# Teaching the English Language Arts With Technology: A Critical Approach and Pedagogical Framework

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**Abstract**

In order to cultivate the kind of techno logy literacy in our students called for by leaders in the field, it must simultaneously be cultivated in our teachers. While the literature in the field of English education demonstrates the efficacy of computer technology in writing instruction and addresses its impact on the evolving definition of literacy in the 21st century, it does not provide measured directions for how English teachers might develop technology literacy themselves or specific plans for how they might begin to critically assess the potential that technology might hold for them in enhancing instruction. This article presents a pedagogical framework encompassing the necessary critical mindset in which teachers of the English language arts can begin to conceive their own "best practices" with technology —a framework that is based upon their needs, goals, students, and classrooms, rather than the external pressure to fit random and often decontexualized technology applications into an already complex and full curriculum. To maximize technolo gy's benefits, educators must develop a heightened, critical view of technology to determine its potential for the classroom. The steps for doing this include:

1. To recognize the complexity of technology integration and its status in the field.
2. To recognize and understand the evolving and continuous effect computer, information, and Internet technology has on literacy.
3. To recognize the importance of creating relevant contexts for effective technology integration by
   - Developing a pedagogical framework.
   - Asking the important questions.
   - Establishing working guidelines.
   - Implementing these strategies while integrating technology.
   - Reflecting on the experience and revisiting these strategies regularly.

Included as part of the article are four brief cases of teachers whose practices demonstrate a critical approach to technology integration.

Victor Hugo once said, "Nothing is so powerful as an idea whose time has come." Technology, specifically computer technology, is more pervasive than ever before. As such, it has dramatically changed the face of education in the 21st century and will continue to do so, but the extent to which technological change has improved or revolutionized teaching and learning remains a topic of debate among educators.

In the field of English, Barton (1993) claimed that there were two broad areas of technological focus a decade ago: "the *use of computers in writing instruction and the incorporation of technology into concepts and definitions of literacy*" (p. 2). As this article will show, Hawisher (1989) and Selfe and Hawisher (1991) have demonstrated the power of computer technology in writing instruction while Myers (1996), Wilhelm (2000), Gilster (1997), and others addressed the evolution of new conceptions of literacy as a result of the proliferation of computer technology. Pope and Golub (1999) provided general principals and practices for infusing technology, which serve as a good starting point for teachers and teacher educators.

Absent from the literature, however, are measured directions for how teachers might develop technology literacy themselves, as well as specific plans for how they might begin to critically assess the potential that technology holds for them in enhancing their English language arts or methods instruction. This article aims to fill this gap by providing practical strategies for English teachers and teacher educators to develop a critical approach toward and pedagogical framework for technology integration, the first step being to recognize the complexity of the e nterprise.

### Realizing the Complexities of Technology Integration

Despite the influx of large amounts of money being spent on technology for America's schools, specifically information, computer, and Internet technology, the results of this investment continue to be uneven. Bangert-Drowns and Pyke (1999) pointed out that, although there has been a large financial investment in bringing technology to schools, there has been little commensurate investment in preparing teachers to implement it effectively. Although access to computers in schools continues to improve for students, schools are spending only a small percentage of technology dollars on professional development despite the fact that teachers say they need more of it (Ansell & Park, 2003).

Federal a nd state initiatives like the Preparing Tomorrow's Teachers to use Technology (PT3) grants, the Virginia Educational Technology Association (VETA), and the Virginia Society for Technology in Education (VSTE) have made strides in educating teachers to use technology in the classroom, but more needs to be done. A large body of research is speculative of the extent to which technology improves learning, suggesting that more studies need to be conducted (Alliance for Childhood, 2001; Cuban 1986, 1999, 2001; Landry, 2002; Oppenheimer, 2003).

A recent body of literature reveals a "disconnect" between the idealism of those advocating for the use of technology in schools and the reality of integrating technology effectively into today's classrooms (see Cuban, Kirkp atrick, & Peck, 2001). This disconnect is made apparent every time we, the authors, attend conferences where educators, on the one hand, share stories of wireless classrooms and portable laptops, while others lament not having air conditioning and enough textbooks. Such disparity complicates the issue of technology's efficacy in the classroom.

 Postman (1996) warned that technology lulls people into believing that all children will have the same access to information and that technology will equalize learning opportunities for the rich and the poor. Pope and Golub (1999) acknowledged these issues, too, advising, "We need to devise ways of responding and coping with the inequities the division of computer access [presents] between poor children and the middle and upper class children" (p. 95). While significant potential exists for technology to improve learning opportunities for schools with low-income students, issues of access and equity continue to be a challenge today.

The current push for technology applications is not new (Cuban, 1986; Trump, 2001). However, the speed and haste at which new technologies are rushed into schools has often overshadowed the necessary pedagogical discussions that guide the use of those technologies. The fact that most teachers use computers at home more than at school points to the complexities of using technology effectively in schools (Cuban 1999). If teachers' challenging working conditions were better understood and their opinions taken more seriously, policy makers might provide the necessary time, training, and support that could inspire teachers to use technology in the classroom more often, perhaps at a frequency approaching their at-home use and, more importantly, in a much more informed and meaningful way.

