Peter Visits the Water Plant

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PETER ENTERS KINDERGARTEN this fall! What thrilling words those are to Peter and his parents. To the educator they are a challenge. He realizes that much of the responsibility of fitting Peter for life in the type of democratic society in which we live lies with him.

Before school began Peter lived in a small world of his own. Because there was no nursery school in his neighborhood, his parents were his chief companions. A few playmates of his own age may have entered his field of activity, but his stage of development before 5 did not necessarily mean they played together. To an observer it may have appeared they cooperated, but closer observation, no doubt, would have shown that each child operated pretty largely in his own sphere of interest.

From this rather independent way of living, Peter suddenly finds himself in a society of many individuals of his own age and general level of ability. He finds many materials which are new and fascinating to him and many activities that are interesting and challenging. However, along with the pleasant new things in this society, he finds some barriers to the freedom to which he was accustomed. He soon realizes that he will not be able to ride in the new red truck all morning. Other children like the truck too. So begins an important lesson in sharing—a necessary skill of democratic living. One can't play with the fascinating molding clay all morning. When other boys and girls want to rest, Peter must at least be quiet so they can rest. He begins to understand that there is such a thing as authority in this new society. He learns that crying and fighting to force one's rights against the wishes of the group soon mean that one is left out of group activities. Gradually majority rule, in simplified terms, comes to mean something to even a 5-year-old. Gradually, the "I" is changing to "we."

There's work to be done in a society—even in a society of 5-year-olds! It may be hard to give up the place of engineer on the block train to help Susan get the milk or set the table. But didn't he volunteer to be on the "milk committee" yesterday? If he doesn't help now, another person may be chosen to fill his place. One doesn't want to lose face in one's own group. So the taking of responsibility is learned early in life.

Someone visiting these 5-year-olds might wonder about all the physical activity, about the numerous types of apparatus available for exercise and about the large-size art supplies. Development of physical skill comes in for its share of attention. Climbing, pedaling, jumping and swinging equipment help to develop the large muscles of arms and legs.

As Peter grows and moves on through elementary school, physical skills are developed in accord with his individual rate of growth and maturity. Smaller muscles are brought into use when the stage of his development makes their use valuable to him in his activities. More detailed games are taught as his span of attention and memory extends to allow for better comprehension and interpretation. Rhythmical activities extend to greater bodily interpretation of music and creative dancing. These rhythmical games and exercises build a response to musical beat and tempo as well as a development of graceful carriage and poise—all of which tend to build self-confidence in Peter. Social skills of good sportsmanship, fair play, taking of responsibility, working for the good of the group and taking pride in group success are described in this article by Irene Ahlborn, elementary supervisor, Fort Dodge, Iowa.

Peter is 11 years old. His interests are those of most 11-year-olds. And so are his needs. When he takes a trip to the local water plant he enlarges his vocabulary in order to describe what he sees, he starts figuring gallons per hour to get a better picture of how the pump works, and he learns something about city government when he meets the town's water commissioner. Peter's experiences and how they help him to grow toward more intelligent and happy living are described in this article by Irene Ahlborn, elementary supervisor, Fort Dodge, Iowa.
are valuable outgrowths of the physical activities of Peter in elementary school.

Peter Tackles a "Grown-Up" Problem

In the space of a few years, Peter is eager to deal with really "grown-up" affairs. As an 11-year-old he is interested in learning more about the society in which he lives. Looking in on Peter and his group, we learn that the question under discussion at the moment is: How does our city take care of its water supply? The interest began when Peter told about seeing a water inspector taking some water from a pipe way out at the end of the line. Peter wanted to know just what he did with it and why he chose water from so far out.

As the conversation went on, several new ideas were added. Mary said her dad told her that the sewage water was dumped into the river. Noses were wrinkled in distaste. The youngsters began to ask questions—questions on health, and conservation, questions relating to civic, scientific, governmental and even economic problems. Doesn't the sewage kill fish? Who owns our water plant? Is it right to spoil swimming holes by dumping in sewage? Why do we have to pay a water bill when water is free?

