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Phillip W. Warren, B.A., Ph.C., Professor Emeritis, A.P.O.E.C., Cert.Edu-K.,CC-EFT
4459 52A St., Delta, B.C., V4K 2Y3 Canada
Phone and voice mail: (604) 946-4963. Toll free North America: 1-866-946-4963
EMail: <phillip_warren@telus.net>
Website: <www.rebprotocol.net>
U.S. mailing address: P.O. Box 1595, Point Roberts, WA 98281-1595

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KINDERGARTEN AS THE FIRST STEP TOWARD UNIVERSAL EARLY CHILDHOOD EDUCATION©

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Phillip W. Warren
Saskatchewan NewStart, Inc.

NEED FOR INTEGRATED PROGRAMS OF COMMUNITY, PARENT AND EARLY CHILDHOOD EDUCATION

This brief applauds and encourages the Department of Education of Saskatchewan in its interest in kindergarten and states that earlier education is much needed for all children in Saskatchewan. However, at the same time, it must be made clear that the establishment of kindergartens for all children is only the first step in a much needed and critical extension of educational opportunities to younger children.

The major orientation of this brief is that establishment of kindergartens is a step in the right direction but that <u>kindergarten is too late</u> (Edwards, 1968). Systematic education must be started much earlier and must be integrated with the wider community (e.g. parent education and para-professional training).

The education/development of the infant is inseparable from the education of parents so that, if possible, the education/development of the infant begins before conception through parent education, continues during pregnancy involving parent knowledge of physical, emotional and social aspects of pregnancy and birth (e.g. such basic things as proper nutrition), continues through infancy with an enriched home environment providing optimum availability of social, emotional, cognitive, and sensory stimulation and psvcho-social-motor opportunities. It is vital that parents understand how their attitudes and treatment of children can make lasting impressions, beneficial or detrimental.

Enthusiasms and interests, apparent from the earliest days, are vital factors for optimum development. These natural attitudes should be nurtured and cultivated by surrounding children with the right kind and amount of stimulation. Unless this is done, boredom, indifference and the incentive for learning are replaced by an apathy that resists all efforts designed to instruct and

inform. In some cases, failure to cope with children's needs can result in traumatic experiences leading to mental or behavioral disturbances. (Bowlby, 1965, 1966; Spitz, 1965). Failure of parents and teachers to recognize children's potential during infancy is so prevalent that public and professional demonstration/information projects in early child development are urgently needed to counteract current misuse or abuse of this potential. Non-graded continuous progress programs with the growing respect for children's ability and initiative in learning are much welcomed.

What is needed is an integrated program providing a more natural and smoother transition from the learning environments of home to those of the school. This, in turn, involves the cooperation and use of parents. This program could be accomplished through some medium such as a community or neighborhood "primary learning/development center"'. There is a great need to bridge the artificial divisions between school and community, teachers and parents, various levels and departments of government, various ages of children etc. The establishment of kindergartens provides an opportunity to design and evaluate an alternative model for education/development (see Appendix A). This model can then be extended with suitable modifications in both age directions.

IMPORTANCE OF EARLY CHILDHOOD EDUCATION

If, as this brief holds, early childhood education has more importance and demands more instructional skill and awareness than any other instructional level, then most education systems have their spending priorities upside down. Better use of educational resources would involve beginning the formal educational process at the age of two instead of six, and spending $2,000 or more to instruct each three-year-old instead of devoting that amount to twenty-year-olds. In other words, a better system of education would result if the present financing practice was stood on its head.

However, any such revolution will be counter to the history of early childhood education and the beliefs associated with it. Formal preschool education was established in France in the late 1700's to protect children from street influences. Until the 1950's, early childhood education was viewed primarily in social-welfare terms such as shielding children from harmful influences, enabling patriotic mothers to work in war plants or protecting private property. For example, Maria Montessori's work began at the request of Italian slum landlords whose tenements were being vandalized by unsupervised children of working mothers. All the landlords hoped was that Montessori would keep the children occupied and out of trouble; it was quite incidental that she taught them to read, write and calculate.

Since the mid-1950's, however, research in human development suggests that the emphasis on social and emotional development of much pre-school education is misplaced, and that the years from birth to six are as important for intellectual growth as they are for social and emotional development. The current interest in universal free kindergarten signifies an encouraging response among policy makers to the importance of early childhood education.

