

DOCUMENT RESUME

ED 066 219

PS 005 843

AUTHOR Reich, Carol  
TITLE Preschool Education for Inner-City Children: Preliminary Results of an Experimental Montessori Programme.  
INSTITUTION Toronto Board of Education (Ontario). Research Dept.  
PUB DATE Nov 71  
NOTE 25p.  
EDRS PRICE MF-\$0.65 HC-\$9.29  
DESCRIPTORS \*Disadvantaged Youth; \*Experimental Programs; Mothers; Parent Attitudes; \*Preschool Education; Preschool Programs; Program Descriptions; \*Program Evaluation; Skill Development; Social Development; Social Maturity; \*Urban Education; Verbal Ability  
IDENTIFIERS \*Montessori Approach; Toronto

ABSTRACT

Early results from a Montessori nursery program initiated by Toronto, Canada, in 1971, to help inner-city children prepare for formal education indicate that the mothers of the 15 three- and four-year-old children were pleased with the program. Specifically, they felt that the children had increased their verbal skills, preparedness for junior kindergarten, and social maturity. However, not all mothers were pleased with the increased independence shown by some of the children. A study of the children's characteristics suggested that caution should be exerted in extrapolating the findings from other so-called disadvantaged children to inner-city children in one's own city. Other data are useful but the needs of a particular population must be carefully observed. When isolating deficiencies or identity needs, wholesale generalizations from superficial measures should not be made. Precise and explicit definitions should be made for such terms as deficient in language, intellectual motivation, or conceptual ability. Otherwise, inadequate solutions are likely to result. (JS)

ED 066219

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE  
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE  
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS  
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION  
POSITION OR POLICY.

PRESCHOOL EDUCATION  
FOR INNER-CITY CHILDREN:  
PRELIMINARY RESULTS OF AN  
EXPERIMENTAL MONTESSORI PROGRAMME

Carol Reich

November, 1971.

#100

# RESEARCH SERVICE

*issued by the  
Research Department*

PS 005843

THE BOARD OF EDUCATION



FOR THE CITY OF TORONTO

## A NOTE OF APPRECIATION

The study of any programme makes demands on the staff. Administrators must help the researchers with practical problems of planning and scheduling; teachers must suffer interruptions of their classes and the annoyance of someone else poking their nose in the door. This research effort was noteworthy, not only for the cooperation we received from everyone involved, but also for the enthusiasm with which it was given.

Mr. Carl Head, principal at Sackville Public School, deserves special mention for his initiation of the study and his encouragement at every point along the way. The staff of North York Montessori did everything they could to facilitate our efforts. Mrs. Barbara Zeibots, Academic Supervisor for North York Montessori, Alice and Lee Whitney, of the Board of Directors, and Mrs. Molly Weaver, a Montessori parent, discussed the programme with us at the very beginning and helped in the planning. Particular thanks go to Mrs. Pauline Weaver and Miss Barbara Rodrigoe, Montessori teachers, who welcomed us into their classrooms to observe the children and discuss ideas. Miss Kathryn Bolton, first grade teacher at Sackville Public School, allowed us to do some testing in her class.

The research was a cooperative effort between the Research Department of the Toronto Board of Education and Professor Andrew Biemiller of the Institute of Child Study. Professor Biemiller's students administered IQ tests, and observed the behaviour and language of children in the classroom. Their data form an important part of this report, although responsibility for selecting and interpreting the data is the author's.

The students responsible for this work are Joanne Smith, Dale Arbuckle, Carol Page, Diane Fulton, Graham Anthony, Cathy Brant, and Beverly Poitevin.

Research help was also given by Dr. Eleanor Long of the Board's Student Services. Dr. Long has given us access to data collected at Sackville as part of the Early Identification Project and provided for the administration of IQ tests to the Sackville first graders.

Finally, we must thank the Montessori children themselves who made our job a pleasure.

TABLE OF CONTENTS

	<u>Page No.</u>
THE MONTESSORI PROGRAMME .....	1
THE NEEDS OF THE CHILDREN .....	5
BENEFITS OF THE PROGRAMME .....	15
SUMMARY AND CONCLUSIONS .....	21
REFERENCES .....	22

## THE MONTESSORI PROGRAMME

In January of 1971 North York Montessori Nursery Schools began a preschool programme at one of Toronto's inner-city schools, Sackville Public School. Fifteen three- and four-year-old children from the area attended the programme for the six months from January to June. This programme was a co-operative effort between North York Montessori, which donated a teacher and materials and organized the programme and the Board of Education for the City of Toronto, which supplied and renovated a room in the school.

