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A perspective on leadership in technology and curriculum : a reflective essay

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Abstract

I believe my experiences with technology will play an equally important role as a principal or curriculum coordinator. In this paper, I focused on the role I feel technology must have in education. I addressed the following areas relative to administrative responsibilities concerning technology: school and community relations, school reform, technology's role in the restructuring process, strategic planning for technology infusion, curriculum as the driving force for technology integration, the technology coordinator, and professional development.

A PERSPECTIVE ON LEADERSHIP IN TECHNOLOGY AND CURRICULUM: A REFLECTIVE ESSAY

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I began thinking about a career in education as a high school student. My mother was a teacher and I often helped her prepare various learning materials for her classroom. As a high school senior I had planned to major in accounting and computer science but changed to elementary education. I am not sure what changed my mind. Perhaps my mother's success and happiness as a teacher had more influence on me than I realized. I applied to the University of Northern Iowa in elementary education. I now know that I would not have been happy with my original goals. Evidence of this is that I have enjoyed working with children and adults of all ages in the field of education.

My first teaching experience was at a parochial school in Waterloo, Iowa. I spent 10 years there teaching various grade levels. I began with preschoolers and kindergartners. My second year, I moved up with my kindergarten students to first grade. This was a marvelous learning opportunity. I guided students who could not recognize letters, numbers, and sounds to reading fluently and writing with invented spelling. After seven years as a first grade teacher, I desired a new challenge and accepted a third and fourth grade combination classroom at the same school. Keeping up with two grade levels was a challenge with never a dull moment. My last year at the private school was spent with third grade students.

Just prior to the time I accepted the combination classroom, I began to consider a masters degree. At that time I considered a degree in educational administration, but fell back on my old interest in computers. I received my master of arts degree in computer applications in education less than two years later.

One year after receiving my master of arts degree, I accepted a position as technology teacher/coordinator at a middle school with grades 5 through 8. I was in that position for six years. I spent the greater portion of each day as an exploratory teacher working with fifth through eighth grade students. I helped them develop technological skills ranging from keyboarding, to graphics, to multimedia and

more. What time I had left was spent providing staff development, assisting teachers with technology integration efforts, and managing technological equipment throughout the building.

Having played a leadership role and desiring to make a greater impact in the area of technology as well as curriculum in general, I decided to pursue course work that would allow me to become a curriculum coordinator. In order to do this I needed a master's degree in educational administration.

After four courses in the educational administration program, I expanded my goals and realized I may enjoy being an elementary principal. I believed this because I have a friendly personality, good organizational skills, and carry through with responsibilities. Additionally, I enjoy working with people of all ages and individual differences. I strive to involve people by creating an environment where people feel they are valued and where learning is more likely to occur.

At the beginning of this school year, I accepted the position of District Technology Coordinator at another school district. It is an administrative position. At this time in my life, it seems to be the perfect job for me because it blends my experience and training in both technology and administration. As I interact with both administrators in the district and the rest of the staff, I learn important leadership skills while simultaneously making a direct impact on the integration of technology in instruction and the learning process.

I believe my experiences with technology will play an equally important role as a principal or curriculum coordinator. In this paper, I focused on the role I feel technology must have in education. I addressed the following areas relative to administrative responsibilities concerning technology: school and community relations, school reform, technology's role in the restructuring process, strategic planning for technology infusion, curriculum as the driving force for technology integration, the technology coordinator, and professional development. First,

however, I shared the principles which provide a foundation for me in all I choose to do. These principles serve as the foundation of my leadership in educational administration as well.

Personal Characteristics

Personal Values

As a Christian, I was taught the principles of the Bible. Although I have not always succeeded, I have strived for this excellence of character. Galatians chapter five, verses twenty-two and twenty-three give a few of the principles on which I have based my values: "But the fruit of the Spirit is love, joy, peace, longsuffering, gentleness, goodness, faith, meekness, temperance: against such there is no law." Ephesians chapter five, verse nine adds to this list of values, "For the fruit of the Spirit is in all goodness and righteousness and truth." If everyone in the world fully succeeded in following these principles, I believe we would live in a perfect world. However, in reality people are not, nor can we be, perfect. Yet we can continually strive toward this end and in the process create a better world for all whom our efforts touch.