Oppenheimer (2003) stated that "education's policy makers, from local school officials on up to state legislators, governors, and even our presidents, have by and large failed [the] responsibility" of approaching technology more critically and with more restraint, "squandering a good many opportunities to make technology, and school as a whole, truly meaningful" (pp. xx-xxi). For now, in the majority of American schools, there is little evidence of a technological revolution in instruction, and teachers continue to be infrequent and limited users of new technology applications for teaching and learning (Cuban, 2001).

Denton (2002) asked the following question of technology: "Saving grace or false prophecy?" Much of the writing about technology tends to characterize it in these extremes, creating what Andrews (1998) refers to as an "either-or" mentality. However, Postman (1992) provided a more accurate assessment of the reality of technology when he wrote that it is "a mistake to suppose that any technological innovation has a one-sided effect" (p. 4). Technology is much more complex, providing both benefits and challenges in varying degrees. Shaw (2003) characterized well the complexities technology poses in his plea for technology and media literacy classes in our nation's schools:

> We live in increasingly complex times, and unless we teach our children how to read about, watch, interpret, understand and analyze the day's events, we risk raising a generation of civic illiterates, political ignoramuses, and uncritical consumers, vulnerable not only to crackpot ideas, faulty reasoning and putative despots but also to fraudulent sales pitches and misleading advertising claims. (p. H4)

Shaw's plea becomes even more important in light of the Kaiser Family Foundation's recent study, in which they found that 68% of kids 2 and younger spend an average of 2 hours a day in front of a screen, either television or computer, while children under 6 spend as much time in front of a screen as they do playing outside and three times as much as they spend reading or being read to (Rideout, Vandewater, & Wartella, E. A., 2003).

In order to inspire the kind of media and technology literacy in our students called for by Shaw and others, we must simultaneously be cultivating it in our teachers. The reality is that technology is a complex, dynamic, and ever-changing part of our society and world today and, given this, it is important to have an informed approach towards its role within our own sphere of influence. For our purposes, this context is the English language arts classroom, with the crucial understanding that technology and media provide yet another critical layer of complexity to defining what English is and specifying its connection to the larger issue of literacy.

### (Re)Considering English and Literacy in the Information Age

To define English as a discipline is not as easy as one might assume. James Moffet (1983) encouraged a view of English that goes beyond heterogeneous content on the one hand and skills on the other to construe English as "all discourse in our native language—any verbalizing of any phenomena, whether thought, spoken, written; whether literary or non-literary" (p. 9). This resistance to pinpointing English as a narrowly defined discipline that does not allow for accommodating a larger sense of what English is has persevered.

In *What Is English* (1990), Peter Elbow provided critical reflections of his and others' experiences in the profession, elementary through college, of the 1987 English Coalition Conference, a 20-year follow up to the historic Dartmouth Conference of 1966. The goal of the 1987 conference was, in part, to see if a consensus about the teaching of English could be reached across levels of schooling in a constructive manner (Elbow, 1990, p. 5). Consistent with Moffet (1983), Elbow was struck by the diversity of answers to the question of defining English: "English is peculiarly rich, complex, and many-faceted. More so, I think, than most other disciplines. We're a satura (satire), a mixed bag" (p. 110). Despite its multifaceted nature, participants at the conference were able to reach some consensus about the teaching of English, if not a definition itself. Conceptualized by Shirley Brice Heath, consensus focused upon the central business of English studies having three main components:

- *Using language* actively in a diversity of ways and settings—that is, not only in the classroom as exercises for teachers but in a range of social settings with various audiences, where the language makes a difference.
- *Reflecting on language use.* Turning back and self-consciously reflecting on how one has been using language—examining these processes of talking, listening, writing, and reading.
- Trying to ensure that this using and reflecting go on in *conditions of both nourishment and challenge*, that is conditions where teachers care about students themselves and what they actively learn—not just about skills or scores or grades. (Elbow, 1990, p. 18)

Inspired by Heath and Berthoff (1978, 1981), the emphasis became the student, who, as an active rather than passive learner, constructs knowledge through the language arts, as well as problematizes these activities by thinking and reflecting upon them rather than ingesting prescribed curricula—a focus consistent with critical literacy and the realization that these activities are often ideologically situated.

Drawing upon Moffet's (1983) notion of the "universe of discourse," English, for us, the authors, clearly refers to the English language arts—reading, writing, speaking, listening, and, perhaps most importantly, thinking. It also includes language, literature and composition, as well as process, product, content, form, and skills. But it involves more.

Our conception of English, reflected in the work of Moffet (1983) and Elbow (1990), is also intimately bound up with critical literacy, specifically Freire and Macedo's (1987) notion of reading the word and reading the world—an influence that figures prominently in the work of many teachers, including English educators Garth Boomer (1985) and Eleanor Kutz and Hephzibah Roskelly (1991). Kutz and Roskelly liken critical literacy to an"unquiet pedagogy," one with power to transform:

> [It] is about exchanging silent classrooms for talk-filled ones, about the role of language in the classroom: about teaching English. It's about how students can be encouraged to question, systematically, the ways that they use language and the ways that language is used in their worlds and the literature they read. It's about how teachers can build o n the language and knowledge of social experience that their students bring to their classrooms. For it is through language that we make sense of the world—that we make the world. (xi-xii)

So with this multifaceted conception of English and literacy in mind, where does technology fit?