In documents sent to the Board (August 17, 1970), Barbara Zeibots, the Montessori Academic Administrator, writes:

The Montessori method of nursery education has a special relevance to inner-city work, for it was begun as a technique of helping children in disadvantaged areas.

Maria Montessori developed her famous method of nursery education while working with disadvantaged children. One of her first projects was in a slum-quarter of Rome called San Lorenzo... The advantages of her method for children from deprived areas can be briefly summed up as follows:

- (1) A stress is put on order and independence, on growth in self-confidence and on self-worth.
- (2) A stress is put on the academic, especially on oral language for those who want it. Every effort is made to cultivate a love for learning which will compensate for whatever cultural deficiency may exist in the home life. Montessori is, in other words, very much a Head Start programme.
- (3) Special apparatus gives the child an opportunity to develop all his senses and motor skills. There is also a programme of trips and visits outside the classroom, designed to extend the child's knowledge and to give him experience of a different setting.

- (4) A family grouping of ages helps to foster social and emotional growth. Practical life exercises within this grouping help to foster co-operation; the exercises themselves extend the creation of pattern.

Family grouping could not be implemented since the programme included mostly three-year-olds with only one or two four-year-olds. However, all of the other Montessori principles described above were part of the Sackville programme.

An additional principle was incorporated into the programme: parental involvement. Mothers of the children were encouraged to volunteer as helpers for one day each week, and mothers who could not give this much time were invited to attend as many of the regular sessions and special events as possible.

The outcomes of the many remedial programmes developed for the culturally-deprived child have been disappointing. Generally investigators look at a child's progress on various standardized tests soon after his completion of the programme. Modest gains usually appear. However, investigators who undertake the more significant task of searching for long-term gains are usually disappointed (Parker, et al., 1970). Several of the more cynical authorities suggest that the short-term effects which have been demonstrated are spurious, resulting from statistical artifact or the increased test sophistication of the child (Vane & Davis, 1971; Bereiter and Engelmann, 1966).

Some of the most promising results have come from programmes which involve parents, along with their children. In one such study Susan Gray (1971) compared the intellectual progress of children attending a preschool whose mothers were either involved or uninvolved in the programme. The involved mothers attended a weekly session in which they

were taught to work as assistant teachers. The uninvolved mothers had no formal contact with the school. At the conclusion of the programme, both groups of children performed equally well on tests of intellectual ability. However, the children whose mothers were involved in the programme maintained their level of performance when retested after second grade, while the children whose mothers were uninvolved declined. Furthermore, benefits of the programme extended to the younger brothers and sisters of the children with involved mothers even though they themselves did not attend the preschool. These younger children of involved mothers tested higher than the younger children of uninvolved mothers.

Another programme with parent participation also produced dramatic and long-term growth in disadvantaged children. In the Milwaukee Project (Strickland, 1971) both mothers and their children attended an instructional programme for a full day, five days a week, from the infant's third month until his fifth year. The children chosen for the programme had mothers whose I.Q. tested at 70 or below. The goal of the programme was to prevent these children from suffering the progressive intellectual decline that the children of such parents usually undergo during their childhood. To the surprise of all involved, however, not only did the children involved in the programme not show a decline in intellectual functioning, but at three and a half years of age they gave a performance on a variety of tests that was superior to norms for their age generally.

Both Susan Gray's project and the Milwaukee Project were characterized, in addition to parental participation, by the long-term nature of the programme. The former lasted two and one-half years, and the latter four years. This cautions us against expecting dramatic benefit from a Montessori programme which was much more modest in both these respects.

- 4 -

An additional factor working against the demonstration of benefits from the programme was the small number of children involved.

Nevertheless we felt it was worthwhile to try and document the effects of this experiment, brief and limited though it was. Such a programme is new in the City of Toronto, and is likely to prepare the way for others. Some indication of its success should be useful to other preschool planners. Also useful to future planners in Toronto would be some idea of the particular needs of our children. Accordingly the research was designed with two goals: to describe the needs of the children and to document any benefits they received from the Montessori programme.

