This brief report summarizes progress to date in a continuing study, now in its sixth year, of Montessori education in Cincinnati. Follow-up tests of Montessori children are focusing on the relation of early performance to grade school achievement four years later. This study represents the first systematic attempt to compare long term effects of Montessori with other educational approaches. The Cincinnati Autonomy Test Battery (CATB) was developed to measure educational methods (like Montessori) that stress spontaneous activity, self-direction, and a prepared didactic environment. Published summaries of projects that are part of the Montessori Research Project are mentioned. Future plans stress increased communication among researchers, teachers, parents and children. (NH)
BACKGROUND

Research on Montessori education in Cincinnati is now in its sixth year. Research through 1968 was summarized in four progress reports reprinted in the American Montessori Society Bulletin. In 1969 the first year of the Sands School Project was distributed (this was a study of the effects of Montessori and other educational approaches in the Cincinnati Public Schools).

The directorship of the Montessori Research Project was turned over to Dr. Ruth Gross in 1968 while I was on leave of absence at Makerere University in East Africa. Dr. Gross along with Mrs. Bonnie Green have continued their interest in the Sands School Project. They have introduced many thoughtful and productive changes in research strategy. Their interest in following up the Montessori children continues, and at the present time, Mrs. Green is examining the earliest test scores we have from the West Side and Millvale populations in order to relate early performance to grade school performance four years later. This long term follow-up study will be the first systematic effort to assess objectively the lasting effects of Montessori in comparison with other educational procedures.

CINCINNATI AUTONOMY TEST BATTERY (CATB)

Additional gains have been made through the introduction of new testing techniques developed within the Montessori Research Project. At the outset of this research it became apparent that existing measurement procedures were either technically inadequate, or irrelevant to the goals of Montessori education (or any other method of education that stresses spontaneous activity, self-direction, and a prepared didactic environment). The Cincinnati Autonomy Test Battery (CATB) was developed to remedy this deficiency.

As indicated in earlier reports, the CATB has created considerable interest in the educational research field, and has been adopted by numerous other research organizations. We have had requests for the tests from child development laboratories across the United States; as far away as Guatemala, Colombia, and Greece; and as nearby as the Cincinnati Public Schools.

The types of goals Montessori stressed are represented in the CATB: Curiosity, Innovative Behavior, Impulse Control, Analytic Thinking, Initiative, and Persistence. Many educators and researchers are interested in such goals and such tests. The CATB has provided a measurable way of evaluating the extent to which educational programs of all kinds achieve these goals.
Interest in the CATE continues to grow. Last month, for example, two sets of testing materials were requested for the University of Arkansas, and another set was ordered for the University of North Carolina. New inquiries come in weekly.

Because of this increasing demand I have begun to set up an organization through which the CATE materials can be manufactured, advertised, distributed, and sold. Mr. John Theis is now working out details of the business enterprise. Mr. Theis has been a teacher, he holds a Masters Degree in mathematics, and he knows the publishing business (he now works for a major publisher). Therefore, I am confident that the CATE materials will not only be maintained as high quality materials, but will in fact improve under his guidance.

Research published

Research project findings have been received with great interest. I have published a chapter on Montessori in Dr. Beth Stephen's book, *Training the Developmentally Young* (to be published by John Day, Inc.). Another chapter is forthcoming in Dr. Ronald K. Parker's book *Conceptualizations of Preschool Curricula*, which resulted from a conference held in New York City under the auspices of several sponsors, including the U.S. Office of Education. Both these books will be influential, reaching as they do, not only teachers and administrators, but also foundations and agencies as well as the general public.

Sands School Project

For more recent summaries of research results, reports on details of the Sands School Project for the second and third years should be consulted. Gross & Green's second year report showed that Montessori and the other non-graded class maintained an advantage over other comparison groups on a variety of measures. The results were more difficult to assess reliably in the second year because of an important change in the research population: as these children grew older and were exposed to a wider variety of life circumstances, they showed greater variation in test results. Thus, more of the test performance was attributable to individual experiences rather than educational method. Larger populations of children with teachers of similar style are necessary for more accurate statistical evaluation.

Alternatively, the researcher may choose to study the available small population in greater detail. This was the strategy of choice in the third year of Sands School Research, taken by Gross, Green, & Clapp. These results are described in detail in their 53-page report.* This study consisted of interviews

*For copies of the third year report, write to Dr. Ruth B. Gross, Department of Psychiatry, College of Medicine, University of Cincinnati, Cincinnati, Ohio 45221.
with children, with parents, and with teachers. The study emphasized intensive study of socially-oriented, non-academic areas such as social maturity and self esteem. These variables were found to be most likely a result of family and community influence. Very little effect was due to the educational methods studied. Montessori children did show superior communicative ability relative to other educational methods. Associated with this was the finding that Montessori children's parents were more verbal than other parents. Part of this may have been due to the fact that Montessori teachers make a more concerted effort to work directly with parents, helping them to verbalize the kinds of goals and aspirations they have in relation to their child in Montessori education.

THE FUTURE

An important consequence of the Gross, Green, & Clapp study was that it revealed a definite need for shared communication among researchers, teachers, parents, and children. For the future, administrators should be brought into the picture. In the current vernacular, "we have to get it together." No education takes place inside the child alone. What the mother does, the teacher may undo; what the teacher counts on, the administrator may counter; and what the child wants may be found wanting in the schools.

This research has grown very much like the children we have studied: from simple to complex; from undifferentiated to differentiated; and from dependent to independent. The child is a person with a future. The Montessori Research Project is a project with a future.