### Technology as Literacy: Another Critical Consideration

Understanding computer technology, along with reading, writing, and mathematics, is cited as a core element of literacy in the Information Age, with growing evidence to suggest that computer literacy should not be thought of as simply possessing specific computer skills as much as developing a confident and flexible attitude about technology (Chen, 1986; Ray & Barton, 1991; Selfe, 1989; Zuboff, 1988). Kaplan (1991) pointed out that teachers must come to terms with technology and do so in terms of their educational philosophy. To her, it is crucial for teachers to do so "if they seek to empower themselves or to foster the conditions within which students can empower themselves" (p. 38). Instead of becoming complicit in technological change, Kaplan advocates the need for teachers to become involved and active in this change process. Alluding to Freire and Macedo's (1987) notion of critical literacy, Kaplan (1991) described technology as a "text which we are in a sense given to read but one which we are also enjoined to rewrite" (p. 38) and offers hope in addressing the issue of empowerment in relation to technology and teaching:

> Reading ourselves, as teachers of English in a t echnological world, awakens us to our roles, and our complicity, in the world. To foster the liberatory education that Freire advocates, our practical work must begin with reading the world, but it must not end there, acquiescing to that apparently authoritative text in front of us. Rather, teachers must actively appropriate the world-text, and thus reinscribe—re-vision—the technology of the word. (p. 38)

Where Freire called for society to develop a critical consciousness with respect to the written word, Kaplan asserted the importance of extending this critical awareness to technology.

In *Changing Our Minds: Negotiating English Literacy* (1996), Miles Myers broadened this notion beyond computer technology, arguing that a new form of "translation/critical" literacy is emerging, which demands that teachers be skilled in shifting modes of communication and paradigms of discourse. Myers explained that this new literacy will require "an active, meaning-making student" with a flexible, adaptive intelligence (p. 144). Translation/critical literacy, according to Myers, modifies the traditional practices of individualizing education, "granting special emphasis to the importance of students

becoming literate in all the various manifestations of 'technology,' from group work to using computers, from thinking strategies to writing-to-learn" (p. 158).

While readers and writers can and often do work alone, they also need to be able to work in collaborative settings in order to solve contemporary problems that are often interdisciplinary, ranging from implementing environmental protection to balancing the issues of ethnic diversity to creating fair world trade regulations. As Myers pointed out, "To secure the necessary collaborations for solving these special kinds of problems, the expert reader and writer will need to have a repertoire of hardware tools, software tools, external/internal mentors, and cognitive strategies" (p. 159). Having these tools and being able to manipulate them in order to generate a full range of ideas and show what can be done with them will constitute the acquisition of this new literacy.

Tools expand our cognition, and the current technology industry provides a perpetual stream of new tools daily. In turn, these tools create the need for new skills, flexibility, and a critical eye. Technology, especially in the form of hypertext, which fosters connections on the Internet, has become an essential medium for this emerging literacy, due to its growing prevalence and importance in our society and our interaction with the rest of the world. As Myers asserted,

> One looks smart in the contemporary world by having a distributed network of tools that helps in solving problems—what some have called "distributed intelligence." The creation of one's own customized, distributed system is one of the first requirements of a thinking person in this postmodern age so that we are never without necessary tools if we need them. (p. 168)

Gilster (1997) placed the emphasis more specifically on "digital literacy" or "the ability to access networked computer resources and use them" to understand and [manipulate] information in multiple formats from a wide range of sources" (p. 1). Wilhelm (2000) explained this notion as more of a natural progression, asserting that literacy "has always been about using the most powerful cultural tools available to make and communicate meaning. At the present, those tools happen to be multimedia tools that use video, graphics, sound, and traditional texts in a hypertext format" (p. 7). For Wilhelm, literacy is dependent on knowing how to "critically use these tools to their fullest meaning-making potential" (p. 7).

Myers and Wilhelm saw schools as being an important source for teaching these distributed habits of mind and new conceptions of literacy, and Oates (1989) asserted that many English educators "share a vision...that computers can have a strong positive impact on the quality and scope of their work in teaching English and language arts" (p. xiii). In order to reach the fruition of this vision, however, teachers of the English language arts must first realize the complexities of technology and its potential and probable effects on the discipline, literacy, classroom instruction, and the learning process and develop an informed approach to integrating it into their own practice. As Kaplan (1991) pointed out, technology holds much promise for educators as

> powerful enactments of cognitive and social theories of reading and writing and rich extensions of privilege to those who have been excluded from public discourse. As teachers however, they have an obligation to confront the not-always-benign implications of choices foisted upon them and of choices they themselves initiate. (p. 35)

Ultimately, teachers decide what happens within their own classrooms and, as a result, they have the potential to be the key change agents in reform efforts (Cuban, 1986), especially when it involves technology.

## Considering Technology in the English Language Arts Classroom

While technology surely receives more exposure in mathematics and science, it has also affected the manner in which we approach the teaching of the English language arts in innumerable ways. Word processing has revolutionized the way we perceive, teach, and implement the writing process, especially in terms of editing, revision, and publishing, and the effects have been positive for students as well (Hawisher, 1989; Hawisher & Selfe, 1991).