Personal Beliefs

My strongest belief is that there is good in everyone and value in diversity. We can learn something from everyone and from every situation we encounter. But this learning does not just happen. Rather, we must observe intently, listen attentively, and seek to understand why others believe and behave in the manner in which they do. We must search for the good and grasp that which has value. One way to do that is to shed our personal biases and fears and replace them with openness of mind and understanding. We must become like young children not yet consumed by the adversities of the world. Sheila Hamanaka (1994) expressed the

beauty of diversity in a children's book I have grown to treasure, All the Colors of the Earth:

> Children come in all the colors of earth–
> The roaring browns of bears and soaring eagles,
> The whispering golds of late summer grasses,
> And crackling russets of fallen leaves,
> The tinkling pinks of tiny seashells by the rumbling sea.
> Children come with hair like bouncy baby lambs,
> Or hair that flows like water,
> Or hair that curls like sleeping cats in snoozy cat colors.
> Children come in all the colors of love,
> In endless shades of you and me.
> For love comes in cinnamon, walnut, and wheat,
> Love is amber and ivory and ginger and sweet
> Like caramel, and chocolate, and the honey of bees.
> Dark as leopard spots, light as sand,
> Children buzz with laughter that kisses our land,
> With sunlight like butterflies happy and free,
> Children come in all the colors of the earth and sky and sea.

I have adopted some of my beliefs related to learning and teaching from a book written by Eleanor Duckworth (1987) entitled The Having of Wonderful Ideas and Other Essays on Teaching and Learning. One of these beliefs has to do with knowledge and how we acquire it. Duckworth explained that each person learns according to their own structure. A structure is described as a coordinated system of relationships which enables us to do a variety of different things all at once in relation to one another. This system allows us to give meaning to things in ways we never have before. When we encounter a new phenomenon, "either we can assimilate them into our structures, which thus establishes what they 'mean' to us; or they remain vague and nebulous because we cannot assimilate them" (p. 105). If we believe we are unable to assimilate the new phenomenon, we may begin to feel confused. Duckworth continued by stating that we struggle to further differentiate and recombine our structures "to incorporate more of the world into our organized systems–physiological, sensorimotor, or conceptual" (p. 105). She called this process accommodation.

Therefore, as teachers or leaders it is important to understand the world of others–another of my beliefs. We must realize that each person views reality based on their own experience. Duckworth (1987) stated, "Meaning is not given to us in our encounters, but it is given by us–constructed by us, each in our own way, according to how our understanding is currently organized. As teachers, we need to respect the meaning our students are giving to the events that we share. In the interest of making connections between their understanding and ours, we must adopt an insider's view: seek to understand their sense as well as help them understand ours" (p. 112).

Another belief borrowed from Duckworth (1987) is that the teacher should play the role of a facilitator rather than a bearer of knowledge. She emphasized that

> Learning in school need not, and should not, be different from children's natural forms of learning about the world. We need only broaden and deepen their scope by opening up parts of the world that children may not, on their own, have thought about (p. 49).

A teacher's responsibility is to provide a quality learning environment which sparks curiosity, and allow students time for confusion so they may "build breadth and depth that gives significance" (p. 82) to their knowledge. This can be further achieved by the manner in which a teacher reacts to student responses in a learning situation. Duckworth explained that a teacher needs to allow students to explore "wrong" answers as well as "correct" ones. In the process they will gain a deeper understanding of the topic questioned. When the teacher becomes a facilitator, he/she learns along with the students.

I believe the principal of a school should assume a similar role with his/her staff. Rather than making decisions on his/her own, the principal should involve teachers where decisions affect them. The principal is a facilitator guiding the decision-making process–drawing from a pool of problem-solving ideas representing numerous views rather than one opinion. I believe by empowering

teachers and ensuring them of a quality workplace, teachers will begin to view themselves as learners and will seek to expand their knowledge base.

Personal Philosophies

In my sons' room hangs a poster which represents a philosophy of mine. It reads, "All I ever really needed to know I learned in kindergarten." It talks about sharing, playing fair, cleaning up after yourself, not taking things that are not yours, saying you are sorry when you hurt someone, holding hands and sticking together, and living a balanced life where you learn, think, draw, paint, sing, dance, play, and work every day. It concludes with the following:

> Think of what a better world it would be if we all–the whole world–had cookies and milk about 3 o'clock every afternoon and then lay down with our blankets for a nap. Or if we had a basic policy in our nation and other nations to always put things back where we found them and cleaned up our own messes. And it is still true, no matter how old you are, when you go out into the world, it is best to hold hands and stick together.

