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"... the basic problem is simply a lack of commitment ..."

"Starting Small—" Faculty Development for Computer Literacy In Small and Rural Schools

by Ronald L. Wirtz

In recent years considerable attention has been focused on the theme of computer literacy, both in professional education journals and in general interest publications. For the most part, the research and developmental work cited has been directed toward the acquisition of computer skills by students, while faculty education in computer utilization has been left to the traditional staff development channels of short-term workshops, college and university extension, continuing education courses, and individual initiative. As has been true of a number of technologically based educational innovations in the past, it has been assumed that the "bandwagon" effect, in combination with conventional in-service methods, will entice teachers to make use of the potential savings in time and effort offered by use of the computer in the classroom. Unfortunately, it appears that many of these traditional approaches to faculty development are ineffective (Rubin, 1971; Houston, 1980).

While many individual teachers have made important contributions to student learning through computer usage, effective districtwide computer literacy programs are still the exception rather than the rule. This is especially evident in small and rural school districts which often lack planned

and coordinated programs for long-term professional development of teaching faculty and administrators. Many small-town educators have not acknowledged the extensive body of research on innovation and change which shows that lack of a set of planned and coordinated implementation procedures will most often result in no implementation at all (Fullan and Pomfret, 1977; Hargrove, 1977), and that intensive teacher collaboration in planning, adoption, and implementation is an extremely effective way to minimize teacher concerns, increase individual ownership of a change, and thereby promote the success of an innovation or change (Loucks and Hall, 1981; Ouchi, 1981); Joyce (1976); Patton and Anglin (1982).

In many districts, the basic problem is simply a lack of commitment to the concept of guided and meaningful professional growth. School boards and faculty groups may have developed policies which allow "professional growth" credit for in-service attendance, college credit hours, or in-service workshops, without giving consideration to the fact that such experiences may have only the slightest practical application in the classroom. In the case of computer utilization, such general approaches to professional growth may only discourage desired teacher behavior. For example, teachers who take a recommended university course on how to apply the microcomputer to the curriculum may experience great frustration when they discover that it is only oriented to writing simple drill-and-practice lessons. These teachers recognize that students have acquired much more sophistication from constant exposure to video games, television, and their own home computers than can be challenged by simple BASIC text programs, and these students will resent the effort required to produce such outdated and outmoded materials when superior software can be purchased and comparatively inexpensively. The use of dependable reviewing media makes the selection of suitable educational software no longer a matter of guesswork, and the expenditure of time in writing, rewriting, and "debugging" elaborate BASIC programs is rarely defensible. Most teachers cannot afford the time to write a useful series of CAI programs for use in their classrooms. They are simply too busy with daily preparation, grading, and clerical work to be able to undertake projects that can promise little advantage to them or to their students. These teachers want materials that can be put to work immediately, with a minimum of modification, and do not require a significantly greater expenditure of energy and time. Such a desire is entirely justifiable since there is little point in investing time, money, and energy in systems or materials that do not "pay off" in more efficient and enhanced student learning experiences. It is only after the satisfaction of immediate needs and concerns, moreover, that the individual can reach beyond them to plan for long-term goal achievement. An appropriately planned in-service should, therefore, provide for both short- and long-term considerations.

Schools which lack systematic and ongoing provision for change and growth may be precipitated into computer usage programs without sufficient preparation. Outside forces, such as concerned parents, state legislative mandates, or action by interested commercial parties, may force schools into decisions and programs that later prove to have been ill-advised. Lack of knowledge concerning computer capabilities and software quality, availability, and compatibility, failure to develop a working set of goals and objectives, lack of a definition of computer literacy, and a general conviction that mathematics and science teachers are better equipped to teach computer-related courses than

other faculty normally lead to poor utilization of costly resources.

Installation of machines in a math classroom or a "computer lab" is analogous to the learning laboratories of the 1960s and 1970s. While this type of arrangement guarantees a high degree of use by selected segments of the student population, it may have the unfortunate result of eliminating students and faculty from the humanities, social sciences, and vocational subject areas from access to the equipment either as management tools or in conjunction with classroom instruction. Staff development for a variety of types of computer utilization, in company with enlightened and liberal policies concerning equipment location and use, can be helpful in achieving maximum utility and productivity from expensive computers. However, as in the case of general staff development, small school districts often do not have long-range goals, objectives, or policies relative to the use of computers in the schools. Where such policies do exist, they are often restrictive in nature.

