

For truly effective inservice programs, first assess teachers' "felt needs" for additional preparation or updating in content and methodology, urges this educator, who's been involved with such activities for 11 years. Unfortunately, such assessment "is very seldom done." He describes its value.

## in-service training for professionals

by V. Ray Kurtz



Mathematics education is Dr. Kurtz' field; besides his student responsibilities, he estimates that since 1963 he has interacted with more than 1,000 teachers in inservice situations in Kansas and other states. Currently an associate professor of Curriculum and Instruction at Kansas State University, he holds bachelors and masters degrees from Fort Hays Kansas State College (and taught there from 1963 to 1970) and a doctorate from the University of Nebraska. He also taught mathematics and science, and was a counselor, for all or part of six years in three Kansas schools.

Supervisors and teachers involved with in-service training know that far too many in-service activities fall short of accomplishing the desired goals. The reception of several inquiries during the past year with regard to "how to successfully carry out an in-service program," and the author's participation with more than 1,000 teachers in in-service programs during the past eight years have prompted the outlining of those procedures which have proved successful.

There are many forms of in-service training\* in which teachers may participate in order to improve their teaching skills. Included are such activities as professional reading, travel, research, attending summer session and extension course, and participating in curriculum development programs. Each of these activities adds greatly to a teacher's effectiveness; however, this article will deal primarily with those group in-service activities which take place in school districts.

Today a vast number of our teachers have achieved their educational goal of a master's degree and therefore no longer have the external motivational force which in previous years encouraged further study and growth. These are predominantly excellent teachers who are well prepared professionals. Their greatest need is to keep informed of those new programs and curriculum changes that would improve the teaching-learning process. Therefore, any in-service program for such teachers should be organized to build upon the already existing solid foundation of their knowledge and competence.

### Diversity of Needs

Teachers in a system are so diverse that they will not all need the same in-service topic. For example, many elementary schools utilize various forms of team teaching and departmentalization in addition to other organizational methods which involve their teaching some subjects but not others. Obviously a teacher will not be enthusiastic about receiving in-service training in an area where he is not currently teaching. Additionally, since pre-service preparation varies greatly, some graduates receive strong preparation in teaching the various new curricula while other graduates receive a more traditional program.

If there is any place in our educational system where the progressive education concept of "felt needs" should be

\*According to Carter V. Good, Editor of the *Dictionary of Education*, (New York: McGraw-Hill Book Company, 1973, p. 446), an in-service program is one designed to increase [teachers'] competency or to bring them abreast of new developments."

utilized fully, it is in organizing in-service programs for professional teachers. An assessment of what teachers feel they need is actually quite easy to obtain, but for unknown reasons it is very seldom done. Too often the needs of the teachers are assessed informally and erroneously by the organizers of in-service programs. Therefore, the cardinal principle of a successful in-service program should be to assess the areas in which the teachers desire additional preparation or updating. A common check-list type of questionnaire will provide this information adequately.

### Alternative Offerings

The results of this assessment may be used as a structural guide for the total in-service program. A simple tallying procedure may be used to determine where teachers desire help. Naturally there will be a wide range of what teachers desire, with some (for example) wishing help with recent trends in mathematics and others wanting training in behavior modification, while still others will want instruction on how to use the materials in a new science curriculum. This brings us to the second principle of in-service training: that of forming cluster groups where teachers have alternatives concerning groups they may attend or projects they may undertake.

The third principle is to establish some type of publication to inform creative teachers who want to know more about various areas in their profession about the availability of in-service topics based on their stated needs. One excellent way to promote interest is through an in-service bulletin—a "Preview of Coming In-Service Attractions"—which is periodically prepared and sent to teachers. In such a publication, results of district surveys might be given. Or, special sessions could be announced, as in this hypothetical case:

Some teachers who are using the new PQZX Science Program are encountering considerable difficulty in operating some of the apparatus which is included in each science kit. Therefore, to assist with this problem, three in-service sessions will be held in John Dewey Elementary School. The first meeting will be a group discussion of specific problems encountered with the science equipment. At the second meeting a consultant of the XL Science Kit Company will demonstrate proper use of the apparatus. The final meeting will provide an opportunity for the participants to discuss improvements as well as continued difficulties. In order to accommodate as many teachers as possible there will be two sets of schedules as follows:

	Schedule 1	Schedule 2
1st meeting	Monday, Feb. 5	Tuesday, Feb. 6
2nd meeting	Monday, Feb. 19	Tuesday, Feb. 20
3rd meeting	Monday, Mar. 5	Tuesday, Mar. 6

Teachers may feel free to attend any combination of meetings which fits their schedule. Each of these meetings will start at 4:30 and end promptly at 5:45.

An often overlooked technique of in-service training is the utilization of teacher leadership—the fourth principle. As one example, a very successful in-service adventure developed in

a small city district when a group of first grade teachers decided to have their November meeting center around the use of math games and activities. When the district curriculum coordinator learned that there was a first grade teacher whose original enthusiasm for math had recently become re-kindled by a summer in-service activity, he asked the teacher to chair a discussion of math activities and games. Through the use of a curriculum bulletin, the first grade teacher sent out an S.O.S. for help, asking her colleagues to send their favorite games and activities to her for duplication. The dittoed publication which resulted became a highly sought-after document by those first grade teachers who missed the November meeting and also by second and third grade teachers. Such utilization of teachers in a system is too often an untouched resource.

In-service program organizers should be careful to avoid procedures that kill interest. One lethal approach, for example, would be to request all fourth grade teachers to assemble at 4:15 on January 23rd to participate in a discussion concerning individualization of the reading program. Those teachers who are in the process of establishing an individualized reading program will probably be pleased with such a presentation. But others might well be "turned off"—notably teachers who are already individualized or who departmentalized and do not teach reading. A more appropriate in-service topic for these latter teachers would increase their appreciation of the meeting.