The next matter that loomed large in their minds was: How shall we find out all these things? Many suggestions were given. The local and state health departments might answer some. The people where mother paid the water bill might be able to tell why they needed money. Books might provide some answers. Then someone hit on the idea of going right to the place where sewage was dumped into the river and seeing for one's self. Upon looking over the questions, Jane suggested that some of the answers might be learned at the water works plant.

Enthusiasm ran high. There were plenty of plans to make and responsibilities to be taken. A volunteer committee would call the plants to see when a group might visit and if a guide were available. Transportation would be planned for by another committee. Plans had to be set up so the youngsters would get every bit of information possible. Different groups would have to concentrate on certain phases of the plants and report. In that way responsibility for getting information would be divided and nothing of importance would be overlooked.

Transportation and planning committees got busy at once, and at last the day chosen came. The parents, whom the transportation committee had asked to take the group to the plants drove up even before the appointed time—almost as excited and interested as the children. Hadn't they heard nothing but water works for days now, and weren't there a few "stumping" questions their offspring had asked? They'd really like to know the answers too!

Peter Takes a Trip

The trip to the plant was orderly and pleasant. A discussion of how to conduct one's self on an excursion had provided for that.

The water plant was the first stop. Here children began to understand some of the underlying principles of government and economics. The guide spoke of a "municipal plant." That was a new term. Someone jotted it down—not exactly in the right spelling arrangement—but as a reminder that the word needed to be clarified in his mind.

A bit of "geology" entered the picture when the children heard the words "flowing wells" and "water veins." Peter made a mental note to ask his dad, who was a well-driller, just what a flowing well was. His dad said he always used a pump.

The cost of the plant was a number a bit out of their mathematical knowledge, but the guide gave it slowly, and the committee interested in finances copied it so it might be placed on the board for all to see later. Other mathematical figures found their way to notebooks as the number of gallons actually used, the full gallon capacity possible, the number of fire hydrants, the number of water consumers and the number of miles of water pipes were given. The figures amazed the children—795,000,000 gallons of water in one year, 68 1/4 miles of water pipes, and pumps that could pump six times as much as they usually pumped should an emergency arise.

The greatness, importance, and value to them of this plant began to grow in their minds. They hadn't ever thought about what happened at the water plant when everyone in their block sprinkled his lawn nearly every day in summer or when that big fire had raged two days and the fire department had used streams of water all of the time.

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Sally, who'd heard mother complain about the water bill, was having her questions answered in the panorama she saw before her eyes—the many wonderful electric pumps, the spare gas engine for use in case the electricity went off, the oxidizing section, the purification filters, the many interesting gauges and the workmen who tried so hard to be absolutely sure Sally's family would always have pure water and plenty of it. Sally intended to tell mother about this wonderful place. Maybe she could persuade her to come here and see for herself.

The chattering group that came out of the plant was not the same one that had gone in. Something had happened. Their view into the project which they had just seen had helped them to realize, understand, and appreciate things which they had overlooked altogether before or which they had simply taken for granted. They were becoming intelligent citizens of a community!

The trip through the sewage plant to see what happened to the water after it had traveled to homes and industries through the sixty-eight miles of water mains was equally as interesting. They had never stopped to think about such simple things as the fact that their city had two types of sewers. But the next time it rained and the water rushed down the gutters and into the drain at the end, they'd think, "That's a storm sewer." Their eyes were opened and, as a result, observation of things close to them became keener.

Their vocabulary grew rapidly as words such as detritor tank, perforated, aeration, bacteria, and so on began to be clarified through actual observation and explanation. Some of these weren't too clear still and several children decided to make a further study of them.

