

Iron County Teachers Study Their Problems Scientifically

Application of scientific methods of cooperative action research in a system-wide approach can lead, as is shown in this article, to sound instructional improvement.

HOW IS IT POSSIBLE to report in one brief article the two years' experience of an entire school district of one hundred teachers—first grade through high school—with the action research process?

The Iron County School District is one of six in Utah cooperating in the Kellogg financed project known as the Cooperative Program in Educational Administration. The project in this district differs from the others in the state and country because the study is focused directly upon change in the classroom; that is, direct improvement of instruction and the administrators' role in that improvement. This report will be confined to a discussion of the teachers' activities rather than exploring the training program and activities of the administrators of the district.

Setting of the Study

Iron County School District is located some 267 miles south of Salt Lake City. It is a small district. The town of Cedar City with its high school, junior high and three elemen-

tary schools is the hub. Here is located a branch of the Utah State Agricultural College authorized to grant bachelor's degrees, the radio station, the service clubs, the movie theaters and the chief shopping center of an area larger than the school district itself. Cedar City is located on the main north and south highway that extends through the state and into Nevada and California. It is the gateway to the southern Utah parks with a hotel operated by the Park Commission. Several fine motels are to be found in this small city. Due to the location of the mountains, there is no television reception.

Other schools in the district are found in a village eighteen miles north on the highway. Here are located a six-year high school (grades seven to twelve) and an elementary school. A few miles still farther north is an eight-year three-teacher school. A two-teacher six-grade school is located in a dry farming area to the west and another to the south. These seven elementary schools, two high schools and one junior high school comprise the school units of the district.

The district takes its name from the iron mines that constitute the main source of wealth for the county, although farming, particularly cattle and

Marie M. Hughes is professor of elementary education, University of Utah, Salt Lake City. This article was prepared with the cooperation of Mary McMillan, supervisor, and of the teachers of the Iron County District, Utah.

sheep raising, is important. The district has been fortunate because the population gain has been within normal rate. This has enabled the Board of Education to keep construction of classrooms within demand. The new school opened last September is one of the most modern and educationally functional buildings in the entire state.

The setting then for the study is a modern community (minus television) with highway contact with the larger world, a college and sufficient wealth to finance its needs, although there is always an underlying apprehension that the iron mines might close or drastically reduce operation. In addition, there is both hope and fear that the uranium findings will extend into the area. If this happens the way of life of the community and its present close-knit ties and common culture will be changed.

Method of Action Research Is Chosen for the Project

The administrative leaders held certain views regarding ways of working with people. They wanted to employ those ways of working that permitted option and creativity on the part of the teachers; ways of working that permitted the teachers to learn from association with one another; ways of working that provided new experiences for each teacher; and ways of working that could be personally and professionally satisfying. In addition, they wanted some real change toward improvement in the classroom situation. They knew that change could not be lasting or be real without commitment and involvement on the part of the teachers. They saw the project, with its

provisions for outside consultant aid, as the means whereby they could learn with teachers a more scientific way of working together to improve the teaching-learning situation. With these concerns in mind, it appeared that the action research process described the involvement (actual doing of something in the classroom) that should characterize the study.

The Study Begins

The teachers in this district, as well as others in the state, had been disturbed by the report of the Sixty-Man Survey Commission on the Public Schools made in the spring of 1952. This report had indicated that the children and youth in Utah were below the standard of the country in the field of the language arts; therefore, the consensus seemed to be that our first work should be confined to this area. Each teacher was asked to make a list of objectives that he had in mind as he worked in the field of the language arts. Teachers of special subjects at the secondary level were asked to state the problem that they felt existed as they worked with students in their own specialized field. A composite list of objectives was made from the several lists turned in from individuals. Little time was given to the refinement of objectives or to working together for consensus on the importance or statement of the objectives. They were accepted at face value and the next step taken.

This second step suggested that each teacher choose an objective that interested him, describe his procedures for attaining it (the hypothesis), and state the evidence that he planned to

secure for testing whether or not his procedures were effective.

At the end of the first year, eighty-one of the teachers made individual reports of their work.

Nature of the Language Study

Many of the problems pertained to the building of vocabulary, correction of usage errors, and improvement of spelling. These language areas were the specifics on which the tests had provided evidence of less success than desired.

Other problems included the development of critical thinking and discussion, improvement of oral and written reports, improvement of the psychological climate and stimulus situations that release and encourage children to write. The problems in reading pertained largely to aiding children to discriminate more carefully in their selection of reading materials and to increase their comprehension in reading.