My philosophy also concerns an old saying, "Variety is the spice of life." This same philosophy has been captured recently in the words, "Different is good." I believe this philosophy holds true with all people. Ethnic and cultural diversity makes the world a much more interesting place. If we would take time to understand those who are "different" from us, I think we would discover that we share as many similarities as differences. Having adopted a son of multiethnic heritage, I have become more interested in learning about cultures different than my own. I long for a day when all the people of the world will learn to appreciate differences and work together for the common good of mankind.

Finally, I wish to share that portion of my philosophy that came about through my work on a research paper for a course about the child, the family, and the school. Perhaps the primary influence was of Dr. Neil Postman. I observed a video of a speech in which he spoke of several lost narratives in America. He posed several new narratives he felt should be considered by educators. Dr. Postman's

narratives blended stories of the way he believes things used to be with the way he believes they should be today. In my research paper I posed a narrative of my own. Although I previously applied it to a view of the world, I have applied it here to leadership through educational administration and the recent calls for America's schools to be reformed.

The Story of a Win-Win World. Administrators face conflict and adversity daily with students, staff, board members, and the community. Duckworth (1987) addressed the difficulty of resolving conflict when she wrote, "Resolutions cannot be reduced to having the good guys win and the bad guys lose. It takes hard work to manage to have no losers—to have everyone get home safely (p. 121)." She further stated, "It is a matter of working very hard to find out what [their] thoughts and feelings are, as a starting point for developing a view of a world in which people are as much concerned about other people's security as they are about their own" (p. 121).

In a "Win-Win World", with resources for families, children, and individuals readily available, there would never be a child at-risk. Each child's physical, psychological, and intellectual needs would be fulfilled through nurturing care. Children would not be seen as discipline problems or unmotivated to learn. Although there is no such thing as a perfect world, problems would be minimized as we meet the needs of children rather than letting childhood problems grow into adult ones. All children would be considered resilient and we would intervene to shift the "balance between stressful life events and protective factors...by decreasing exposure to risk factors and stressful life events, or by increasing the number of available protective factors...in the lives of children" (Garbarino et al., 1992, p. 223).

It will not be easy to attain this "Win-Win World", because people need to think about the world and their role in it. We can not simply state our goals and

expect people to agree. We will have to consider the conflicts in the ways we think about society and each individuals' responsibilities in the world. Duckworth (1987) shed some light on this:

> The way to move a person's thoughts and feelings is not by trying to excise them and replace them with other thoughts and feelings. Rather it is to try to understand the person's thoughts and feelings, and to work from there (p. 116).

Dr. Neal Postman suggested in his "Story of the Fallen Angel", we will have to cure ourselves of belief in absolute knowledge and recognize that we have all made mistakes. Then we must collaborate to correct our mistakes.

Mobilizing people will take time, but I believe it can be done. Coontz (1992) wrote, "The major barrier to social involvement is not people's commitment to a purely individualistic way of life but their feeling of helplessness (p. 284). She also argued that "despite pressures fostering competitive individualism, people are deeply dissatisfied with the lack of community and larger purpose in their lives" (Coontz, p. 283). She was further convinced that a few people can inspire others. She stated,

> Human beings are capable of both nuanced decision-making and extensive cooperation when they are not paralyzed by authoritarian hierarchies...or when they are involved in decision-making processes that involve constructing preferences rather than merely registering them. Social history also demonstrates that people are capable of changing their minds and working through deeply held prejudices to collaborate with people they formerly scorned (Coontz, pp. 284, 285).

I have often asked myself, "How can I really make any difference when I am just one person?" Perhaps the answer lies in narrowing my goal. Rather than trying to take on the world, I can begin by trying to mold a "win-win school". Coontz (1992) affirmed, "Wherever a person starts, he or she will make a difference in the lives of others" (p. 287). As an administrator I hope to move a step

closer to resolving the conflict between the way things are now in public education and the way we think they should be.

