading answers to homework, and researching for school projects and assignments), but it is also more goal-driven, complex, sophisticated, and engaged (Steinkuehler, C., University of Wisconsin–Madison, retrieved...