KINDERGARTEN IS TOO LATE

However, kindergarten does not start early enough. A community wanting to improve children's life opportunities starts systematic education early. In terms of sheer economy, the earlier the investment in <u>systematic intellectual development</u>, the greater the eventual rate of return.

"...Bloom [1964]... plotted the pattern of development of individual characteristics... [and] concluded that half of all growth in human intelligence takes place between birth and age four,

another 30 per cent occurs between the ages of four and eight, and the remaining 20 per cent between eight and seventeen. In other words, half of a child's intellectual development takes place before the school ever sees him, and 80 per cent is complete by the time he finishes the second grade. Similarly, other characteristics that make up the total of human potential develop very early. A corollary of these basic conclusions is that the influence of the child's environment in stimulating maximum development of individual characteristics is greatest during the period of their most rapid development, and this influence diminishes during the period of slower development. 'At late stages in the development of a characteristic,'...Bloom writes, 'only the most powerful and consistent environments are likely to produce marked changes in...the individual.'

"The moral is clear. The contemporary school, insofar as it attempts to play a major role in the development of human intelligence, patterns of academic achievement, and the growth of related characteristics, almost inevitably brings too little to the task, and that too late. For many middle-class children this built-in failure of the school may not be critical. For the disadvantaged child, whose home often lacks intellectual stimulation, it may be disastrous.

"Fortunately, a number of new programs are exploring the possibilities of training disadvantaged mothers to provide a more stimulating environment for their infant children in the home. Others are experimenting with special nursery schools for children from age two to four or five. Very likely we will see many more efforts of this kind as awareness of the crucial nature of these early years becomes more general." (Cass, 1968, p.59)

SOURCES OF RESISTANCE TO SYSTEMATIC EARLY CHILDHOOD EDUCATION

The harmless-sounding phrase "systematic intellectual development" points to a battle that has been raging among child development specialists since the late 1850's when German immigrants brought with them Friedrich Froebel's kindergarten: should early childhood education entertain or teach children? We now know that children find learning fun provided it is properly handled. Until recently, however, the answer usually was "entertain". The main, if not only, purpose of kindergarten, nursery schools, and other forms of preschool education was to provide a social experience, giving children a chance to mix with their peers, and the whole thing ought to be fun. It was feared that "pushing" children to learn anything intellectual might warp them into intellectual drudges, cheating them of the unplanned joy of childhood.

This view, in turn, was supported by the erroneous belief that intellect was fixed at birth; if heredity determines a child's IQ once and for all, this line of reasoning concluded, there's no point in trying to change the unchangeable with early learning. More recent research as well as more careful analysis of older data contradict this doctrine of fixed intelligence. To prove their point, psychologists studied identical twins which, having the same heredity, should therefore have the same fixed IQs. However, the IQs of identical twins raised apart from each other (as in the case of orphans sent to different foster homes) varied much more than did the IQs of twins raised together. Additional research demonstrated that the IQs of children measured at relatively brief intervals often fluctuated between tests, and IQ results at childhood frequently showed little relation to IQs as adults.

These and similar studies clearly demonstrated that what goes on outside the child's head influences (for better or worse) what goes on inside. The actualization of intellectual potential is not fixed at birth and environment - the circumstances of the home, the education of the natural or foster parents, the influences to which the growing child is exposed has a great deal to say as to how closely an individual will actualize his potential. This clearly implies that if we can learn to

actualize more of the inborn intellectual potential, new generations will be more intelligent than any before. This dramatic possibility does not mean that each generation will just <u>know more</u> than its parents, since this is true of every new generation; more importantly it means that the generation will have <u>greater intellectual capacity</u> to derive more personal and social value from the information available.