### Motivational Effects

Both intrinsic and extrinsic motivation should be used in an in-service program. The intrinsic motivation comes from the use of timely and appropriate in-service topics which teachers desire in order to become more effective. As previously stated, these topics are best chosen from the feedback of a check-list completed by the teachers. Extrinsic motivation can also be used as a positive inducement to teacher participation in in-service programs; an example would be the necessity to earn additional college credits for certificate renewal or advancement on the salary schedule. A procedure used less often but quite effectively by some school districts is the use of in-service credit or school board credit, which provides for a more flexible in-service program in that the participants may pursue activities for improvement which do not fit the traditional college credit procedure. This approach is almost a necessity if principle number two is followed in providing alternative in-service activities where the individual needs and interests of the teachers are to be met.

### Growth Is Assumed

Members of the profession and laymen agree that teachers should grow professionally each year. Many salary schedules are based on this idea. Therefore, in-service programs should provide opportunities for such growth as well as for the recording of participation and in-service credit earned. If ample opportunity is given for in-service growth, it can be accepted that each teacher is to present at least one unit of in-service credit each year. As a fifth positive principle for in-

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regardless of its quality, will be greatly diminished.

If research management results in even minimal improvements in the quality of research, while at the same time reducing the volume of research publications, the effect on the research and development effort in our society will be startling. Suppose (case 1), for instance, that 20 percent of the research articles which are currently published contain a significant fact. Suppose further, that an individual in some given discipline reads, on the average, 40 percent of the total publications for his discipline. On the assumption that he will encounter informative articles with the same frequency that they are represented in the population of articles, we can expect a given individual to encounter eight significant articles per one hundred available.

If now (case 2) the volume of publications could be reduced by 50 percent while the quality improved only to the point where 30 percent of published articles contained a significant fact, then, with the same reading rate, the average worker would cover 80 percent of the published literature. On the average, each worker would encounter, as a consequence, twelve significant articles. While in moving from case 1 to case 2 there is a 17 percent loss in significant articles within the total system, each worker, nevertheless, becomes acquainted with 50 percent more significant articles. At first glance, it would appear that we have enriched the individual worker at the expense of the total information wealth of the system. I shall contend that this is true only in the short run.

Few of us would dispute the assertion that verbal interaction with fellow researchers can contribute to productive research. Consider the nature of verbal interaction under cases 1 and 2: In case 1, and accepting its assumptions for the sake of example, the average worker will have in his possession information from eight significant articles out of a population of one hundred. Therefore, if two workers attempt to converse, the facts from a maximum of only 16 percent of significant articles available can be held in common. In case 2, 48 percent of significant facts will be held in common. Thus, we may conclude that the probabilities of fruitful interaction will be three times as great in the second case as in the first case. We might, therefore, expect that the increased incidence of fruitful researcher interaction and concomitant increase in research production would, in the long run, more than offset the initial loss in total system facts in going in case 1 to case 2.

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## tenure and due process

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terminated. It would seem prudent for institutions to provide a due process hearing to any faculty member who requests one or who challenges the decision to terminate the status of tenure or a contract. Under the developing law of due process, the status of tenure and even continuing contracts has been given new legal significance in light of the fact that "expectancy of re-employment" now constitutes a new kind of property right that institutions cannot capriciously take away.

In closing, consider an incentive for research management of an entirely different order than those already described. If the institution of research management within a university should give that university a competitive edge, either real or apparent, over other universities; then, in order to survive, the other universities will have to conform. Furthermore, a competitive edge, once established, can be used to obtain an even greater competitive edge. Consequently, we can expect that those institutions which are first in the field will have every opportunity to remain first in the field.

## FOOTNOTES

1. For example, see F. J. Roethlisberger and W. J. Dickson, *Management and the Worker* (Harvard University Press, 1939); and Peter Blau, *Exchange and Power in Social Life* (New York: John Wiley & Sons, 1964); also, *The Dynamics of Bureaucracy* (Chicago: The University of Chicago Press, 1955).

2. Robert Merton's distinction.

3. Paul A. Samuelson, *Economics*, Chap. 2 (New York: McGraw Hill, 1970).

4. This idea is developed in W. Ross Ashby's *Design for a Brain* (London: Chapman and Hall, 1966).

5. Herbert A. Simons' discussion of vertical and horizontal division of labor, control versus task efficiency is worth thinking about in this connection. See "The Proverbs of Administration," *Public Administration Review*, 1946.

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## in-service programs

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service programs, the specific details and guidelines of such a procedure should be formulated jointly by teachers and supervisors. A program as outlined requires considerable record keeping, but the advantages to be gained far outnumber the disadvantages to be encountered. In a given school district, the procedure could be handled at each building by a teacher committee operating under the guidelines of the district-wide policy. Such a local committee could decide, for example, that a 5th grade teacher who traveled in Yosemite National Park and took slides for use next year in a social studies unit had met his requirement of in-service credit. Each teacher's in-service record would eventually be submitted to the central administrative office.

### Summary

The steps in providing a relevant in-service program for teachers involve 1) the assessment of areas in which teachers wish to receive help, 2) providing alternative ways for teachers to participate, 3) utilizing an in-service bulletin to announce the various programs, 4) utilization of teacher leaders to prepare and present in-service programs, 5) involvement of teachers in formulation of a policy of utilizing in-service credit for salary increments. These steps provide for an in-service program based on assessed needs rather than on outside prescribed topics.