Technology Infusion for School and Community Improvement

America today is facing great challenges. Much of society has placed the blame on America's public schools. However, people are beginning to realize that schools alone cannot correct the problems caused by a rapidly changing world and its effects on families. Communities are beginning to rally around their schools and offer greater support. In exchange they ask for an increased role in decision making and an effort to collaborate with school personnel to improve our communities and their schools. Thus, for reform to be effective, the role of school administrators must change.

As we have become immersed in the information age, technology offers some opportunities to enhance our attempts for school reform. Joint efforts between schools and their communities in technology planning and implementation can benefit both our students and the communities in which they live. Administrators will be called upon to facilitate these efforts.

School and Community Relations

Crowson, Driscoll, and Menacker (1992) drew attention to America's schools in their early days. They stated, "The schools were at the center of the educational, social, political, and even religious activities of their immediate communities" (p. 23). Twentieth century schools, they explained, had come to resemble the factories of the industrialized age; hierarchical in organization and alienated from family and community. Schools became more centralized, consolidated, and standardized between 1890 and 1950.

In the 1980s, America's public called for reform in the nation's schools. In 1983, the National Commission of Educational Excellence issued a report entitled,

A Nation at Risk (Guthrie & Reed, 1991). This widely publicized and highly visible report "was packed with persuasive prose attesting to the decline of American schooling" (p. 39). People all across the nation became alarmed that America was floundering in the world's increasingly more competitive economic marketplace. Calls for reform came from all corners of the public and persist today.

I interviewed people from my previous school district and its community and learned that the call for reform had struck my home turf. Interviewees indicated that the school had made efforts in the past to form committees consisting of parents and community members whose purpose was to provide input on a current issue. Also, the school had been a participant with the New Iowa Schools Development Corporation (NISDC) over the past four years. NISDC grants funding to schools to work toward meeting Iowa's uniform school requirements as mandated in the State of Iowa Code; Chapter 280.12, Evaluation of Educational Program and Chapter 280.18, Student Achievement Goals. A district's NISDC committee consists of teacher and support staff representatives from various school buildings, administrators, parents, businessmen, and any other community representatives desired. Unfortunately, four of five persons interviewed could not tell me the goals toward which our NISDC committee was working. It seemed that there needed to be more communication as well as more persons involved in the shared decision making process.

Even though our district had opened up somewhat to parental and community involvement, I believe both the community and the school needed to make more of an effort toward collaboration. Because of my position as technology specialist of the middle school, I posed the possibility of opening school computer facilities to the community after school hours as one step toward increased collaboration for both school and community improvement. I addressed reactions to this concept in a later section.

School Reform

Dunleavey (1994) suggested, "The principles shared by almost every reform project include site-based management rather than state control; multi-age groups in classrooms instead of the traditional K-12 grades; an emphasis on projects rather than percentiles; and new technologies" (p. 33). Crowson, Driscoll, and Menacker (1992) described the attitude of schools prior to the reform movement as a "four-walls-of-the-school mentality" (p. 7). The first attempts to break down these walls involved volunteering efforts by parents, corporations, universities, human service agencies, and community organizations (Crowson, Driscoll, & Menacker, p. 14). This approach provided numerous resources to schools. Yet, as Crowson, Driscoll, and Menacker stated, "There has also been a deep sense in these reform-minded times that something vitally important is still missing in community relations...Increasingly, under the press of reform, educators are being asked to go beyond encouraging parental and community involvement to instituting a full-fledged representation of the citizenry in the lifeways and decision processes of the school" (p. 15). Thus many schools are beginning to move toward shared governance, making parents and community members coequals in the decision making process of their schools.

Another emphasis of school reform efforts deals with a new role for teachers. Schools are encouraged to involve teachers through shared decision-making, decentralization, and site-based management. Teachers join parents and community members on advisory committees. The advisory committees work closely with the school administration in making decisions on budget development, staffing, scheduling, staff development, curriculum, instruction, local school policies, school services, and school programs (Burns & Howes, 1988; Dreyfuss, 1988).

Technology's Role in the Restructuring Process

Dunleavey (1994) pointed to technology as a key principle in the process of school reform because of the shift from the industrial age to the information age. He quoted Therese Mageau, editor-in-chief of Electronic Learning, "We graduated in the last vestiges of the industrial age where sitting and doing rote work was important. The world these students are growing up into no longer reflects the economics of [that] age" (p. 33).