The study was planned as a co-operative venture between Professor Andrew Biemiller of the Institute for Child Study and the Research Department of the Board of Education.

## THE NEEDS OF THE CHILDREN

It is unnecessary to elaborate on the educational handicaps of inner-city children. A study conducted for the Board within the City of Toronto just last year (Wright, 1970) showed that the lower the occupational category of a student's family, the less likely he is to be found in a four- or five-year secondary programme, the more likely he is to be placed in a special class in public school and a special vocational or special high school programme in secondary school, and the more likely he is to be placed one or more years behind his age-mates throughout his entire school history.

Many psychological investigations have attempted to discover the reasons for the educational failure of these children. Most studies emphasize deficiencies in language development. These range over the entire arena of measures, from the amount of vocalization in thirteen-month-old infants to the length of sentences and vocabulary size of first graders. (For a concise summary of this literature see "Language Development in Socially Disadvantaged Children" by Jane Beasley Ralph, in Review of Educational Research, 1965, 35, pp. 389-400).

These findings however have not gone unchallenged. Studies by linguists tend to emphasize the relativity of language. Lower-class speech is not inferior, they say, it is just different from the speech of the middle class, just as Parisian and Quebec French are different.

One proponent of this view is Susan Houston (1970). She believes that the inner-city child is disadvantaged only in the school testing situation where he must speak a language which is different from the speech

PS 005843

of his home and his community. From her own investigations conducted in natural situations, Houston, concludes that the non-school language of lower-class children is as rich and complex as any she has ever encountered.

William Labov (1969) has a similar criticism of research on the disadvantaged. He contends that the lower-class child performs poorly on language tests because he is unfamiliar with the testing situation and the middle-class researcher, both of which are foreign to his way of life.

Both Houston's and Labov's criticisms are valid. A perusal of the research reported in Ralph's summary article on the language of the disadvantaged reveals that the children were almost always assessed in some sort of formal testing situation.

The research project at the Sackville Montessori programme included a study of language development. However, the students from the Institute for Child Study who did the assessment tried a more natural technique. Instead of administering a test or conducting a standard interview, each child was observed for one hour of normal nursery school activity, and his language production recorded. Most studies of language development assess both language production and comprehension. That this study only investigated production is a limitation. However, disadvantaged children show greater retardation in production than in comprehension, so that the maturity of their language production is a fairly adequate indicator of their overall level of functioning (Pasamanick & Knobloch, 1955 reported in Ralph, 1965).

This study of language at Sackville supports the contention of Houston and Labov that this area of research needs to be re-evaluated. The language of children from Sackville was recorded and compared with

the language of children of the same age from a private Montessori school serving middle-income parents in the northern part of the City.

The results show that the downtown children talked much more than the uptown children; they produced about 50 per cent more spoken words in their language sample than did the uptown children. There were no differences in the size of vocabulary used by children in the two groups, giving no evidence of qualitative differences in their speech. Thus we cannot make a blanket statement that one group of children is more proficient in language production than the other.

There were differences however in language usage which were very evident to anyone merely walking into the two classrooms. Upon entering the Sackville classroom a visitor would soon be surrounded and pulled in all directions by different children wanting him to watch what they were doing. It was very difficult to work with any one child because other children would constantly be trying to engage the visitor in conversation. When this researcher asked individual children to accompany her outside the classroom in order to be tested, most were eager to comply. And the testing itself was frequently accompanied by chatter and conversation.

The same visitor could very likely spend the entire morning with the uptown group without being approached by a single child. When asked to accompany the researcher for the testing, although agreement was eventually elicited, it was less than enthusiastic and often obtained only after repeated requests.

Analysis of children's language during the formal observation period confirms these general impressions. The data show that the Sackville children asked more questions than did the other children, particularly

questions directed to the teacher. The uptown children directed a total of 15 questions to other children during this period while the Sackville children asked 20. Although the Sackville children asked more, the difference here is only 5 questions. However while the uptown children directed only 10 questions to the teacher, the Sackville children asked 27, a difference of 17.