Although the teachers worked individually, all those working in a given area such as spelling or vocabulary building met together with the consultant. Most of the teachers needed help in delimiting their problems so that they could gather evidence regarding response to the instruction provided. For example, a primary teacher who hypothesized that the use of puppets promoted vocabulary building, found her problem much more meaningful when changed to "what kind of puppet promotes most use of language on the part of the children?" The assumption was, of course, that unless children used language they could not increase their vocabularies.

The two or three teachers who were looking at the "show and tell" period for usage errors, moved into teacher standards for the period, to children's participation in setting up the conditions that stimulate participation and interest, and, finally, to a mature content analysis of things that are of interest to children of different ages. At this point the significance of the individual work became something that welded the teacher group into a co-operative unit.

A generalized study on written reports was limited to written reports in science. The final hypothesis was: Children's written reports will be more childlike (spontaneous) and less bookish if they have some firsthand experience with the material they write about.

Results of the Language Study

A large number of the teachers actually learned a way of working in which they found satisfaction. For the first time in their career they actually looked at evidence as a result of what they were doing.

Many of the results could be acted upon by others as well as the teacher who originally secured them. To illustrate:

- Individual commitment to learning to spell that accompanies the child's making up his own spelling list including the total number he will work on for a week results in improved spelling as measured by weekly test results, improvement in written work and greater interest in spelling.
- Young children prefer the small cardboard (flexible tag board) puppets because they can make them quickly.

Thus they play many more stories and are more creative in their fashioning of the puppets. Next in popularity are the milk bottle puppets that can represent a family and be pushed around on top of a table.

- Young children have favorite poetry. Such favoritism is dependent upon content and not length as some teachers believed.

- Children were reading material of real literary merit along with their comics. The range of differences in amount read made it inadvisable to set up a reading list for all.

- Children and youth in Iron County made the same kind of language errors that are reported for other parts of the country. It was believed that they had some colloquial speech patterns that prevented their scoring properly on the tests.

- Children know what they like to hear in the Show and Tell period and can set up suggestions that will stimulate interest and participation (a kind of feedback).

- Children read much more in an individualized self-selection type of situation than under the usual group reading.

These examples are sufficient to show that results were secured that demonstrated that the method of classroom research was useful. As one might expect, the people who put the most into it, obtained the most from it.

Second Year of the Study

The second year the teachers were assured that they could work on any problem of their own choice rather than being limited to the field of the language arts. Three aspects of their

choice of problems will be discussed. First, problems of school living were attacked in the disciplined and systematic manner of the action research process. Secondly, the problems of instruction now became those of frontier significance. That is, they included procedures that are highly recommended but for which there is little published documentation of what happens under the procedures. Some of the spelling and usage studies had been a field that had been well worked previously, although the teachers had not acted on the findings of former studies. Through their own research they became aware of the printed studies and their significance to them.

The third element in the second year's work has been the establishment of the problem on a truly cooperative basis.

Some Problems of Daily Living

Two elementary schools felt that their most pressing problem was the difficulties that children had in the playground situation. Staff members agreed that children quarreled, tattled, fought, disfigured property, and otherwise acted improperly on the playground. They asked themselves such questions as these: At which period do the children have the most trouble? Do girls have as much trouble as boys? Do a few children cause all the trouble? What do you call trouble anyway? As a result of these questions the group members were quick to see that they did not have requisite information to move into an action hypothesis. Their first job, therefore, was to define "trouble" or altercation. The final operational definition became: "It is an

altercation when (a) children get into a situation in which they come to an adult for help; and (b) when the situation is one of bullying or teasing wherein others come to the adult or the adult sees the situation as one that is patently unfair." The second definition was made necessary because secondary and elementary schools used the same playground; also, it formed a framework in which tattling could be evaluated.

The second step required systematic observation of every playground period and a coverage of the entire playground area. Common recording charts used by all the teachers showed the nature of the altercation, who was involved and the time that it occurred.

The compilation of the observations showed that noontime and the few minutes before school began in the morning were the periods when the very largest number of altercations occurred. Secondly, it showed that a few youngsters were the instigators although no age group or room was exempt.

At this point the elementary and secondary school councils met together to discuss the situation and make recommendations. Their recommendations were direct and to the point. First, divide the playground for secondary and elementary pupils with each staying in his own area. The playground was large enough so that this was entirely feasible. The second thing that the children wanted was to take all the playground equipment of balls, nets, wagons, etc., out in the morning and again at noon. Their argument was that they had nothing to do but "fool around" and so got into trou-

ble. These two recommendations were put into action along with some discussion in each classroom on "how we can have fun on the playground." The pestiferous problem of playground altercations disappeared.