Thomas (1994) urged schools to "determine for themselves which problems technology can help them solve" (p. 14). "Our expectations for the expanded use of technology in schools should include staff and community members as well as students" (Costello, 1993, p. 105). Technology has the potential to increase student and staff productivity, increase parental and community involvement, and improve communications between school and community.

In a document entitled New Mexico's Challenge 2000, the New Mexico State Department of Education affirmed that "communication between parents and schools can be easier" (Price, et al., 1991, p. 2) with technology. Marsh (1995) explained,

> Because of busy schedules, educator/parent interaction on an effective and continuing basis is not always possible....One of the most promising ways to make these connections between school and home possible is through telecommunications....In fact, communities like Hampton, Virginia are working to connect everyone–schools, homes, social service agencies, mayor's office, police department, local universities, charitable organizations, etc.–through a community bulletin system (p. 85).

Additionally, students do not always have the time to communicate with teachers as needed during the school day. Thomas (1994) stated,

> Once home neither students nor teachers are accessible to each other, often when they most need to be. If they want to communicate, they have to set up another meeting, which means finding a time when no one else is meeting–after school, for instance....Perhaps the greatest service technology can render to education lies in communication

> and curriculum, which go hand in hand....By encoding communication, they can defer messages from the time sent to the time received....Schools equipped with a telecommunications network become schools without walls, where learning can continue after the bell and in spite of the buses (p. 14, 15).

Precautions, however, must be taken to insure that technology does not replace face-to-face communication.

Crowson, Driscoll, and Menacker (1992) and Byers (1993) suggested schools implement programs that would provide computer access to parents while informing them on efficient means for use. Schools might consider opening the computer lab for parent-child workshops or allow parents to check out portable computers to use at home. Additionally, school computer facilities might serve as an open lab to the community in the evenings. I discussed these possibilities with various members of my school district and its community. The city manager, the district superintendent, a board member (with school-age children), and one of the two teachers I interviewed all felt that sharing computer facilities would be very positive for both the community and the school. They felt an arrangement such as this might benefit students, the school, and the community. Parents would be more aware of how technology is being used in their child's school. Students would gain additional access time to complete homework. Parents and the community would have an opportunity to learn computer skills and might be given access to the Internet as well as computer application programs. Persons interviewed also pointed out issues of concern in preparation for such a program. Who would organize the program? Who would supervise? Would there need to be a usage fee? Who would be responsible for damaged equipment? These are questions which would need to be answered before implementation of this type of program.

Other ways technology may assist with community and parental involvement in schools include: (a) helping with the maintenance of the school's online bulletin board system or updates on its web site; (b) joining the school in

fundraising efforts; (c) assisting with teacher in-service education or student use of telecommunications; (d) joining the parent-teacher association in hosting a technology showcase for the community; (e) supervising a student after school club whose purpose is to complete orders from teachers, other students, or community members for computer designed documents; and (f) leading an initiative to raise public awareness of the need for, and benefits of, educational technology to gain their support.

Strategic Planning for Technology Infusion

Strategic planning, as described by Crowson, Driscoll, and Menacker (1992), is

> a not-yet-thoroughly-defined term that includes a deep sense of the relationship between organization and environment, a good deal of 'futures' visioning, and considerably more bottom-up than top-down managerial implementation....Planning is now considered a vital activity in engendering among workers a sense of participation and belonging in organizational accomplishment, including an opening up of opportunities for people to be involved in the decision making process (161).

Thus strategic planning for technology infusion implies that a technology committee should contain representatives from the teaching staff, support staff, administration, students, parents, and community members.

A newsletter from the Iowa Association of School Boards (IASB) on strategic planning reads,

> A strategic plan typically consists of the organization's vision, mission statement, educational philosophy, long-term goals, and specific objectives for each goal. It is based on assessing the needs of the district and acting to meet those needs....Techniques will vary, although most strategic planning involves a basic cycle: Reflection...Planning...Implementation... Evaluation...While many strategic plans cover three to five years, they are updated annually to reflect progress and evolving needs. ("Written Plans Guide Board Decisions," 1996, p. 1).

With appropriate representation in the process of strategic planning, a technology committee can successfully navigate its school district and community through the information age and meet new technological challenges as we approach the 21st century. Erickson (1994) felt it is especially important to include administrators in the planning process because they

> become aware of the teachers' creative struggles and of the time good planning requires...Principals can reassure teachers that they should not fear failure and that they need to give themselves time to get comfortable with any changes they are making. Central office administrators can remove obstacles at the district level and explain projects to the community and the school board (p. 16-17).