This application is probably familiar to most teachers at this point. However, much of the current writing about and training for teaching with technology often finds itself mired in the "nuts and bolts" of hardware and software without consideration of whether instruction actually warrants technology use or what the most appropriate methods of integrating technologies into current teaching and learning contexts are. The English teaching community, especially at the K-12 level, is only just beginning to wrestle with the pedagogical complexities inherent in integrating these technologies into writing, language, and literature classrooms. With no clear sense of effective technology use, teachers often ignore it altogether or resort to exposing students simply to whatever current software is most available, with little instructional support or curricular connection. As a result, a larger sense of context is often lacking—in other words, the reasons teachers should use technology and how it can be used to advance their existing curricular goals and classroom practices.

In the teaching of the English language arts, the notion of context has always been important, and research has long supported this. For example, teachers of writing continually look for potential authentic issues, situations, and audiences in order to help their students contextualize their work (Atwell, 1998; Calkins, 1994; Dyson & Freedman, 1991; Elbow, 1998; Elbow & Belanoff, 1995; Graves, 1983; Hillocks, 1986; Kirby, Kirby, & Liner, 2004; Murray, 1990; Zemelman, Daniels, & Hyde, 1998; etc.). Contemporary pedagogical discussions regarding grammar, language, and literature also show the need for addressing context in English language arts classrooms (Andrews, 1998; Hillocks, 1986; Martinez & Roser, 1991; Moore, 1997; Pinnel & Jagger, 1991; Weaver, 1996, 1998; Wilhelm, 1995; Zemelman, Daniels, & Hyde, 1998; etc.).

Technology use must have a relevant context, as well, and in terms of using it to teach the English language arts, developing a critical mindset is key for teachers to implement technologies efficiently and effectively. As Kajder (2003) wrote, "Focus has to be placed on learning with the technology rather than learning from or about the technology" (p. 9). Similarly, Willis, Stephens, and Matthew (1996) advocated an approach "which places technology in the background and the models or theories of instruction in the foreground" (p. xvi).

To integrate technologies in a classroom without an understanding of context risks using technologies ineffectively or inappropriately, thus wasting opportunities for new learning experiences and, potentially, vast amounts of money spent on underutilized technological resources.

In addition to the sources mentioned previously, the authors' school and classroom observation experiences bear this out. Examples include entering a computer classroom

with high-end, Internet-connected computers being used by a high school English department solely as a typing instruction lab. Upon inquiring further, it was discovered that the faculty neither asked for the lab, nor were they given instruction on ways to integrate such technologies in their teaching of literature and writing. On several occasions we have encountered schools with labs that were underutilized by teachers who had received no training on how to make use of computer-assisted instruction, as well as teachers facing resistance to letting their students use the labs for fear that they would damage the computers.

To avoid situations like these and to create a relevant context for technology integration in the English language arts classroom or methods course, we propose the following strategies working in tandem with one another:

- Develop a pedagogical framework.
- Ask the important questions.
- Establish working guidelines.

After implementing the strategies, teachers should try integrating the technology and reflect upon the experience as a way of revisiting and revising the strategies regularly. A detailed description of each strategy follows.

## A Pedagogical Framework

Together, we, the authors, present a pedagogical framework encompassing a critical mindset, in which teachers of the English language arts can begin to conceive their own "best practices" with technology —a framework based upon their own needs, goals, students, and classrooms, rather than the external pressure to fit random and often decontexualized technology applications into an already complex and full curriculum.

Part of our philosophy with regard to technology use is that there should be a genuine need on behalf of the teacher or her instructional goals that the technology fills, recognizing, too, t he importance of enhancing a student's overall literacy. In other words, the power of the pedagogy must drive the technology being implemented, so that instruction, skills, content, or literacy is enhanced in some meaningful way. Otherwise, the technology itself often becomes the content focus rather than the English language arts.

Teachers must avoid the temptation to use technologies without understanding the pedagogical implications of using them. Zeurcher (2002) employed the metaphor of technologies as "power tools" that are not ends in themselves, but tools to be used to enhance the goals of the current project, much like a carpenter would use appropriate tools for a specific task. Thus the pedagogical goals take precedence; the technologies are thought of as another means of reaching those goals.

We believe that this is an important distinction; when technology is not tied to an authentic context and purpose, it will likely become a burden for users. Therefore, when we bring technologies into our English language arts classrooms, we should do so with forethought—we should do so critically, with an explicit understanding of why we want to do it and how it will affect students, instruction, and curricular goals. Figure 1 represents our pedagogical framework for the decision-making process resulting in an informed and effective integration of technology applications into the classroom.