The high schools have found a method of dealing with non-attendance, car parking and use during school time. The method has included getting the facts and interpreting the facts so that a plan of action evolved, then checking on the results of the plan. The young people were involved at the point of gathering diagnostic data as well as working out the plan of action for improvement.

The teachers have found the need for new skills if they are to use a scientific method based on the facts in the solving of practical school problems. Chief among their needs have been the skill of consulting with young people and the acceptance of their point of view.

Frontier Procedure and Cooperative Effort

These problems of frontier procedure and cooperative effort will be briefed only. It is hoped, however, that their potential significance may be seen.

One school is experimenting with a variety of reporting-to-parent instruments as well as teacher-parent conferences. This study was planned with the parent-teacher organization and has involved much cooperation on the part of parents as they have responded in an evaluative manner to each instrument or procedure used. Already the study has resulted in much clearer definitions of the traits and attitudes upon which reports are made.

Another study by a primary group (first grade through third) of nine teachers has focused attention upon children's responses to a wide variety of reading stimuli in a so-called developmental approach to reading. This study is one of the most provocative because the problem requires a careful action program and a continuous redefinition of developmental reading. This redefinition emerges from the data gathered on children's responses to the reading situation.

An intermediate grade group of teachers is trying out self-selection procedures in reading and a variety of ways of providing children with purposes for writing.

The junior high school is in the process of re-evaluating its guidance program. All teachers, at least theoretically, are involved.

A high school committee is studying a group of so-called deviates—namely, twenty-two of the most talented students and twenty-two of the least talented. It appears now that this committee's findings will result in a redefinition of most and least talented. Three parents are members of this committee.

The middle of January over eighty percent of the teachers voted to continue the project if money could be secured for consultant help. Earlier the teachers had expressed themselves thus:

"I have the feeling that some mighty important work is going on in our district and each one of us is part of it. I think what amazes me most is how enthusiastic everyone is about what he is doing."

"I believe many of us are in the dark. I still don't know what it is all about."

"It is easier to be a principal now be-

cause we have a recognized procedure for working on our problems: Gather the facts systematically; compile, analyze and interpret the results; get a hunch or hypothesis on what might work; make a plan of action; gather evidence (facts) on what happens under the new conditions. Evaluate and repeat the process."

"We continue to need more help on how to gather evidence and record data."

We have in these expressions the range of attitudes toward the project. These attitudes extend from non-involvement to highest enthusiasm. They demonstrate that some people feel a confidence and power in their work that they had not experienced previously. These expressions do not reflect the growth of teachers in objectivity observed by consultants.

Other outcomes of the project are seen in the actual work in the classroom. School life is different for many children because of the project.

The problems pertaining to working scientifically in the classroom are many. Among them are the skills involved in delimiting a problem and setting up operational definitions. There are skills and creative endeavors involved in ways of defining and recording evidence. Such skills can be learned with application and intent on the part of the teacher. The systematic, disciplined way of following defined procedures and gathering evidence can be attained, even though there are frustrations involved in the learning and doing process. The real dynamics of this whole process of studying the classroom scientifically lies, however, in the task of accepting the meaning of the data that are secured. It means real trauma for some teachers to discover that they have secured no evidence that drill on

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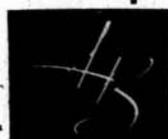
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vocabulary lists results in children's using the words in writing or speaking. Teachers were shocked to learn that over half the children in the middle grades did not like to read in class. Every classroom used the plan of having children read around the class circle every day. Again, some teachers investigated the way children felt toward school. They discovered the children felt that teachers had pets, and that teachers never praised them.

These examples show two ways in which teachers are made insecure and upset. One, their complacency in their method of teaching is challenged; second, their entire attitude toward children is up for reappraisal. The basic problem in this becomes, should children be asked these questions? Should we consult with children in this man-

ner? At this point in scientific work in the classroom we are dealing with the basic concept the teacher has of himself as a teacher and the basic attitudes he holds toward children and the role of the adult (teacher) in the life of the child. There is a depth of feeling on the part of most teachers that requires, on the part of the consultant and co-worker, great support and sensitivity. Can this period in the process of action research be cushioned in some manner? Since it grows out of data found, it cannot always be foreseen. The more vital the work under way, the more significant are these teacher reactions. To reiterate, for some teachers this "look" at themselves is a major ordeal. It must be met so that the teacher can move forward a freer and more creative person.

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