The boys were fascinated by the floating, cone-shaped covers on the digestor tanks which prevented the gas that collected there from blowing up. They came to appreciate the economic value involved when they learned that this same gas was caught and burned to manufacture electricity to operate the plant. In fact, so much gas was manufactured that some could be sold for profit. Besides that, the gas furnished the heat for the plant and was used in the laboratory. They learned, also, that every possible economic value was obtained from this sewage when they saw the sludge drying plots and learned that the sludge was sold for fertilizer.

The word filter, to which they had been introduced at the water plant, again came into use as they saw the sewage put through several filters. They were beginning to get the answers they wanted. Of course, fish wouldn't die from the sewage when it was thoroughly purified; nor would there be any odor along the river banks; the swimming holes were perfectly safe.

They went home that day better fitted to be citizens of their community because they knew something about one of the greatest industries in their city. Because this one trip had taught so much and had been of such great interest, they would soon want to know other things about their community.

Everyone Asks Questions

One group had become greatly interested in the bacteria that the guide talked about at the sewage plant. He'd talked as if there were good bacteria as he told how they broke up the sludge and helped to purify it. Were there good bacteria? The children decided to work as a group to find out. They chose a chairman, and then decided upon a plan of action. Suggestions as to which books and pamphlets might contain material were given. These were gathered together, and the chairman allotted them to committee members. Fronts and backs of books were well used as children hunted rapidly through indexes and tables of contents. Soon all were reading busily, jotting down notes as they went along.

Later the chairman called them together. Notes were compared, information was exchanged and difficult passages were discussed and interpreted. Then came the problem of organization, a very necessary part of giving their information to the class. It was decided that an outline would be a good plan. After much discussion, rearranging, and changing, it was accepted as completed. Then the chairman asked which section of the outline each member would like to take for an oral report. This was decided upon, and each individual planned what he would say. Out of the curiosity about bacteria grew a very real use for many communication skills.

Mathematically minded youngsters brought those skills into use when they became very much interested in the large figures they'd
heard. These young mathematicians decided to use the figures they'd gathered to make charts, graphs, and interesting problems to show and explain to the other youngsters and to challenge them to solve. Soon the group was busy near a blackboard where figures could be placed for all to see. After some discussion and planning, they began to divide into pairs. Large sheets of paper, rulers, and crayons began to appear. The result was a bar graph showing a comparison of the average actual number of gallons of water used in the city per day to the number of gallons that could be pumped if it were necessary. Another graph, vertically arranged, showed the comparative depths of the five flowing wells which supplied the water. A third group was preparing an interesting "Did You Know" chart. It contained such questions as: Did you know that there are 5294 consumers of water in our city? Did you know that our citizens used an average of 89 gallons of water per day last year? This chart would be of interest to show and read. That would mean that one would have to be able to read each number easily regardless of its number of digits and to explain them if necessary.

Two of the "math wizards" were making up some problems to "stump" their classmates. That took thought, but at last the problems emerged, and they were "stumpers." "The average number of gallons of water used in our city in one day is 2,100,000 gallons. That is only 1/6 of what could be pumped if necessary. How many gallons could be pumped in an emergency?" This one and their others brought a glow of satisfaction to the children as they saw the puzzled faces of their classmates working their real problems.

Another group showed a great deal of interest in just how the city managed this plant when that question came up following the excursion. They decided to learn more about it and organized into a committee for action. Their teacher suggested they look in the telephone directory under the name of their city and see if there were any section on water listed under city government. There it was in bold type, WATER DEPT., Ofc. Municipal Bldg. That was the place to go! An exact plan of procedure was outlined after much discussion. First, they would call for an appointment. Then each child would take the responsibility of asking one of the questions the group had decided it wanted to know. All would take notes to help later in planning the class report.

It was a surprised water commissioner who ushered into his office such a mature and serious group of 11-year-olds. He had smiled when they'd called for an appointment. But he soon found he was "on the spot." They knew why they were there, and they wanted the answers. He found them curious, but courteous and gracious. As they left, he couldn't help but remark, "There go our future commissioners." How right he was! From such early beginnings grows an intelligent government personnel for the future.

