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Using the Group-Unit Method Democratically

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Adapted from a paper presented as part of a panel discussion on "Adapting Science Instruction to Meet Community Needs," before one of the Joint Sessions of Science Teaching Societies of the AAAS in Philadelphia, Dec. 28, 1951. The author details the philosophy, methods, and some of the results of her use of the Group-Unit Method in science instruction and certain other subject-matter areas in the seventh and eighth grades at Garner and Chapel Hill, North Carolina.

I will not pretend that either Group or Unit work is new. I would rather contend that they are yet untried by many teachers. Our educators say that these practices are carried out quite generally and very well in most of our primary grades but, from that point on, they fade out and teachers turn to working page by page in textbooks. The result is that the enthusiasm for learning is lost, education becomes dry and boring to both teacher and pupil, becoming increasingly less real and worthwhile, and less interesting as we move upward in grade level.

By the time students have reached high school level they should be able to use the methods of research, and should have well-organized habits of study. I heard just a few days ago of a superior college freshman who was very much unprepared and surprised when faced with her first term paper. Preparing reports from many sources was a new ex-

perience for this superior student. Preparing a bibliography, keeping notes, and a long-time assignment were new. Why should they be? A mother, who is a friend of mine and who has a Doctorate in education, bought a set of encyclopedias for her son. She said he went through the first eight grades and almost through high school before he had even one assignment involving research or which required his encyclopedias.

All too often our pupils are well trained to do only a certain few pages or problems which the teacher plans, the teacher assigns, and the teacher checks. Pupils are seldom given any responsibilities. Those who suffer most from such methods are our superior and exceptional children. They have lost their desire to learn by not being given responsibilities and by not being challenged to think. They are satisfied with far less than their best efforts and have become "problems."



Photo by Margaret Fisler, Courtesy North Carolina Wildlife Resources Commission

Unit project activities in the study of animal life, such as these, can be assembled to make an attractive and informative exhibit.

What is a Unit? How does it fit into the time pattern? I like to think of a Unit as a comprehensive piece of work inclusive enough to consume anywhere from two to six weeks of school time. The time spent will vary greatly according to the time structure of the particular school, or the interest span of the group. It may vary from group to group according to age and ability. We find that, for us, in junior high school science, six-week Units seem to work out very nicely. The use of every educational tool that the teacher and pupils can think of, which will contribute to answering the problems set up by the group and leader as goals for the Unit, will be needed. The Unit will be set up so that it will be a core. In the progress of the Unit, the children will be con-

cerned with English as it arises as a normal part of the work, they will have many occasions to do arithmetic and spelling, they will write letters for information, and so on.

The first step in the Unit will be a brief outline of the plan of study. This also will be the organization plan for class notebooks. For seventh grade, during the Unit, pupils will make a complete factual outline. In science they will collect a list of laws, principles, and generalizations. We call these "Things to Remember." The Unit will include as many experiments as everyone can find which explore various problems studied in the Unit. It will include oral and written reports. For these reports, research in many books will have been done. It will also include all of the

miscellaneous material that can be collected which pertains to the Unit—pictures, diagrams, graphs, clippings from magazines and newspapers, recent pamphlet material, state bulletins, etc.

The teacher and students will use as many real materials, actual products, samples, collections and so on as possible. Down the road from our school is an establishment where tombstones are made. The class walked down to learn how rocks are used to make memorials. Each one came back with samples of various types of granites and marbles and the names of the places where these rocks were quarried. Materials used will include up to date information and materials that are a real part of the living of the people of the community where

you teach. The teacher will direct children to chapters in their textbooks which pertain to the Units being studied.

In our democratic American life, it is becoming increasingly necessary for people to learn to work together. We are teaching courses in some of our schools called *Human Relations*, but do we allow students in schools to live together? I believe I could safely say that in most schools we still follow the antiquated practice of lining our children up in rows and teaching them, with much emphasis, to be quiet. Yet there is no place in life, except in the military services, where they will ever be lined up in rows and, except in a library, there are few places where they will work in quiet. In large offices they will have to work with others



Photo by Margaret Fisler, Courtesy North Carolina Wildlife Resources Commission

Seventh and eighth grade pupils planted corn and lima bean seeds and compared the growth of plants having different seed structure.

moving around, and they will have to learn to compute and concentrate amid the clatter of office machines and typewriters. Yet in schools it is very convenient for the teacher to have children stay put in rows and all be quiet.

If we are to better prepare our pupils for life, our schools should use life methods so that year by year our pupils learn better to get along with others. This will carry over to help solve many of our current social problems. If pupils learn how to get along with others, perhaps we will have fewer divorces, fewer mental cases, fewer lonely people, and fewer problems of many kinds in schools and out.