According to Sewall (1994), technology planning is a process of assessing needs, planning acquisition, centralizing access, applying to instruction, and evaluating effectiveness (p.44). She indicated that "these five modes of address are cyclical and should be reviewed with each addition or change to the curriculum, and with new textbook adoptions" (p. 44).

There are several key principles to remember when engaged in technology planning. Woronov (1994) said that "it is a mistake to assume that the technology itself is driving the process of change" (p. 14). He quoted Michael Eisenberg, director of the ERIC Clearinghouse for Information and Technology, who warned, "Technology is essential because it pervades our society. But it is only a means. Technology itself will not change or reform education" (p. 14). Brunner and McMillan (1994) commented that "the question is not whether students learn more, purely because they are using technology, but whether technology is facilitating other innovations to change the nature of the school, and the work of teachers and students in it....in order to see if technology is improving your students' education" (p. 22).

Stoll (1995) reminded readers of a second principle, that teachers and students must remain central to any learning project, rather than the technology (p.

126). Holland (1994) quoted Letitia Knoeller, a 32-year teaching veteran, who said,

> Technology just enhances academics...We can be visionary and look down the road to where we need to be, yet at the same time recognize the tried-and-true values we have had for years. Computers can never replace the folk tales and anecdotes that I use to spice up world history lessons...But I also do not have all the knowledge in my head that a computer can store. A wise educator uses both things any way she can (p. 26).

Dyrli and Kinnaman suggested a third principle. "No matter how extensive the hardware and software technology resources that support your classroom curriculum, they will not make a significant difference unless you use the technology with effective teaching techniques" (Dyrli & Kinnaman, Mar. 1995, p. 52) Thomas (1994) stated, "Using technology in the classroom as a tool–as it is used in adult realms–will give purpose to its use" (p.23). In another article, Dyrli and Kinnaman (Jan. 1995) also suggested methods which "enable students to interact with the real world of information in a meaningful way" (p.41). Possibilities they suggested include multimedia, hypermedia authoring, and school wide networks which allow sharing of school resources as well as links to the community and Internet. Another valuable use is to set up a world wide web site to provide information about your school and a world wide audience with whom student work may be shared. Student involvement in designing and maintaining the web site can also be a valuable experience.

A fourth, essential, guiding principle for technology planners involves closely tying technology use to curriculum goals. Jukes (1996) stated that a technology plan

> must identify the specific goals that need to be accomplished. The goals cannot simply be a series of vague, intangible immeasurables, but must be clearly stated in terms that identify the skills needed, as well as the attitudes, application, and understanding necessary to demonstrate mastery. In generic terms, this should identify what

> students, administrators, and support staff should be able to do with technology that they cannot do without technology, as well as why these attributes are important (p. 14).

He also warned that a school will never be finished with planning.

Curriculum Drives Technology

Espinosa (1990) offered the following advice for technology planners, "It would be wise to examine the various curriculum guides or course outlines published by the district for references to computers or for topics which lend themselves to computer intervention" (p.5). He also stated, "Educators should integrate technologies into all curriculum areas to accomplish what previously had not been feasible and to do more effectively and efficiently those things which always have been done" (p. 9).

Dyrli and Kinnaman (Feb. 1995) cautioned educators to first set educational aims or goals.

> Once such goals are in place, it is time to tackle the process of selecting, organizing, and implementing the range of educational activities that will afford each student the learning experiences needed to achieve the aims. This is where the work of integrating technology begins (Dyrli & Kinnaman, p. 48).

Davidson and Maurer (1995) suggested that "without conceptualizing the role of technology in the curriculum...the computer [becomes] a 'solution in search of a problem'" (p. 23).

Dyrli & Kinnaman (Feb. 1995) explained three levels of technology integration:

> 1) enhancing and enriching the existing curriculum; 2) extending the existing curriculum; and 3) transforming the curriculum....Using technology to enhance and enrich the existing curriculum basically means to increase the value or power of the classroom curriculum within the confines of existing school structures and schedules....to provide learning experiences that would otherwise be inaccessible....Extending the existing curriculum...involves using technology to increase the power of the classroom curriculum by providing opportunities which go beyond the limitations of existing

> school structures and schedules without serious disruption to them....through the use of networking and telecommunications....It is also possible to extend the curriculum without connecting to distant sites. Several teachers in one school, for example, are using their building's media retrieval system to have students prepare presentations that are broadcast live to multiple classes in the building....The highest level of integration: using technology to transform the classroom curriculum... requires systemic change. It means using technology not just to leverage the power of the existing curriculum, but to do so in ways that require changes to the basic organizational structures and schedules of schooling. (p. 48-50).