The essential problem, then, is fourfold:

- (1) lack of staff development relating to potential uses of computers,
- (2) lack of proficient and committed administrative and faculty leadership in staff development and need assessment,
- (3) absence of goals, objectives, policies, and guidelines relative to computer use,
- (4) inconsistent or improper allocation of resources on the basis of defective or nonexistent long-term planning.

All of these problems may be effectively dealt with through a comprehensive effort at a program of staff development which entails considerable pre-planning, needs assessment, and evaluation. Perhaps the key element of any such program is the development of an effective leadership structure. Research by Hall, Hord and Griffin (1980), Humphries (1981), and Youngs (1983) point out the importance of the building principal in providing support and commitment to staff development and change, but the two latter studies, along with one by Smyth (1983) indicate that the principal may not actually be the most effective staff development leader. This is due to a fundamental conflict between the principal's roles as supervisor/evaluator and promoter. The administrator's function is essential but best consists of selecting and arranging for the training of key faculty "change agents," organizing these and other key staff into a project steering committee, negotiating for resources, funding, and facilities with central administration, and maintaining and expressing a high degree of commitment both to the importance of the program and to the development of a considerable level of individual commitment and responsibility among all faculty. Considerable courage is called for on the part of the building administrator in this delegation of authority and responsibility, but as Sergiovanni (1982), Sergiovanni and Carver (1980), and Ouchi (1981) note, the good will, voluntary cooperation, and general support elicited from staff members in such a situation will ultimately create considerable intrinsic motivation on the part of the faculty, a greater degree of job satisfaction, general staff "ownership" of the components of the program, and a high degree of organizational patriotism which will increasingly offset the involvement in both time and effort required by such a collegial approach to decision-making.

The task of actually developing the needs assessment instruments, using them to collect information regarding

proposed changes, developing a hierarchy of goals and objectives, and drawing up specifications for equipment, facilities, personnel support, and software belongs to the project steering committee. In order to promote a free exchange of ideas and a spirit of collegiality, cooperation, and mutual respect, chairmanship of the committee should rotate among members of the committee, including the principal, at specified intervals. The importance of collaborative planning by the steering committee, and the need for inclusion of input and feedback from general staff in the overall planning process cannot be overemphasized. Patton and Anglin (1982), Joyce (1976), Burrello and Orbaubh (1982) all note that collaborative approaches to in-service are more effective than non-collaborative ones, and Humphries (1981) concludes that:

Through its very strong effect on in-service training, and its moderate effect on the degree of change in classroom practice, collaborative planning exerts a pervasive influence on the implementation process. It may be the catalyst which generates commitment to project objectives while ensuring that support strategies are relevant to the needs of local staff (p. 238).

In considering the staff development needs of the building or district, the committee should examine the current state of computer usage in light of a preliminary statement of goals, philosophy, and objectives. Questions to be considered might include the following:

- (1) Are machines already present? If so, have they been found to be adequate as far as student use is concerned?
- (2) Would the machines and software currently on hand be appropriate for wider utilization in the general context of the school, both for staff and students? If not, what resources would better serve projected use patterns?
- (3) Is there logical developmental sequence among the resources, both hardware and software, currently existing? If not, why not? Should compatibility of machines and programs be a consideration?
- (4) Should specific resources be earmarked for faculty use only? If so, what should these resources be, and what are reasons for choosing them?
- (5) Are building or district personnel available as trainers for other staff, or will it be necessary to hire other staff or consultants? If outside assistance is needed, how might it be obtained? Are grants or other funding a possible source of revenue for training purposes or to secure needed resources?
- (6) When and where will training take place? How much time is to be allocated for faculty development? Is this to be a long-term or a short-term effort? Will support be present to help integrate teacher-acquired skills and knowledge into the curriculum? How might this be done?

Of course, other considerations will arise depending on the type and extent of the staff development program envisioned. It is important to bear in mind that the processes of discussion and decision making which has been very generally outlined above may be critically important to achieving effective change and a high level of project participation among the faculty.