Busy Committees Give Reports

At last the deadline date for committee reports arrived. Chairmen bustled about to be sure everything was in readiness. A table and a circle of chairs were placed at the front. As each committee took its place, the chairman introduced the question under discussion and each member reported on his topic. Occasionally a member of the audience did not understand a statement and asked for clarification. Sometimes someone asked a question which opened up a new train of thought and presented problems for future study.

When all committees had reported, someone said, "My dad said he wishes he knew as much about our water plants as we kids do. He says he guesses he'll have to go through them, too, sometime." Then came the suggestion, "Why don't we invite our folks over and tell them about it?" This idea was met with enthusiasm and plans began. Many of the committees could give their reports just as they were. Someone thought it would be great to describe the trip through the plants. Another said, "It would be swell to have some sketches of those tanks and things out there. It would make things clearer." So it went. Soon plans were complete. After school several eager youngsters, well equipped with sketching materials, took a bus out to the sewage plant. The following day the sketches are used to clarify oral reports about the excursion.

Time was taken along the way to write a letter of invitation and explanation of the plans to each parent. Someone suggested the
plant superintendents and the water commissioner be asked. So carefully written letters were put into carefully addressed envelopes and sent to them.

It was a great day for the enthusiastic 11-year-olds when they took over the scenes and carried through the day with ease and success. In some ways it was an even greater day for the adults who watched and listened—yes—and realized, too, that this group of young citizens will be ready when their turn comes to take over the reins of government.

Peter Begins to Look at the World

The interest of Peter and the other children in the things about them gives their teachers a chance to help them build understandings and appreciations of the things which touch their present day life. Gradually they will be led away from their local community to other parts of the country—parts with different physical features which make it possible to provide the variety of food, clothing, and other essentials which they enjoy. They begin to understand that providing them with what they want and need involves transportation, labor, and economic problems. As time goes on they gain the understanding that many of the things they want come from across the seas. They can begin to understand trade agreements, the need for friendly international relations, and the interdependence of nations.

As Peter’s vision broadens, he will want to know how we came to have some of the things we have today. He is ready to learn about and appreciate the contributions of various races and nationalities to our culture. The building of such understandings and appreciations will pave the way for a more tolerant and kindly attitude toward all peoples of the world and a greater chance for lasting world peace.

With an ever increasing amount of leisure time for both adults and children, the ability to use this time wisely must be developed. Five-year-olds and 11-year-olds learn early how to use spare time in their own classroom. Book corners help develop the love for reading which was started in regular library and recreational reading periods. A variety of art materials in cupboards where they may be easily gotten at keep many youngsters fascinated with the business of creating for hours on end. Science nooks help the young scientists probe into the mysteries of life about them. Play periods teach “real” games for use in time outside school. Hobby afternoons allow an exchange of ideas on ways to spend extra time, and hobby shows add an incentive to carry through an interest. All these activities build skills and habits useful both today and in adult life.

Growth of Peter and youngsters like him is the all important aim in the work of an educator. To provide for the growth of the whole child, skills of many types must be developed: skills to make for better group living, skills that result in wise choices and intelligent judgment, skills that insure greater personal gains and satisfactions, or physical skills to make for increased joy and ease in living. The development of all these skills continues throughout the elementary school—each receiving its proper emphasis and time in the all-round growth of the child.

With this development begun, Peter goes on to the secondary school for greater refinement and continued growth. The challenge to educators all along the way is the opportunity of sharing in the building of an educated citizen of a democracy and the world.

New Members to Committee of 12

A. R. Mead of the University of Florida is a new member of the Committee of 12, representing Region IV (North Carolina, South Carolina, Georgia, and Florida). Mr. Mead takes over the duties of L. D. Haskew of Emory University who is at present in New York as executive secretary to the Committee on Teacher Education. J. C. Matthews of North Texas State Teachers College at Denton replaces J. G. Umstattd in Region VIII (Texas, Oklahoma, and Louisiana). Mr. Umstattd is working in the education program of the armed services abroad.