This framework can guide teachers in planning their use of technologies. We developed the framework by defining the issues we consider when we bring technologies into the classroom, by observing other teachers who use technologies, and by engaging others in discussions about problems and challenges they faced when they or their colleagues brought technologies into their existing English language arts contexts.
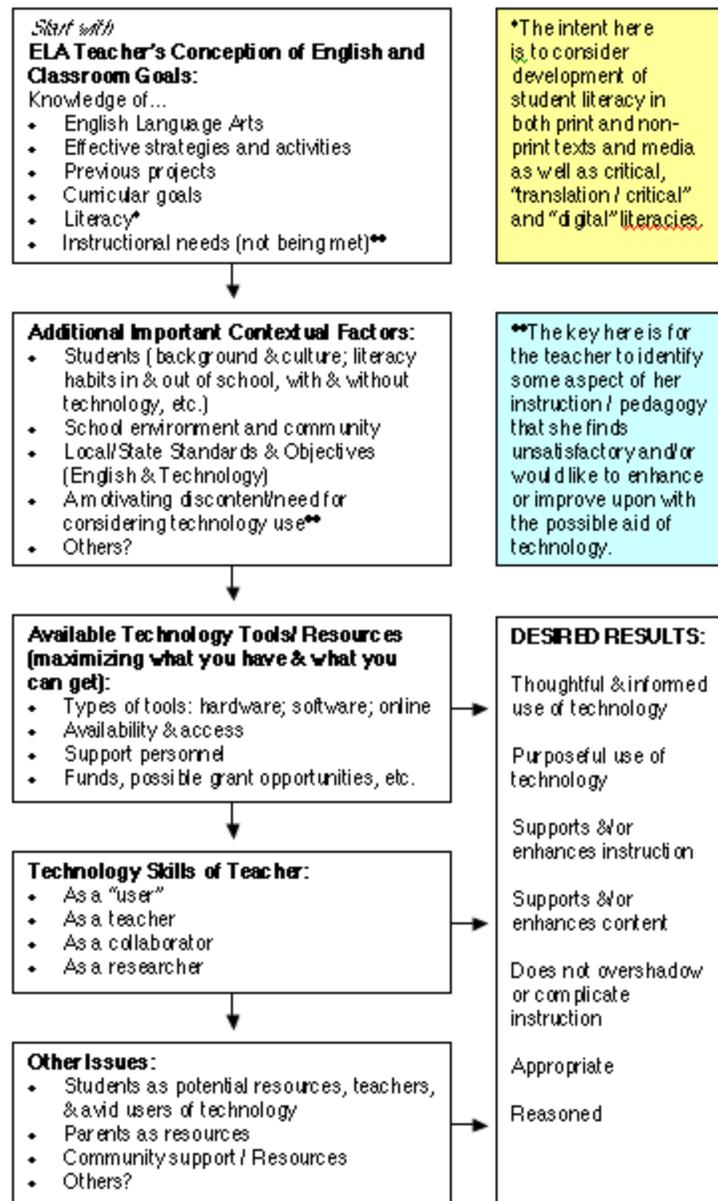


**Figure 1.** A pedagogical framework for developing a critical approach to technology applications.

What we found was that the desired result, "thoughtful and informed use of technology" in a classroom, was dependent on teachers' implicit or explicit understanding of key contextual issues. This understanding includes their conception of English, knowledge of

their goals as teachers without the presence of those technologies, an understanding of the social and pedagogical context in which they taught, knowledge of the available technologies, how to interact with them as users and teachers, and an awareness of other issues that affect the teaching in that context. In short, the decisions that good teachers make every day when considering what to do, how to act, and how to run a successful English language arts classroom are made explicit.

This framework is important in two ways. For experienced teachers, those who successfully integrate technologies in their classes and have done so previously, this framework can give form to their thinking processes and help them make future decisions regarding technologies, as well as help justify those decisions to others. For other teachers, those less experienced with technologies, this framework can guide decision-making processes and serve as a professional development tool. Making these issues visible can also help classroom teachers resist pressure to implement uncritical applications of new technologies and allow them to negotiate for the appropriate time, support, training, and resources they need.

### Classroom Goals of the English Language Arts Teacher: Asking the Important Questions

When we begin to think about using technologies in our English classes, it is important to consider our overall goals. As a part of this process, it is important to develop and entertain key questions to decide how, when, and whether to change an activity, lesson, or unit by incorporating technology. According to Kajder (2003), the tech-savvy English teacher is defined in part by knowing "how to ask questions and, perhaps more important, whom to ask" (p. 11). According to Richards (2000), a veteran high school English teacher, two affirmative answers to the following questions indicate that a teacher should make the change to implement technology:

- Will this use of technology enhance the conversation of the classroom?
- Will it validate the work of the classroom?
- Will it validate the individual?
- Is it worth the time and effort? (p. 38)

Richards' questions may provide a good starting place for reflection, but they do not give much insight beyond deciding whether or not technology might be an option or give any indication of with whom else the teacher might consult. Drawing on our own experiences and of those from the teachers with whom we work, we also suggest the following questions as a means of inspiring a more critical consideration for those teachers of the English language arts and English educators entertaining the thought of integrating technology:

- Why do I want to use technologies? Is the purpose authentic? Purposeful? Do I have an instructional need that is not being currently met that technology might help with? If not, is there an instructional strategy or learning activity that I want to implement that technology might enhance or assist?
- What are my goals and objectives as a teacher for my students? How can the technologies enhance my ability to reach these goals and objectives? How can they enhance my students' abilities to reach these goals and objectives?
- What are my students capable of doing and handling with regard to technology? What are their limitations? What am I capable of doing? What are my limitations? How can we teach each other, grow together?

- What technology resources are available for me and for students, and how can they be used?
- How might issues of access and equity affect our experience?
- If resources are minimal, how can I maximize them? How can I adapt to limited access to technology tools and resources?
- How will the use of technology affect or enhance my students' overall literacy? Are there applications available for developing "translation/critical" literacy (Myers 1996) and/or "d igital" literacy (Gilster 1997)? Are these consistent with my goals and objectives?
- What are the curriculum standards, local, state, and national, which address technology in the English language arts? How might I fold these into a purposeful use of technology in my classroom?
- What other issues do I need to consider? What other resources can I draw upon for insights?

Rather than rely on quantifying the decision to use technology, we suggest teachers use their answers to these questions as a strategy to be proactive in preparing to teach with technology and as a way to flesh out an informed plan for doing it effectively.