Further analysis shows a more general difference in language use. The uptown children spent somewhat more time than the downtown children talking to themselves: 775 words compared to only 284. However an even larger difference is found in the number of words directed to others. The uptown children produced 689 words in this category; the downtown children produced about 1922, enough to compensate for their deficit in self-directed words and to raise their total word production to a level 50 per cent higher than the production of the uptown children (see Table 1).

TABLE 1

TOTAL NUMBER OF WORDS PRODUCED BY SEVEN UPTOWN AND SEVEN DOWNTOWN CHILDREN DURING A ONE-HOUR OBSERVATION PERIOD

Number of Words	Uptown Children	Downtown Children
Directed to self	775	284
Directed to others	689	1922
TOTAL	1464	2206

Thus in terms of the limited analysis that was done, language in the two-groups seems equally well developed from the linguistic point of view alone. But among the Sackville children, language is more often used to initiate and sustain contact with adults.

Other evidence supports the view that desire for adult contact dominates the behaviour of these children. The Sackville children requested more help and praise. They engaged more frequently in activities with the teacher. Since there was no difference in the frequency with which the two groups played with other children, we cannot ascribe these differences to a generally greater sociability on the part of the Sackville group.

More study is needed before we can say with certainty, that this group of downtown children does not have a language deficit. Nevertheless these findings raise an important issue: namely the need to be clear about the distinction between language itself and behaviour which is manifested through language.

If we took the language sample at face value, we would have to conclude that the downtown group was more advanced since they talked more. Similar statistics are often used to prove that downtown children are retarded since in most test situations they talk less.

There are two common mistakes in research of this type. Some investigators notice a difference in speech and assume it indicates a difference in thought. Researchers often note that downtown children talk in shorter or less complex sentences and infer from this that their thoughts are less complex. The most noted advocate of this line of reasoning is Basil Bernstein (1960). Other researchers notice a difference in thought and assume it is caused by a difference in speech which can be remedied by language training. Noted advocates of this general position are Bereiter and Engelmann (1966).

This is not to say that language and thought are not intimately related, because their tie is very close indeed. Language is no less than the primary vehicle for the communication of thought, from one person to another. A child who cannot use language will need to learn primarily by trial and error since he is unable to learn from the communicated experience of others.

Nevertheless language and thought remain distinct. Both Bernstein and Bereiter can be criticized for making simplistic inferences from the characteristics of one to the other (Labov, 1969). Certainly we can learn a great deal about thought by attending to what a person says, and we can influence what a person will say by teaching him a different way of thinking. But superficial characteristics of speech must not be confused with the thoughts they represent.

The disadvantaged children at Sackville were shown to be deficient in a particular area of thought, although not through a study of their language. The test that was used differs in several important respects from measures usually used to assess intellectual ability.

One of the problems in testing intellectual capacity is the biasing effect of past opportunities for learning. An intelligence test which asks for specific items of information will place at a disadvantage those children who have not had the opportunity to learn those particular facts, although they may have a wealth of other information at their fingertips.

A test of learning ability was devised which did not rely at all on previously accumulated knowledge. The test was also designed to be independent of the ability to use language. This test is relatively culture free and language free.

The test is a paired-associate learning task in which children are asked to learn an association between several pairs of items. The children were seated at a desk with three cups in front of them; the cups varied in position, size, and colour. The tester alternately showed the children three different stimuli, for example, pictures of a flower, a house, and an apple. Each stimulus was arbitrarily assigned to one of the cups by the tester. After viewing each stimulus the child was asked to guess which cup it was assigned to. He indicated his guess by depositing a bean in that cup. He was then told whether or not his guess was correct, and the next stimulus was presented. Although initially the child can have no idea of the correct response, he should be able to learn the pairs after a number of trials.

Each child is in the same predicament. None can have any knowledge of the pairings before starting the test. Each child's performance depends only on his ability to learn new information, not on what he has learned previously. Similar tests have been used by Arthur Jensen at the University of California, Berkeley to differentiate between children who are low in native intelligence and those who are merely disadvantaged (Jensen, 1960).

Overall the Sackville children took longer to learn the pairs than did the uptown children. Moreover their pattern of learning was different throughout the task.

The task was actually somewhat more complex than described above. The children were in fact presented with the same task three times, each time with a different set of stimuli. The three sets were: pictures of three familiar objects, toy models of three familiar objects, and the names of three familiar objects spoken aloud. All children were presented with the pictures first for practice, and then either the models followed by the words or vice versa.

