Long-range Planning


In my workshops and talks I often broach the issue of long-range planning for computers in schools. I suggest that we have been living in an Information Age society for the past 30 years, but that our schools are still in the Industrial Age. Perhaps long-range planning will help move our schools toward providing a more appropriate education for life in an Information Age society.

The common reactions fall into two main categories. First there are the people who laugh nervously, and perhaps make a comment about six months being quite long range, since the computer field is changing so rapidly. They admit that their districts have not done any long-range planning for computers in schools. They are flying by the seat of their pants, hoping that things will work out all right in the long run. My guess is that this is well over half of all school districts.

The second type of reaction is a claim that long-range planning has occurred, followed by an admission of its inadequacy. Often a district's long-range planning is a discussion of how many computers it would be desirable to acquire in each of the next several years, and perhaps what types of software, as well. There is little discussion of fundamental changes needed to make education more appropriate for life in an Information Age society.

Note that there are a few exceptions to these two common categories. Some school districts have done careful planning for the computer's roles in bringing their schools into the Information Age. They appreciate that computers are a major change agent and that our schools face major changes. They have thought carefully about where their district is headed and how they expect it to get there.

Most computer coordinators know relatively little about long-range planning. They do not have the time and resources to adequately undertake this task. Typically a district's long-range plan was put together by one or two people, and the task was accomplished in a couple of weeks.

There is substantial literature on long-range planning. Dick Ricketts and I have just finished a book on long-range planning for computers in schools, and we are also starting a newsletter on this topic. When done appropriately, long-range planning involves a number of steps, a lot of people, and a lot of time. And a district's long-range plans need to be reviewed and updated each year. While there is no universal definition of long range, five years is a commonly mentioned span of time. Microcomputer hardware has a useful life expectancy in excess of five years. One can do a fairly good job of predicting new hardware five years in advance, since it takes about that long for a research laboratory prototype to come into mass production and decrease in price to a level that schools can afford. (A Japanese company, Nippon Telegraph and Telephone, has just announced prototype production of a 16-megabit memory chip. We can expect that five years from now it will be widely used.)
Much of what schools are doing with computers has long-range implications. For example, many school districts are teaching process writing in a word processing environment to third or fourth grade students.

Frequently such students are provided with spelling checkers, and they may have the use of grammar checkers and outliners. These students are receiving a substantial amount of keyboarding instruction, and they are gradually learning to depend on routine use of computers. This has very long-range implications in curriculum, instruction, testing, and teacher preparation. Long-range planning includes development of long-range goals and plans for accomplishing these goals. A good place to begin is to develop visionary goals: What might schools be like in the best of all possible worlds, and what roles might computers play in such schools? Might curriculum and instruction be highly individualized, with teachers having much more time to work one-on-one or in small groups with students? Might teachers have more time to learn, to grow, to experiment? Might education be a more rewarding and satisfying experience for both students and educators?

But such visionary goals may conflict with the stated and unstated goals for education in a district. Thus, an important step is to make explicit the educational goals in the district. As computer-oriented goals are developed they can be analyzed as to whether they support existing educational goals or may require changes to them. For example, suppose that a district's goals include a clear statement on developing paper and pencil computational skills. A computer-oriented goal of integrating calculators into the upper elementary grades, and allowing their use on all tests, would certainly be in conflict with the paper and pencil computational goal.

One of the key ideas in long-range planning is early and major involvement of a large number of stakeholders. These are the people who will help implement and/or be affected by the plans. Stakeholders include teachers and school administrators, parents and other taxpayers, community leaders, students, etc. The goal is to develop broad based ownership of the long-range plans. Computer technology can be the basis for major changes in schools, but without such broad-based involvement and support, these changes will not occur.

Another key idea in long-range planning is formative and summative evaluation. Formative evaluation provides feedback needed to update and improve one's plans. A professional evaluator can provide major help in integrating such evaluation into long-range plans. Summative evaluation provides a retrospective look at what was planned versus what was accomplished. It is useful to planners and educational leaders. A long-range plan provides the basis for short-range planning; what will be accomplished during the next year, using resources that planners are quite sure will be available. It also provides the basis for medium-range planning; what will be accomplished during the subsequent two years, also using resources that planners forecast will be available. Thus, a total plan consists of short-, medium- and long-range components. Each year a new long-range plan is developed, based on what has been accomplished during the past year and major changes in hardware, software, courseware, etc., availability and cost during the past year. Then new short-range and medium-range plans are developed. The yearly update of a district's plans typically requires only a small fraction of the effort required to initially develop the plans.

This issue of The Computing Teacher contains several articles about telecommunications. It is evident that the use of electronic mail, access to computerized databanks, etc., is growing quite rapidly in government and business. Now many schools are experimenting with giving their
students access to such facilities. Such experiments are one step in implementing a long-range plan. But few school districts have done the underlying long-range planning related to providing students access to telecommunication systems. What educational problem is addressed by bringing telecommunications to the classroom, or in what ways does this make education better? Is this the most cost effective use of the resources?

Those questions and others should be raised and addressed by computer coordinators. In several parts of the country I have noted a disturbing trend of school districts making temporary use of a computer coordinator, but not making any long-term commitment to such a position. District-level computer coordinators may help cement their positions by getting their districts more deeply involved in long-range planning. An important part of a computer coordinator's job should be to help develop and periodically update the district's long-range plan for computer use.