Richards (2000) asserted, "As responsible educators, we owe it to ourselves and our students to make thoughtful, not compulsive, choices in instruction. Our answer should never be the same as the mountaineer, "'Because it's there'" (p. 41). While Richards point is valid, the reality is that technology is here, more pervasive than ever and proliferating at a furious pace. This fact raises a nother important consideration in terms of context— our students. Students are often the first to possess new technologies—if not the tools themselves, then the knowledge and skill involved to use them in strategic ways. They often bring a sense of technological know-how and literacy, which most teachers are not aware of and do not know how to draw upon for instructional purposes. While some teachers may not be comfortable using technology themselves, much less integrating it into their teaching, today's students have always lived in an age of modern computer technology, the Internet, and e -mail. While the levels of development may vary among students, they are on average more savvy and more accustomed to life with technology than their teachers.

Berger (2003), Gee (2003), and Smith and Wilhelm (2002) all revealed how students' use of technology, specifically computer and video games, can provide important insights into literacy, learning, and effective teaching practices. According to Gee, "The theory of learning in good video games is close to what I believe are the best theories of learning in cognitive science" (7). He adds, "Furthermore, the theory of learning in good video games fits with the modern, high-tech, global world today's children and teenagers live in than do the theories (and practices) of learning that they see in school" (p. 7).

Berger (2002) explored the effects of storytelling in the transition from print to electronic media, part of which involves a sense of agency in the interactive narratives of computer and video games that could potentially inspire children to read more. Together these authors provide the impetus for considering students' experiences with technology applications beyond the classroom along with those literacies more traditionally recognized in school, and point to the need for more research on the potential effects and benefits that technology, like computer and video games, might hold for more effective teaching and learning.

**Working Guidelines for Using Technology Effectively**

In addition to asking key questions, the development of guidelines for using technology effectively is also an important consideration. Drawing on informal survey data, the authors have compiled a list of working guidelines, which represents both preservice and veteran teachers' perceptions of what should and should not occur when technology is integrated into the English language arts classroom. (The first author surveyed students in methods courses over a two-year period to collect perceptions while the second author gathered ideas from teachers during a recent Third Coast Writing Project seminar he facilitated.)

Although the list provides important guideposts, it is important for individual teachers to consider this list as a bridge to creating their own guiding principles of technology use based upon their own unique classroom goals, contexts, and students. Thus, this list is intended as a starting point for teachers to consider their goals and to then work towards asking the difficult questions that lead to effective teaching with technology.

**Technology should...**

- Work to validate individual students and empower their ability to achieve academic and "real world" success.
- Supplement and enhance instruction and, in effect, work almost transparently and seamlessly with content instruction.
- Supplement and enhance traditional print/literature/media materials.
- Provide additional resources and create wider access to them.
- Expand students' means of expression and broaden their opportunities to reach meaningful and authentic audiences.
- Deepen students' understanding of complex issues and enhance their ability to make more global connections.
- Expand and enhance the definitions and dimensions of literacy (critical, digital, media and otherwise).
- Facilitate an open forum for discussion that allows for more opportunities for free and democratic participation and dialogue.

**Technology should not...**

- Replace complex language and developmental goals with more simplistic "learn technology" goals.
- Replace teachers or pedagogy.
- Complicate or supercede content instruction or become the content focus of instruction itself.
- Replace or overshadow traditional print/ literature/media materials.
- Limit appropriate resources or access to them.
- Disrupt or complicate normal classroom community efforts and objectives for addressing audience.
- Diminish students' ability to participate or contribute by favoring students with advantaged access to technology.
- Deepen social, racial, gender, and economic inequalities.
- Stifle creativity or opportunities for using the imagination or multiple intelligences.
- Completely replace teacher-student and/or student-student "face-to-face" communication and interaction.

**Critical Uses of Technology Applications in the English Classroom**

The following list provides a few examples of teachers who, in our minds, have developed a critical mindset and used an informed approach when making the decision to use technology to teach the English language arts. They are by no means intended to be exhaustive; instead, they are meant to be indicative of the kind of thoughtful, informed, and critical approach that can yield potentially better results for both teacher and students.

**Case 1**

In the fall of 1999, Allyson Young, a high school English teacher in Charlottesville, Virginia was having difficulty teaching writing with two of her applied level ninth-grade English classes. In addition to her students struggling with fluency and poor writing skills, they posed behavior problems for each other. A veteran teacher of city schools, Young rarely had problems with classroom management. Even in this situation, the issue was not that her students acted out toward her but with one another. They simply could not get along without verbal and sometimes physical altercations, making group work, especially writing workshop and conferencing nearly impossible. As a result, she began to look for a way to address this problem beyond simple classroom management techniques and considered technology applications.

Through a partnership with the English Education program at the University of Virginia, Young began to use an online portfolio tool with the students in this particular class to facilitate the teaching of writing and enhance the writing process and writing workshop. In addition to the excitement and enthusiasm the students expressed for being able to pilot new technology and to use the school's computer lab, they also responded by successfully engaging in drafting, conferencing, revising, editing, and publishing their writing. In effect, students could compose, share, provide feedback, revise and edit online spread out in the same computer lab without having to sit in groups in close proximity to one another. In addition to completing descriptive writing assignments, they also composed pieces in conjunction with their study of *Romeo and Juliet*. Young described the effects as such:

> The focus was now on the writing rather than cutting each other down. My students began to consistently get writing down on paper and complete drafts. Fluency was a major problem, but their fluency improved over time with the online feedback they were receiving from their peers. Their drafts not only became longer, but they improved in terms of content and quality too. (Personal Communicatio n, 2000)

In addition to the gains in writing ability, Young also reported that students' behavior in class improved as well.