Both groups of children performed about equally well on the picture-practice stimuli. The Sackville children were somewhat slower but the difference was not large -- an average of 43 trials to learn the pairs as opposed to only 40 trials. On the second stimulus set the performance of the uptown children improved to where only 26 trials were required for learning, while the number of trials required by the downtown children declined only 6 to 34 trials. On the third set of stimuli the trials required by the uptown children declined an additional 6 trials to 20. However, the trials required by the downtown children actually increased to 36 trials. As can be seen from Table 2, the performance of the uptown children continued to improve throughout the task, while the performance of the Sackville children did not.

TABLE 2

AVERAGE NUMBER OF TRIALS REQUIRED TO LEARN  
A TASK BY UPTOWN AND DOWNTOWN CHILDREN  
FOR THREE DIFFERENT SETS OF STIMULI

Stimulus Set	Uptown Children	Downtown Children
1	40	43
2	26	34
3	20	36

What can account for this result? Some observations on the behaviour of the children might help. First of all, all of the children -- uptown and downtown -- disliked the task. Since the task was carefully designed to be culture free, it was not related to anything they were interested in. An attempt was made to compensate for this by giving the children a piece of candy every time they guessed correctly. Nevertheless the children found the task difficult and boring. However the two groups of children reacted differently to this situation.

The uptown children continued to work at the disagreeable task. They sat quietly in their chairs and concentrated. The Sackville children on the other hand were restless. Their attention constantly wandered to other objects in the room. Many of them tried to engage the tester in conversation. This was one situation in which the downtown children were very verbal in contrast to the uptown group, but their use of language actually interfered with intellectual performance.

These observations agree, for the most part, with the formal behaviour assessment done by students from the Institute for Child Study. One of the observations they made was the number of times that the children either briefly wandered away from a task they were working on or were briefly distracted by some other activity. The Sackville children wandered and were distracted more often. The Sackville children also spent less time overall on each activity. They changed activities more frequently, going from one to the other.

These differences indicate a difference in attention span between the two groups which, as results from the learning test show, can have significant effects on learning. A short attention span is often noted in the research literature as a characteristic of disadvantaged children.

However it is important to note that other indices compiled from the formal observations indicate that the uptown children were more distractable. This inconsistency in the data is due to the fact that the sample was very small and individual differences were very large.

Perhaps the conclusion that should be drawn from these data is that differences in attention span have been overemphasized. It is possible that what really distinguishes different socio-economic groups is not attention span per se, but the tasks that they are willing to attend to.

It is important to note in this regard that the indices of attention span compiled from the formal observation period were collected during sessions in which the children were free to do whatever they wanted. The more clear-cut case of the downtown children being more distractable occurred in the highly structured paired associate learning test.

This does not mean that the distractability noted during those sessions should be discounted. Much of what children must do in school, particularly during the early grades, involves learning arbitrary associations -- between sounds and symbols for example.

Regardless of whether differences in attention span are individual or task-specific, there are steps the classroom teacher can take to deal with them. She can try and structure her class work around activities that interest the children. She can minimize distractions in the room, especially noise distractions. She can attempt to maintain attention by working with children individually or by her style of interacting with the class. An example of the effect of different teaching styles occurred during the learning task where it was found that the Sackville children did best when presented with the verbal stimuli followed by the toy models, as opposed to the reverse sequencing. Perhaps this is because words fall on the ear even when the head is turned in another direction, whereas objects are seen only when directly attended to.

### BENEFITS OF THE PROGRAMME

Previous research has shown that disadvantaged children given Montessori training will score higher on various tests of cognitive ability and achievement than similar children without such training.

The gains shown by Montessori-trained children compare favourably with those shown by children in traditional early education programmes, but are somewhat lower than those achieved by some of the newer structured programmes which have a strong cognitive emphasis. However there is some evidence that the Montessori groups continue to show gains over a longer period than do groups from other programmes. This finding is very important, if further substantiated, since very few attempts at preschool education have produced long-term results. It is important to note that middle-class children showed fewer gains with any programme, whereas all programmes showed at least short-term gains with disadvantaged children. (For a review of research on Montessori training, see Mieztis, 1971.)