Questions five and six listed above should be given special attention due to their potential importance for the success of any faculty development program. The staff development facilitator in small schools has traditionally been a member of the school administration or an outside consultant. However, these choices may not be ideal for a number of reasons. An administrator who has little knowledge of needed information or techniques will be ignored by staff members, and the inservice will become an exercise in futility. Furthermore, Joyce (1976) found that faculty were almost unanimous in rejecting their evaluators as trainers. In the studies cited by Hall (1979) and Hall and Loucks (1978), the change facilitator is seen as a consultant from outside the school system, utilizing specific observation tools and skills to construct "interventions" to promote change. These observation tools and protocols can provide needed structure and verified instruments for determining the extent and level of implementation, and can be valuable when personnel trained in their use are available. However, the use of an outside facilitator has several serious disadvantages. Consultants often find it difficult to establish their credibility with teacher clients. Patton and Anglin (1982) state that a consultant has an average of only twenty minutes in which to establish credibility if he is to be effective. These same researchers, along with Mazzarella (1980), Williamson and Elfman (1982), and Levin (1983) comment on the greater effectiveness of local faculty as staff development facilitators in comparison to outside consultants, who have no real vested interest in the success of a particular school's program. The 1982 study by Peters and Waterman notes that the "volunteer champion" is one of the more significant factors in the success of an undertaking, especially as such an individual has "adopted" an idea as his own and is willing to dedicate much more time, effort, and energy to it than could reasonably be expected.

It would seem that the selection and training of within-system computer "experts" should be given a very high priority when planning for staff development, and every effort should be made to encourage individuals who may already possess needed skills to increase their proficiencies and to serve as special resource personnel. Williamson and Elfman (1982) also suggest paying such staff resource persons just as outside consultants would be paid. It should be emphasized that the one-time "in-service" provided by many computer equipment companies has very little real value, and probably should be considered just another type of sales promotion.

Finally, the time element and the location of the staff development activities should be given careful attention. As was noted previously, one of the primary considerations implicit in the collegial nature of planning for effective staff development is the creation of attitudes and feelings favorable to the success of the program. Although off-site activities may be effective in teaching skills and behaviors, Lawrence (1974) found that on-site activities are also capable of causing affective change as well. For that reason, planners should give priority to staff development activities that take place in the target building, and which utilize the facilities, materials, and equipment that will be in actual use by teaching staff.

The allocation of time is also of considerable importance. Many teachers will resent the need to allocate time for planning and development unless they can be persuaded to "own" an idea. One way of securing additional time is to instruct teachers in a number of simple computer functions that may result in immediate and considerable

time savings for them. It is a relatively simple matter to learn how to use a computer gradebook, and the payoff in both time and efficiency can be both immediate and gratifying. Another simple, yet highly effective, timesaving tool is an integrated word processor-filing program-calculator. The ability to use such a program would allow the teacher to spend much less time in typing tests and worksheets, and to manage sports scores, accounts, letters to parents, and resource files with a single item of software. The feeling of accomplishment generated by competence with just one of these programs can contribute greatly to a realization of the need for computer literacy by students as well.

In lieu of summary, a word of warning is perhaps in order. Before a school system can require or even request staff participation in a staff development project with implications as wide-ranging as that generated by faculty computer literacy, the school system, including administrators, must make a long-term commitment to both the process and the project. W. Robert Houston (1980) notes that the poor planning of most efforts at in-service stems from a lack of commitment to in-service as long-term professional growth. Too many teachers—and administrators—have grown accustomed to what Caldwell and Marshall (1980) qualify as authoritative, "top-down," pseudo staff development, designed to fulfill the requirements of state law at the lowest possible cost and inconvenience. It is almost inevitable that such an approach leads ultimately to short-term frustration and long-term disillusionment. American education can no longer afford such waste, either of funds or of personnel.

Society has given our schools the mandate to provide computer literacy to our children as a means of preparing them for the future. Typically, this mandate has not been accompanied by a corresponding increase in funds. As is customary in our educational system, the largest share of available funding has been spent for the initiation of the project and the provision of basic resources, and little or nothing remains for appropriate training. Training is necessary, however, if we are to fulfill society's mandate. Thankfully, the "workshop peddlers" and self-proclaimed "experts" have not generally produced programs designed to teach faculty computer literacy. They recognize that such a need can only be filled by an ongoing school district commitment. Colleges and universities have done so, however, with distressing results in many cases. It appears that if the schools are to fulfill their mission, they must find ways to provide appropriate training at low cost and over a sufficiently long period of time. This need can only be met by staff development which provides motivation, support, pride of "ownership" through collegial relationships and group problem-solving, assurance of long-term professional growth, and inspiration through a sense of organizational patriotism.

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