**Case 2**

English teacher Tom Gray played a central role in developing and implementing the Myths and Legends program at Pine Ridge High School, Pine Ridge Indian Reservation, South Dakota. The program incorporates computer technology to integrate Oglala Sioux traditions into the high school's curriculum. The inclusion of intercultural myths into the school curriculum began as a result o f Gray's students forging connections between the Greek myths they were reading and their own Native American cultural myths, along with his own growing interest in computer technology.

Gray began to envision computers providing a means for students to illustrate and animate the stories and legends of their ancestors, which they had collected from tribal elders. To realize the vision, Gray developed a cross-cultural and interdisciplinary curriculum focusing on other cultures as a bridge to his students' own cultural heritage while also acquiring the necessary computer technology through a grant. The program's primary goal of linking the traditions of the Oglala Sioux directly to the school curriculum with the help of computers was realized. Not only have students used the computers to write, illustrate, animate, and publish, but they have also created an archive of cultural artifacts, published an anthology of student work each semester, performed dramas interpreting Lakota legends, composed and sampled electronic music, and filmed and edited digital videos. Gray and his fellow teachers then applied technology to other core subjects, and his colleagues have continued the initiative (Gooden, 1996).

**Case 3**

For nearly 20 years, Margo Figgins has included a major research project as a requirement in her Language, Literacy, and Culture methods course in the English Education program at the University of Virginia. Students engage in a Heuristic Quest or HQ, an extension of Ken Macrorie's (1980) I-Search Paper that focuses on some aspect of language or the teaching of language filtered through Freire and Macedo's (1987) notion of critical pedagogy. The project originated as a pen-and-paper and then word-processed product. However, the limitations of such tools soon led to redundancy. Without easy access to previous HQ's, students ended up asking many of the same questions year after year. In addition, only so much time in class could be devoted to student sharing of research.

Consequently, Figgins began to consider ways in which technology might address these pedagogical limitations—how to make previous research available to students who could then build upon existing research information and data and how to allow students to communicate and share their process, progress, and research with others in the course as well as with teachers, future students, and the public. Solving these pedagogical problems became the catalyst for considering technology applications and led to her use of the Q-folio, an online electronic portfolio which, in effect, simulated the interactive research community she desired. Through the use of the tool, students have been able to access and reflect critically upon previous research projects, expand upon them, and ultimately make their own distinct contribution to the course archive. For more information see Young and Figgins (2002) and Figgins' fall 2003 course home page (http://nmc.itc.virginia.edu/Q-folio/edis542/2003fall-1/scripts/sitedescription.cfm; click on treble clef icon for audio introduction).

**Case 4**

At Penn State University, Jamie Myers encourages traditional uses of technology, like word processing and web research, but he also prepares preservice English teachers to integrate hypermedia authoring of web sites as content-based strategies to teach critical literacy, literary analysis, and language and communications skills. As taught by Myers, hypermedia authoring involves the process of juxtaposing, through video sequences or website hyperlinks, various multimedia "texts"—print, image, gesture, artwork, music, video, and more—to focus on a life-relevant issue or experience represented by these texts. Through the process of creating hypermedia projects, preservice teachers engage in the analysis and critique of the possible identities, relationships, and values represented by the texts and their possible multiple readings.

This constructivist approach generates the critical literacy activity with texts that is a central content goal of the English language arts curriculum. In effect, students create relevance by finding many ways to connect and manipulate their rich multimedia lives outside of school within the classroom, and in turn, they gradually begin to discover how the ideas expressed in course readings permeate all the texts of the world.

Using commercially available software such as StorySpace, Adobe Premiere, Photoshop, SoundEdit 16, iMovie, and various web authoring products to create English methods classroom projects, Myers has been integrating hypermedia authoring for critical literacy since 1995. Most of the projects originated in conjunction with the reading of literature, a central component of the secondary English classroom, which has helped to facilitate the successful transfer of critical hypermedia authoring to the students and their cooperating mentor teachers in the field experiences Myers has supervised.

Some projects originated in the analysis of media texts and their role in the construction of cultural identities and values. For example, one project requires small groups of students to identify significant themes in a work of literature and then explore how multiple perspectives on those themes through multimedia texts inspire and motivate students. In effect, the students create websites that forge connections between novels using a thematic approach to raise questions about cultural ideals and beliefs.

Another project involves the analysis of one literary piece by the entire class as a means of expanding the traditional literature instructional approach of focusing on a single interpretation, one in which the teacher becomes the single arbitrator of correct meaning. While authors certainly have intentions, meaning is a constructed event that draws from the prior experience, knowledge, and social lives of the readers. These whole class hypermedia websites involve students organizing and juxtaposing texts from their experiences to bear on a central piece of literature. This activity builds the intertextual context, or cultural schemas, and provides the necessary bridge required to debate potential meanings within the focal text of study. New computer digital technologies provide the teacher and student with tools for experiencing these connections in ways not previously available. Projects like these help generate relevance for traditional school readings in everyday life experience.