For the first part of our assessment of the effects of Montessori training, the mothers of the children attending the Sackville programme were interviewed. Twelve of the fourteen mothers were contacted.

In general, their comments about the programme were overwhelmingly favourable. They seemed genuinely enthusiastic about the benefits their children had received from attending the Montessori Nursery School. All of the mothers agreed that they would send their other children to nursery school if the opportunity were available. Most of the mothers were unable to think of features of the school that they disliked, nor were most able to suggest improvements to the programme even when specifically asked. Four of the mothers did suggest improvements, but these were all in the nature of

expanding the present programme rather than fundamentally changing it. Two mothers suggested increased parental involvement; one mother felt more equipment was needed, and one wanted more professional staff.

All of the mothers said that their child enjoyed attending the preschool. A few children disliked going initially, but even these enjoyed school after they got used to it. Most of the mothers spontaneously added that their child was very unhappy or upset when he was unable to attend because of illness or when the programme ended in June.

One of the goals of the Montessori programme was to involve the mothers in the activities as much as possible. All but two of the mothers visited the classroom at least once during the period from January to June, and four of the twelve mothers were regular helpers on a weekly basis. Consequently they were fairly familiar with the programme. All of the mothers, when asked about the programme, named at least three activities that the children engaged in. However the activities they named were very specific, like "painting," "taking trips," "washing dishes." Even when specifically asked whether the school was designed to teach the children there was little awareness of the general nature or purpose of the programme.

The mothers were aware, however, of general effects that the programme had on their children.

Most frequently mentioned (5 mothers) was the general preparation for school that the programme provided.

"She learned how to go and come to school for Junior Kindergarten."

"She'll know what to do (in Kindergarten)."

"...know that school is for learning."

These mothers felt that their child was better prepared to enter the regular classroom because he had developed proper attitudes toward learning or had become familiar with school routine.

The mothers also frequently mentioned specific skills that the children had learned, such as math skills, songs and games, and cleanliness (6 mothers). Four mothers also mentioned an increase in general verbal skills.

"She talks to me about school... she asked me questions."

"(child) was very slow to talk, couldn't talk plain. She improved within three weeks."

"She talks more, tells us things."

Encouraging the development of verbal skills is certainly one of the goals of any preschool programme. It seems that the Sackville Montessori had some success in this area.

Another effect the mothers noted was changes in the social behaviour of the children (10 mothers). Five mothers noted the development of improved peer relationships.

"He learned how to play with other children."

"She associates more with other children than she did before."

"She didn't mix with kids much. She does much more now."

Four mothers felt that their children were generally better behaved or more mature as a result of attending the preschool. But there was also mention of a behaviour change which was not completely welcome -- increased independence. Children were described as:

"...a little more stubborn."

"...will also stick up for her own rights now."

"...(will) stick up for herself. Never took out her anger before."

"...saucier...learned to fight back...stick up for self...couldn't run to mommy."

The mothers seemed ambivalent about this trait. One mother seemed to sum up the feelings of this group when she said:

"...will also stick up for her own rights now.  
I guess that's good in a way."

In general it seems valid to say that the mothers approved of the increased independence of their children when it was turned outward toward others but not when it was turned toward themselves. Although it is a good thing to have a child who sticks up for himself in front of other children, it is not good if he behaves in this way toward his mother.

Growth in independence is one of the goals of Montessori training. It is on such basic learning skills that Montessori training seems to have an advantage over other programmes (Miezitis, 1971). However, here we have the possibility that a goal of the programme is at odds with the desires of the parents. It would be unwarranted to say that this has indeed occurred here on the basis of comments elicited from a few interviews. But the general issue of possible conflict between the goals of the professional educator and the goals of parents is one that must be seriously considered in any attempt to engage in the education of children who are culturally different.

The Research Department is hoping to conduct a long-term follow-up of children in the programme. Unfortunately this may not be possible due to the disastrous effects of any attrition in such a small sample. However, every attempt will be made to follow the progress of students who remain within the Toronto educational system.

Follow-up is planned to the end of first grade. This is the time at which children begin to make noticeable progress in the formal school subjects of reading and mathematics. Most of the mothers interviewed felt that the teaching of fundamental skills is the main task of the schools.