Teachers must take the lead by being "willing to invest the time and energy required to become as familiar with technology-based resources as they are with paper, pencils, and textbooks" (Dyrli and Kinnaman, Feb. 1995, p. 46). But the authors said this is not enough. Administrators must allow teachers to take the lead and "provide teachers with a professional climate that enables them to innovate, invent, reflect, and develop–otherwise there will be no new curriculum" (p. 46).

Dyrli and Kinnaman stated that even the lowest of these levels goes beyond the add-on approach which they describe as using technology "primarily for reward and remediation...peripheral to the main curriculum. Or technology is positioned as just another content area in which learning *about* technology takes precedence over learning *with* technology" (p. 46). This ties to my belief that schools should not dominate use of their computers with computer classes. Rather computers should be made available either in the classrooms or in a lab which is available for other teachers to reserve for student use. Furthermore, a technology specialist should not be hidden away in a lab all day teaching students assigned to computer classes, but should instead be available as a resource to students and staff engaged in the mastery curriculum.

The Technology Coordinator

A technology coordinator needs to be someone who is more than a technician. Jukes (1996) said,

> Even where technical support is provided, tremendous anxiety can be created by technicians unwilling or unable to communicate with users. Success depends not just on having techno-weenies who speak English as a seventh language, but on individuals with real communication skills, an educational and instructional context to the use of technology, and a willingness to share their knowledge rather than build personal empires (p. 12).

Morse (1995) explained that "this position would differ from today's media specialist or media coordinator in that the individual would work with teachers in both a training and an instructional application capacity" (p. 69-70). Venditti (1994) described the following six varieties of technological experts: Technoid Weenies, Royal Wizards, Jolly Elves, Hermits, Worthy Responders, and True Helpers. The least desirable included "Technoid Weenies" who talk above those who are less knowledgeable and "Royal Wizards" who think they are much better than the less technology literate. "Jolly Elves" respond quickly to the needy, but have a secret motive to bring glory upon themselves rather than to empower those whom they lend a hand. "Hermits", as the name suggests, are seldom seen by others in the school because they are confined to the computer center all day. They do, however, keep the entire school's technologies in working order and strive to keep everything running smoothly for everyone else. They are taken for granted until they falter and the place becomes chaotic. "Worthy Responders" attempt to explain both the why's and the how's of technology to those whom they help. They "consider their dignity to be enhanced, rather than diminished, when others learn how to accomplish independently what only the worthy responders could do before" (p. 49). The greatest of all are the "True Helpers". Possessing the qualities of empathy and initiative, they understand what it feels like to not understand. They take time and show patience without insulting or talking over those who call upon their expertise. Going even further, they

> anticipate questions and actively invite others to share what they know and do....they take the initiative to meet the novices on their own terms...Whereas royal wizards do things <u>to</u> people and worthy

> responders do things for people, the hallmark of true helpers is their desire and ability to enable people to do things for themselves (p. 49).

Common responsibilities often assigned to a technology coordinator might include

> working with teachers to support and promote technology integration, provide in-service training for faculty and staff, plan and oversee hardware and software purchases and installations, install and maintain the school's computer network, maintain up-to-date records of the school's hardware and software, arrange for, or conduct, repairs of equipment, assemble and disseminate information about computer education, write grants to seek support for the school's technology activities, work with administrators and the district's technology committee to develop and implement a technology plan (Newby et al., 1996, p. 262).

In large districts this may require more than one person. If this becomes necessary, responsibilities may be divided between an instructional technology specialist and a technician. It is also important for instructional technology specialists to work hand-in-hand with curriculum coordinators in their district so technology integration matches the school's curricular goals. In some instances, this person may be one and the same.