How can this be done in the classroom? The Unit method carried out in groups is one method. Chairs or desks can be arranged so that pupils can work together. Any arrangement that fits the furniture and equipment and space you have can be used. Circles can be used, if you have space, chairs facing each other. This gives an amazing amount of extra space in which work tables can be placed. I asked for about ten folding chairs. These are used by panel groups during discussions, by quiz groups, by those doing art work, and so on. I heard one educator say that he talked to a screwed-down teacher who taught screwed-down children in screwed-down desks. Of course it does not improve the situation if we unscrew the desks, and then put chalk marks on the floor in the places where the chairs must be kept.

Progressive education received much unfavorable reaction partly because too many teachers jumped all conventional traces and failed to organize their work once their conventional patterns were broken.

Group and Unit work require cooperative planning. The overall plan of work for the year needs to be made co-

operatively. In order to satisfy supervisors, principals, and parents, we began by saying, "Here are suggestions for Units in the State Course of Study. Here are Units suggested by the author of our textbook. Here is what another author thinks. This is a big order for us, but perhaps we can think of a way to organize all of this material, and maybe we will have time for some choices of your own too." There are two large branches of science. We need to see that some of our Units are chosen from each field. There are physical science Units and natural science Units. When I spoke to one teacher about how children choose and plan, she said, "Oh, I wouldn't dare do that. They would choose to jitter-bug or read comics!" But they don't. We need to have faith in our young people, and confidence in their ability to choose, plan, and accept responsibilities.

The teacher may continue setting up the Unit by saying, "There are several ways of choosing Units and several ways of arranging our groups. Let's talk about the possible ways, then decide which plan we will use this time: another time we may want to do it another way."

Some possibilities for Unit organization are:

1. The whole class chooses a Unit. The groups take different divisions of the Unit.
2. Perhaps a class is divided into four groups. Each group can work on a different Unit.
3. Usually the children suggest that they organize groups of varying sizes according to interests.

After the groups are formed, each group chooses a leader and a secretary. Each chooses a process observer. Once I heard a process observer say, "Mr. Chairman, am I talking too much?"

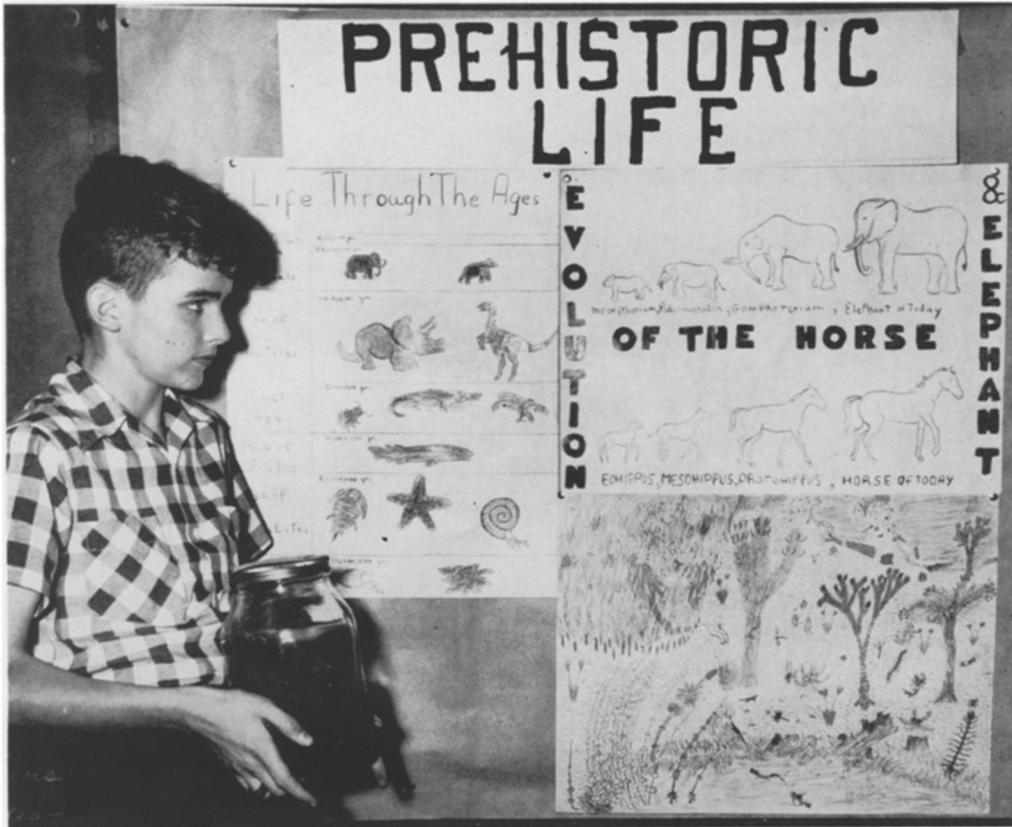


Photo by Margaret Fisler, Courtesy North Carolina Wildlife Resources Commission

Original posters, showing life in prehistoric times, are worth-while group Unit activities.