Another reason for postponing assessment to this date is that the typical pattern of research on preschool programmes is to find beneficial effects immediately upon completion of the programme or at the beginning of the next school year, but to fail to find benefits that persist over longer intervals.

Three types of follow-up are planned. First is teacher ratings of the educational attainment of children in the Sackville Montessori programme compared with children from a similar background who did not attend such a programme.

Second is comparison of these two groups of children on a standardized intelligence test. We will also be able to chart the intellectual growth of the Montessori children since I.Q. tests were administered during their Montessori year. A look at the scores on this test, which is the Stanford Binet, shows that the children tested close to average with a mean score of 98.5 (see Table 3).

The third follow-up is an assessment of attitudes toward education. Information on attitudes was collected from the 1970-1971 first grade class at Sackville, and comparison data will be collected from the Montessori group when it reaches first grade.

These three long-term measures will assess the effects of the Montessori programme in three different areas: school achievement, general intelligence, and educational attitudes.

TABLE 3

STANFORD-BINET (FORM L-M) I.Q. SCORES  
FOR SACKVILLE MONTESSORI STUDENTS  
MARCH 1971

Girls	Boys
88	97
110	93
95	115
105	105
98	
101	
94	
89	
90	
Average - 98.5	

\* I.Q. score unavailable for one girl.

### SUMMARY AND CONCLUSIONS

Fifteen three- and four-year-old children from the area served by Sackville Public School attended a Montessori Nursery programme from January to June of 1971. This represents a new venture in the City of Toronto in helping inner-city children prepare for formal education.

Although the planned assessment of the results of the programme is a long-term project that will not be completed until the children finish first grade, we already have some information about the operation of the programme.

The mothers of the children attending the Montessori programme were very pleased with the programme. They felt that the children had benefited in various ways from attending: increased verbal skills, preparedness for Junior Kindergarten, and social maturity. However, there was also the suggestion that not all the effects of the programme were welcomed. Several mothers noted an increased independence in their child which was not always enthusiastically received.

A study of the characteristics of the children themselves indicates that we must be careful in extrapolating the findings about other so-called disadvantaged children to inner-city children in our own city. Although the research which has been conducted in other areas is certainly useful, we must carefully observe the needs of our own particular population.

And when we isolate deficiencies or identify needs, we must be careful not to make wholesale generalizations from superficial measures. When we say that a child is deficient in language or intellectual motivation, or conceptual ability, we must be very clear about exactly what we mean by

these terms or we are likely to misinterpret the results.

REFERENCES

- Bereiter, C., & Engelmann, S. Teaching disadvantaged children in the preschool. Englewood Cliffs, New Jersey: Prentice-Hall, 1966.
- Bernstein, B. Language and social class. British Journal of Sociology, 1960, 11, pp. 271-276.
- Gray, S. Home visiting programs for parents of young children. Peabody Journal of Education, January 1971; pp. 106-111.
- Houston, S. A reexamination of some assumptions about the language of the disadvantaged child. Child Development, December 1970, 41, pp. 947-963.
- Jensen, A. Patterns of mental ability and socioeconomic status. Proceedings of the National Academy of Sciences, 1960, 1, pp. 1330-1337.
- Labov, Wm. The logic of non-standard English. In J. E. Alatis (Ed.), Monograph Series on Languages and Linguistics (#22). Washington, D.C.: Georgetown University Press, 1969, pp. 1-43.
- Milezitis, S. The Montessori method: some recent research. Interchange, 1971, 2 (2), pp. 41-59.
- Parker, R. K., Ambron, S., Danielson, G. I., Halbrook, M. C., & Levine, J. A. An overview of cognitive and language programs for 3, 4, & 5 year old children. Monograph #4. Atlanta, Georgia: Southeastern Education Laboratory, April 1970.
- Ralph, J. B. Language development in socially disadvantaged children. Review of Educational Research, 1965, 35, pp. 389-400.
- Strickland, S. P. Can slum children learn? American Education, July 1971, pp. 3-7.
- Vane, J. R., & Davis, Wm. M. Factors related to the effectiveness of preschool programs with disadvantaged children. The Journal of Educational Research, March 1971, 64 (7), pp. 297-299.
- Wright, E. N. Student's background and its relationship to class and programme in school (The every student survey). Toronto: The Board of Education for the City of Toronto, Research Department, 1970 (#91).