Professional Development

Van Horn (1995) and Woronov (1994) expressed concern at the deficiency in teacher professional development opportunities relating to technology. Van Horn said,

> As a striking bit of irony, as I write this column the radio in the background is playing 'Teach Your Children Well.' Unfortunately, that will not happen until we 'Teach the Teachers Well.' ...When will we realistically assess the magnitude of the problem of teaching teachers about technology?...Unfortunately, the American public school system seems to believe in teaching everyone except teachers....Many U.S. corporations pay the college tuition of their employees. How many schools do this for their teachers? Most corporations have attractive training facilities. Where is the 'teacher training room' in your school? Corporations take their employees to nice hotels and even fancy resorts for several leisurely days of

> training. Schools train for an hour, after school, in the cafeteria (p. 420).

Woronov wrote,

> Many teachers face formidable barriers in learning about computers. Relatively few preservice programs for new teachers include more than a cursory introduction to technology. Neither is time generally available for inservice education about technology. Equipment and services that industry takes for granted–such as computer and phone on every desk, access to a systems manager to help with problems and questions, and time on the job to learn new systems–generally do not exist in schools (p.13).

Newby et al. (1996) offered some general principles that can help make in-service activities successful. Along with adequate funding, they said to

> use local computer experts and teachers...Teachers are more apt to believe in their own ability when the presentation comes from someone they know and can relate to....Provide hands-on experience....Provide a nonthreatening environment....Present information in steps, with opportunities for practice and mastery....Provide follow-up support and feedback....Schedule in-service sessions at convenient times (p. 263).

Hovenic (1994) provided additional suggestions. As a principal, she did not make staff members feel like they all had "to participate at the same level because they, not the technology, were the important aspects of the training" (p. 13). Substitutes were often hired to provide teachers with time to learn new technologies. In addition, teachers were sometimes paid stipends for attending training sessions on Saturdays and during breaks. Finally, additional staff development days were added into the calendar to provide additional training opportunities.

A Personal Professional Vision for Administrative Practice

For schools and their communities to meet the demands for school improvement, someone must take the first step. My previous school district had done that through NISDC and the temporary establishment of various special-purpose committees which involve the community and staff members. The district

in which I am currently employed has also take steps to involve parents, communities, and staff members. For example, they have established a mentoring program in which community members are paired with at-risk students. Each pair meets for one half an hour each week. Activities might build on skills related to units of study in the student's classroom or playing a game.

Additional steps should include inviting parents and community members to participate in day-to-day school functions and to provide or become resources for improved learning. Open lines of communication must be established between administrators and staff members and between schools and their communities.

Technology can be one impetus toward making changes to improve America's schools. Whether I am a principal, a curriculum coordinator, or a district technology coordinator, I anticipate having considerable influence on technology related decisions. However, these decisions will not be mine alone. I will attempt to involve parents, community members, students, and staff members on the technology planning committee. Technology planning will be closely tied to curriculum planning. I will also encourage inclusion of technology infusion goals into district strategic planning.

As a facilitator of this planning process and other programs of the school, I will strive to actuate a win-win environment. In a "win-win school", students will be the greatest winners of all. To reach this end, answers to the following questions must be considered for each decision: Why are we doing this? Will this help meet student needs? How will this affect student learning? How does this help get students from where they are now to where we want them to be? Does this engage students in learning?

If utilizing technology increases student achievement, makes a task more efficient, assists in accessing information, makes communication between home and school or amongst staff members more efficient, or motivates and engages

students in learning, then implement the technology! If another method seems to make more sense and would better facilitate learning, choose it instead. Do not use technology just for the sake of using technology. Ellis (1974) wrote the following before the wide-spread use of personal computers: "Thinking about the computer's role in education does not mean thinking about computers; it means thinking about education" (p. 42). This is advice which administrators must adhere to even more today if technology is to impact education. Michael W. Apple (1986) summed up what I believe must be considered when integrating technology into education,

> The new technology is here. It will not go away. Our task as educators is to make sure that when it enters the classroom it is there for politically, economically, and educationally wise reasons, not because powerful groups may be redefining our major educational goals in their own image. We should be very clear about whether or not the future it promises our students is real, not fictitious. We need to be certain that it is a future all of our students can share in, not just a select few. After all, the new technology is expensive and will take up a good deal of our time and that of our teachers, administrators, and students. It is more than a little important that we question whether the wagon we have been asked to ride on is going in the right direction. It is a long walk back (p. 174).

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