In addition to these projects and others involving asynchronous communication about literary texts and analysis of popular culture media, Myers has also initiated the creation of electronic portfolios for English education students as a multiyear, constructive process of authoring a hypermedia website that allows them to explore their developing stances on educational issues and curricular ideas for English instruction. In describing some of his most current work, Myers explains, "I'm working with 8th graders to create iMovie Music Videos about community. We have introduced the idea of speaking against images as well as about images using words and music and images in juxtaposition....Ultimately, we hope to look at the kinds of critical thinking that happens through the creation of these QuickTime videos" (J. Myers, Personal Communication, March 2004). For more details and links to many examples of products resulting from the English methods projects listed above, see Myers' website at http://www.ed.psu.edu/k-12 and Myers (2004).

For other examples, see the list of additional resources at the end of this article.

## Conclusion

Despite the challenges that effective technology integration poses for educators, there is hope in the powerful suggestions provided by preservice teachers and those teachers who continue their professional development through opportunities like the National Writing Project and its regional and state sites across the country. As Pope and Golub (2000) asserted, it is also important for English educators to model effective practices of teaching with technology.

Keifer (1991), Young (2001), and Young and Figgins (2002) emphasized the potential technology holds for teacher empowerment and school reform when addressed as a part of teacher education. Although technology alone may not be the saving grace of education, there are important ways in which we can use it to support and enhance our teaching practices in the English language arts classroom—the key to which is developing a critical perspective that informs our pedagogical approach.

To prevent the misperceptions of technology as a false prophecy or as a silver bullet reform, it is important for educators, both preservice and veteran teachers, to develop a heightened, critical view of technology and its potential applications for the classroom (Hawisher & Selfe, 1991; Pope, 1999; Young & Figgins, 2002). Kajder (2003) characterized this informed perspective as one of making a critical choice:

> We choose the texts we want our students to enjoy and explore. We choose the challenges and exercises we want them to experience as writers. Now we need to choose the most efficient tools for our students as learners.... The computer is simply another tool, only to be chosen when it is appropriate. (p. 11)

Under the right conditions and contexts, we know that technology has the potential to change education in compelling ways (Sandholtz, Ringstaff, & Dwyer, 1997). However, Selfe (1990) reminds us, "Computer support for English programs will succeed when we identify for the profession our own uniquely humanistic vision of computer technology and its ability to support the networking of individuals" (p. 200). With an informed pedagogical framework in mind, English teachers and English educators can begin to bring focus to this vision by asking the hard questions that lead to the development of guidelines, which in turn, allow us to make the best choices for effective technology applications and create beneficial learning experiences for our students.

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## Additional Resources

For further insights on effective uses of technology, here are some resources we have found helpful:

*Contemporary Issues in Technology and Teacher Education* (CITE Journal, http://www.citejournal.org/), especially Pope and Golub's (1999) "Preparing Tomorrow's English Language Arts Teachers Today: Principles and Practices for Infusing Technology" (http://www.citejournal.org/vol1/iss1/currentissues/english/article1.htm). A seminal article from two leaders in the field.

The Oregon Writing Project at Willamette University's "Manifesto of Writing and Technology" (http://www.willamette.org/owp/pages/tech/principles.html). A strong list of principles for teachers considering integrating computer technology with writing.

*English Journal*, November 2000. Technology-themed issue that contains strong discussions of when to use technologies and why and when not to use technologies and why in the English Language Arts classroom.

*Voices from the Middle*, March 2004, March 2003, and March 2000. 2004 issue is a technology-themed issue. Both 2000 and 2003 are literacy-themed issues that focus heavily on technology applications and considerations in the English Language Arts classroom.

*Computers in the Writing Classroom*, Dave Moeller (NCTE, 2002). Book gives a strong overview of the guiding concepts and practices that make for effective integration of technology in the writing classroom.

*Teaching with Technology: Creating Student-Centered Classrooms*, Judith Haymore Sandholtz, Cathy Ringstaff, and David C. Dwyer (Teachers College Press, 1997). Book details the decade-long Apple Classrooms of Tomorrow (ACOT) experience, the goal of which was to created different forms of teaching and learning assisted by technology rather than having the technology determine what was to be learned or how it would be taught.

*Computers in the Classroom: How Teachers and Students Are Using Technology to Transform Learning*, Andrea Gooden (Jossey-Bass and Apple, 1996). Provides portrayals of six schools (2 elementary, 4 high schools) in which technology has been integrated in effective and compelling ways for students, teachers, and their communities.

*Teaching with Technology: Seventy-Five Professors from Eight Universities Tell Their Stories*, David G. Brown, Ed., (Anker, 2000). Vignettes 32 and 34 provide stories addressing college composition, and Vignette 33 addresses renewing a large lecture literature class with computer applications.

Apple Mobile Computing for Education: Research and Resources. Site provides annotated links to a collection of research studies promoting the use of wireless laptops as a way to increase student motivation and achievement. URL: http://www.apple.com/education/mobilecomputing/research.html.

**Resources Mentioned in the Cases**

Margo Figgins Fall 2003 Language, Literacy, and Culture course homepage: http://nmc.itc.virginia.edu/Q-folio/edis542/2003fall-1/scripts/sitedescription.cfm

Jamie Myers homepage:
http://www.ed.psu.edu/k-12

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