THEORY OF INTELLECTUAL GROWTH

The success of any effort to develop this potential, however, requires a practical and usable theory of human intellectual growth. Such a theory has been developed by Piaget and elaborated and refined by many others. (Flavell, 1963; Bruner et al, 1966; Hunt, 1961, 1969; Kagan, 1968; Phillips, 1969). Piaget began by keeping a daily journal of his children's sayings and actions. He did not try to relate his observations to a previously developed theory but produced and refined a new theory from the data he collected. Two crucial concepts of the theory are those of <u>assimilation and accommodation</u>. These constitute two basic operations by which a child reacts to and is changed by the environment as he tries to understand that environment. The basic task of intellectual growth involves developing new abilities to cope with information entering through the senses. If the child's intellectual ability is a match for the information, the interrelated processes of assimilation and accommodation not only result in new learning, but actually <u>generate a desire for more learning</u>. Infants not only enjoy stimulation, they <u>need</u> it; within self-paced limits, the more they have seen and heard the more they want to see and hear.

"THE PROBLEM OF MATCH"

In order to best assimilate and accommodate new information, there-must be a "proper discrepancy" between what the child already knows and the demands of the new information. One might say that at any point the child is ready to set out on a journey, to step forward from where he is and learn something new. The length of that step is crucial to success or failure in the learning process. A child at a given moment might be capable of, for instance, taking one step forward. If the learning task requires precisely one step (the "proper discrepancy"), the child enjoys both the challenge and the experience of learning. But should the learning task require two steps when the child is capable of only one ("discrepancies too great to be accommodated"), he is likely to become frustrated or upset, and draw back from trying to learn any more. (Sava, 1968) Hunt (196l, 1969) calls this matter of finding the proper discrepancy "the problem of match" -- finding the proper "fit" between the learning environment and an established learning pattern and style of the child.

How do we know when a child is ready to take his next intellectual step? How do we know when he is ready to learn a new ability, having grown tired of less demanding intellectual tasks? The answer is that we don't know. This makes early education a demanding process - more demanding for the three-year-old's teacher than for the graduate students professor. We are still at the trial and error stage in solving the "problem of match."

IMPLICATIONS FOR EDUCATION

The major question, however, is not whether we can advance our present knowledge of the "match," but whether we have enough foresight and determination to put what we already know to work. Developing early childhood programs is very nearly a social imperative. The new findings and conceptualizations about development have two broad implications for education.

First: there is an ideal time and matching learning style for a human being to acquire any new skill. If we miss this ideal time and style, then a <u>child will never learn as easily nor as well</u> at a later age. "As time goes on... more and more powerful changes are required to produce a given amount of change in a child's intelligence (if it can be produced at all), and the emotional cost it exacts is increasingly severe." (Bloom, 1964).

Second: If the discrepancy between what the child knows and what the environment offers him is just large enough the result is pleasure and learning; if the discrepancy is too large, the result is distress and confusion. It follows logically that without a discrepancy, if the environment offers no possibility for learning, boredom results. This helps explain the finding that drop-outs frequently include students who are brighter than those who remain. Lacking the pressures which help keep bored middle-class students in school, intelligent but bored lower-class students seek more interesting activities elsewhere. Boredom also helps account for the learning "losses" reported among Head Start children after they began regular classes; they found too little distance between what they already knew and what first grade offered them. (Sava, 1968)

REVISING THE STRUCTURE OF THE EDUCATIONAL SYSTEM

"As the years of schooling expected of children have increased from eight to twelve - and now, progressively, to fourteen - we have tended to view the very early years as merely preparation for the more important learning that will take place in high school and after. But our perspective is changing. We are beginning to realize that it is during the earliest years of a child's life that his capacity for learning is largely developed - and that lost opportunities can never be fully retrieved." (Cass, 1968 p. 59).

For pre-school programs to produce the most good in the long run, the educational system must be redesigned upwards from the bottom, building the work of the primary grades upon that of early childhood education. Presently it is just the opposite; rather than trying to discover what three-or four-year-olds are capable of learning, we look ahead to what they will learn in first grade, and water down pre-school programs to make sure they remain "easier" than the lessons to come, so they will not be boring when they get them later. (Sava, 1968)

This reworking from the bottom up may sound drastic, but it can be made easier by adopting innovative educational techniques already in use. Non-graded classes and "cross age helping" programs for example, permit a precocious five-year-old to learn with six-, seven-, and eight-year-olds, as well as with children his own age. The key to excellent instruction at any level involves tailoring it to each student's ability and style so that his program neither frustrates him with too much difficulty, nor bores him with repetition. Team-teaching, computer-assisted instruction, individually prescribed instruction (IPI) and flexible scheduling, for example, are methods presently available to make each child's curriculum more individual, thus solving the "problem of match." In addition, much more widespread use can be made of teacher-aides, recognizing that mothers who do not have all the academic credentials but who do have patience and interest can, with modest training and supervision, provide the personal attention that preschool education requires.