When the pupils in a group are organized, they make a brief outline of their plan of work. They spend several class periods searching for materials they can use, portioning out topics. They set up a list of requirements for the Unit and Notebook. These are usually more comprehensive than the teacher would make.

Most of the work is done during class periods. They have their plans; now they need work time in which to carry them out. The teacher is free to assist groups, work with individuals, help find materials, get supplies, make suggestions, and keep in touch with what groups and individuals are doing. Members of groups may make a frieze, posters, display tables, or arrange collections, prepare bulletin boards, and so on. The

group decides how it will prepare a notebook, cooperatively or individually. A bibliography is required.

Our English book has a Unit on how to prepare reports, make outlines, and bibliographies. We discussed this chapter in relation to our Unit work, and found that we had done much more than was suggested by having made all of these things real parts of our Unit work. If children are to use many books and many other types of materials to supplement their textbooks, provision must be made for these things to be available for use in the classroom. Teachers must collect materials and make them available to pupils. If all of us show our administrators the values of this type of work, perhaps schoolrooms will gradu-

ally become better equipped for our use. We need more shelf space, work tables, and folding chairs for many uses.

By working in small groups, teachers can make use of a small number of books of a kind, single copies, and pamphlet and magazine material. In one school, where I taught, the teacher and a committee decided to clean up the book-room. They put a sign on several shelves of books saying, "These are to be discarded: if you want them, take them." Among the books were salesmen's sample copies of many new books; since there was only one copy of each, they were going to throw them out. Such books often make wonderful additions to the room library.

Before I move on to the next step, I might anticipate some of your questions. Do you do that work all day? Groups can plan their time. Also we find that we almost never have two days alike. In general we plan about an hour's work period in science, then do our arithmetic in the conventional way, then we may work in social science, or we may have another work period in the afternoon. For two years, my group work was done in a departmental set-up, and in science we used this method exclusively. Pupils worked in groups only when they were in their science class. By using both methods, the children are not deprived of any of the values of formal education, and they have to become adaptable.

After the work period is over, the groups are ready to present their findings to the class. They work out different ways in which to make their presentation. A group working on Conservation decided to dramatize the enforcement of game laws. They had a hunter and a game warden in their play. Several groups have put on quiz programs. Some groups divide up their material so that each person in the group is a member of a panel. Some groups close with

a test which they give to the whole class. They show any art work which they have done, they do experiments, and tell about field trips. An eighth grade group did a Unit on Multiple Births. They arranged to bring in three sets of twins from other classes in the school for their presentation. On the same day another group demonstrated an electrical color-changing device which they borrowed from the University.

Sometimes they read orally to the class. There is a real audience situation. The teacher can reserve the privilege of expanding on parts of the work presented, suggest other demonstrations, follow up with additional information, ask questions, and so on. The presentation will stimulate further study and arouse the interest of other pupils to make a choice for another Unit.

At the close of each group presentation there is an evaluation. The work will constantly improve as the children learn to constructively criticize their own work and the work of others. Each group leader asks for favorable comments, suggestions for improvement, and corrections. The Notebook is used for collecting material which will be used for the presentation. Notebook work becomes vital.

After that part of the evaluation, we evaluate the work of individuals in the groups. The children gather in their groups to give their estimates of grades. The teacher can make use of this in making her grades. This helps all pupils to get a true realization of all the factors which enter into fair grades. They realize that abilities vary. I remember one group leader bringing a student to me saying, "We decided that everyone should get three examples from magazines, and he says he doesn't have a single magazine in his home."

An important part of Unit work is real experience. Field trips to industrial

concerns, local establishments, the dairy, college departments (if you are in a college town), museums, filter plants, and so on can be organized.

How about transportation? If the children want to do a thing badly enough they will help find a way. We were studying transportation and communication and planned an all-day field trip. Four mothers helped all day with the group. There were 37 children and four mothers. A committee was chosen to do the planning. I was fortunate to have a husband who could help us. He took the planning committee to the various places and helped them work out a time schedule for the trip. They took notes and presented their findings to the class. There was much pre-planning. Just before we were to leave school, I said, "Is there anything else anyone can think of?" One boy said, "Have we notified the Cafeteria Director that we are not eating here today?" We had not done so. Children can be very thoughtful and helpful, when given real problems, and when they know they have the confidence of adults in their abilities to contribute.

