

SCIENCE FOR
the
KINDERGARTEN

AN ABSTRACT OF
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by
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The thesis, "Science for the Kindergarten" consists of three chapters, appendix, and bibliography comprised of professional reference, topical, and filmstrip titles.

Chapter One, "Foundations of Basic Science for Children", presents an overview of the scientific method including identification of a problem, collection of data, examination of solution, review of result, and application. Quotations from science writers and teachers such as Craig and Burnett substantiate the viewpoint that children are eagerly and actively involved in finding out about themselves in their environment. They need planned guidance to achieve learning goals compatible with encouraging our democratic way of life.

In planning a science program, the teacher should keep in mind certain principles of child development. These include opportunities for the child to investigate and explore, to develop skills and attitudes for an orderly pattern in life, to find security in new surroundings, to achieve independence from home and mother, to feel the satisfaction of success and of acceptance by the group, to understand himself in relation to the world, and to gain increased enjoyment of life. Centered closely about the child, the program should help him to come to terms with reality, the essence of science. In wider outlook, planning for the future, it is hoped that these potential citizens will use scientific applications in strengthening our democracy and economic advance to serve humanity.

Chapter Two, "Science Programs of Professional Authors," briefly outlines their plans for primary children, with a consideration of how they accord to the previously stated principles of child development. The following texts are discussed.

1. Science and You by Gerald Craig presents familiar experiences based on situations involving senses of smell, taste, touch, sight, and hearing. He emphasizes the need for rich sensory experiences from which children may derive meaning, and the need for learning to work in groups. Teacher guidance and planning should help in growth of concepts dealing with change, adaptation, variation, communication, and interdependence.

2. Getting Ready by Bone, Bond, Clymer, and Bell includes discussion of seasonal differences in various climates, plant and animal units, and the usefulness of machines in making man's work faster and easier. Encouraging firsthand observations and information, these authors also try to develop creative expression through sharing and discussion of ideas.

3. Herman and Nina Schneider in Science for Work and Play seek to build concepts by firsthand experiences, leading to sense of accomplishment as the child finds out for himself. One of their fundamental tenets is the outline of the scientific method which leads to developing educated citizens, skillful and responsible for democratic behavior. They also stress the importance of failure as a

step toward achievement, the value of group cooperation, the acceptance of inevitable change, and a scientific literacy for everyone.

4. A chapter from the book Education in the Kindergarten by Foster and Headley deals with natural and social science for this age group. They observe science as part of everyday living. Of interest is their emphasis on the use of community resources and people to enrich the program, with many practical suggestions for activities for the children and the observations which may be drawn.

5. The Primary Manual of the Cincinnati Public Schools has sections for various curriculum areas including science. Their basic approach is in teaching children to use scientific facts in the existing society for problem solving purposes. Real learning experiences should have social and emotional values as well. This chapter is helpful on content, less so on method.

6. Book I, Macmillan Science-Life Series by Barnard, Stendler, Spock, and Moffitt, correlates health and science, the methods of science inquiry being joined to familiar problems of daily living and human behavior. In using the controlled experiment to test principles, each activity adds meaning to the idea being developed, while safely carried out according to the common experience of age level. There is also correlation with other subject areas of curriculum.

Chapter Three presents the writer's plans for a year's science program in the kindergarten, month by month, based on the children's lively interests, seasonal limitations, and availability of space and materials. Fall activities, for example, include safety practices connected with school bus and playground, fire prevention at school and home, unit on pets, and the changing season. In winter there are more indoor projects -- magnets, changes with heat and cold, health habits. Approaching spring returns the group to growing things, animals, the wind, and machines such as trucks and trains. Good public relations are maintained as parents are kept informed of projects through notes asking for materials from home. A wide variety of activities is supplemented by trips, filmstrips, books and discussion.