In summary, I would like to list some of the values of Unit and Group work done on a democratic basis: (1) Children work to answer problems. (2) They share material. (3) They learn democracy by living it. (4) They can work on various levels. (5) These methods develop leadership. (6) Homework grows out of classwork. (7) Art work is correlated with classwork. (8) They bring in resource people. (9) They do research. (10) A few copies of one kind of book can be used. (11) There are opportunities for experiments with little equipment. (12) Children share in setting up requirements and share in choosing Units. (13) Interest is the basis for learning. (14) Children talk about school work with others of

their own age. It is thrilling to me to hear them discuss whether a rock is sedimentary or metamorphic or igneous; also to have them say, "May we have the hydrochloric acid to test this?" (15) It gives children an opportunity to move about and to learn good behavior because it is a necessity that they move about. (16) They learn personal independence; also independence of the teacher. They seek aid from their classmates. (17) You have a true audience situation. (18) Oral reading is purposeful. (19) Notebooks have a real purpose; they are in constant use. (20) Leaders take responsibility to see that all in the group contribute; leaders and groups set up the requirements. (21) Music, English, spelling, and arithmetic are correlated within Units, yet we do not neglect formal work in these subjects. (22) Groups make display cases and keep bulletin boards. (23) Every individual has many opportunities to contribute to the class in many ways. (24) There is much carry-over of democratic ideas into other school work, and into the home and community. For example, one mother I knew said to her husband, "I've invited a lot of children in for a party." The father asked her what she was going to do with them. She said, "I'm not going to worry about that; they have such good training in planning in school that they know how to take care of themselves." (25) Many children ask guest speakers in to help with classwork. One girl asked a missionary from Jamaica to talk to us about his trip to Brazil. (26) Children bring tools, equipment, supplies, volunteer transportation, etc. They almost do things in spite of you. A terrarium was built, and a bird-feeder. Another child brought a huge roll of newsprint for art work. (27) Project work, experimenting, dramatics and so on are a continuous component part of Unit and

Group work. A teacher I talked with said, "Yes, they do projects. We got through our text, and the last two weeks at the end of the year the students enjoyed doing projects." (28) Children tackle Units, topics, and projects for which neither you nor they know all the answers; you learn together. Last year an eighth grade group decided to study roots. I said, "Oh, I don't think you can find enough material." They said there was more than they could use. They made a set of posters on black paper, drawn in white ink, that was excellent. They had also found actual specimens of tap roots, fibrous roots, adventitious roots, and so on. (29) Children have a sense of belonging. This is especially good for the children with less ability. (30) Other students help those with less ability. (31) It seems to me that when children have the privileges of democracy in the classroom, it would be very unlikely that they would listen to the teachings of any foreign power that might try to undermine our democracy.

REPORT ON CONSERVATION PROJECT

The Executive Committee for the Conservation Project has been delighted at the favorable response to the project in all parts of the country and at the number of people who are volunteering to assist with it. Many people have learned of it through announcements made by organizations with representatives on our Advisory Committee.

Twenty-four states were represented at the Conservation Work Conference held in Philadelphia as a part of our annual meeting December 27-31, 1951. Meetings of state groups were held and some planning started for committee work in each of the states represented. Suggestions were made for improving the criteria which will be used in locating examples of outstanding conservation teaching.

State chairmen have been appointed in all forty-eight states. The state chairmen are organizing state committees in each state to conduct the conservation project and to fit the committee work into other conservation education efforts.

As rapidly as state plans can be developed and the descriptions of various techniques are collected, work conferences will be set up to go over the materials and edit them for publication and to plan for follow-up activities. Work conferences in 1952 are tentatively scheduled as follows:

Southeast—Emory University April 18-19 in conjunction with meetings of Southeastern Biologist's Association under the chairmanship of George Jeffers of Farmville, Virginia.

Northwest—Corvallis, Oregon, in June in conjunction with the meetings of Pacific Division AAAS under the co-chairmanship of Leo Hadsall, Fresno, California, and Ruth Hopson, Eugene, Oregon.

Northeast—Ithaca, N. Y., on September 10-11 in conjunction with meetings of American Institute of Biological Sciences under the chairmanship of E. L. Palmer of Ithaca, N. Y.

Midwest—Saint Louis, Mo., December 28-31 in conjunction with the AAAS and the annual meeting of NABT under the chairmanship of Richard L. Weaver, Project Leader, Raleigh, N. C.

At least two other regional conferences are contemplated to take care of the Southwest and Rocky Mountain states.

The National Conservation Committee welcomes help from any interested persons or organizations. Those wishing to help should contact any of the following people:

NATIONAL CONSERVATION COMMITTEE

The executive committee of eight members to coordinate the project are:

Richard L. Weaver, Chairman, P. O. Box 5424, State College Station, Raleigh, N. C.
E. Laurence Palmer, Fernow Hall, Ithaca, N. Y.

Lydia Elzey, 311A Burrowes Building, State College, Pa.