COSTS AND BENEFITS OF EARLY CHILDHOOD EDUCATION

Regardless of economies available through better use of techniques and technology, early childhood education, initially, will be expensive. Finding the proper "match" between a child's present abilities and style and a new learning unit is a highly individual process. But if predictions from the research in early child development come true, sound early childhood education -- for all its initial cost -

could produce undreamed-of economies in terms of educational results. For one, it could give us highly motivated adolescents who want to learn for the pleasure of it, and who can exercise, as they mature, a greater independence in fashioning their own curricula.

A sound early childhood program could make available to children from deprived homes alternative environments in which to develop expanded learning and growth skills. Further, the primary learning/development center offers an ideal place for early diagnosis and correction of physical, emotional, and mental disorders that impair learning and being and may never be overcome at later ages. A study of the causes of reading failure, for instance, indicate that many intelligent but educationally disabled children will not require help if their difficulties are recognized at early ages. Early identification will obviate the need for later remedial measures.

The evidence is indisputable: enormous amounts of human ability are wasted through failure to teach children when they are most able and eager to learn. A massive investment in early childhood education today is our best buy for a more intelligent citizenry tomorrow. (Sava, 1968)

INTEREST IN EARLY CHILDHOOD EDUCATION

As indicated in this brief, one of the promising developments in the last several years in the fields of poverty programs and developmental psychology has been the rediscovery of the effect of early childhood on later intellectual achievement. Much theoretical and practical work has been done and many approaches and procedures are presently available to more closely approximate the optimum developmental environment for young children. In spite of these great strides, the school systems and the public in Saskatchewan, at least, and probably elsewhere in Canada are not equipped in facilities, material, personnel, interest, disposition or funding to take on this type of program. That is not to say there is no interest in the field. In Saskatchewan there is an organization outside, but associated with, the school system called the Early Childhood Education Council. The council, part of the Saskatchewan Teacher's Federation, includes teachers, ex-teachers, concerned parents and interested citizens eager to make progress on projects in earlier childhood education and development. The University of Saskatchewan has a program for training teachers in early childhood education and experimental-demonstration pre-school centers. Saskatchewan NewStart has an interest in developing programs in the general area of early childhood and parent education.

In addition, private business and independent corporations are being established to supplement or supplant present educational systems. There now exist several franchise arrangements for establishing developmental centers for pre-school children; for example, "Performance Systems, Inc." (The National Observer, Feb. 26, 1970). "Autotelec" and 'Mini-Skool" (Roseman, 1971). These centers could involve a total educational environment with extensive use of advanced educational technology (e.g. computerized tutoring systems such as the Edison Responsive Environment's talking typewriters, random access computerized resources displays, toy-shaped electronic communicators, audio and video cassette recording and playback systems, projectors, etc.) and heightened flexibility in the educational process and social setting (from individual study, small group interaction to large group instruction, use of the wider community as an educational source, etc.) At present, there is a monthly fee (tuition) for this approach but the program might be adopted in whole or in part to serve the disadvantaged. "Autotelec" is franchising learning centers filled with the toy-shaped electronic communicators. Because the equipment does the teaching, the company says that the franchise operators can be trained in two weeks to operate their own center. Since the company displayed the equipment in Toronto in July 1971, about 9 Ontario locations have been established. But the tuition fees are high and thus not available to the general public let alone the disadvantaged, 'Mini-Skool", based in Winnipeg, features facilities for several hundred children

with mini washrooms and an indoor swimming pool. It has taken over a day nursery company in Toronto and now runs large-scale centers there; for instance, one 'Mini-Skool" branch in a Toronto suburb serves 1,000 apartment units in two separate nurseries of 150 children each. Thus, in view of all these various developments, the time is ripe and early childhood education is definitely a part of the Zeit Geist.

THE PROPOSED PROJECTS

The proposed set of projects sketched in this brief focus on, but are not limited to the "economically disadvantaged". They seek to meet the challenge of incompetence and poverty (Hunt, 1969) at the roots of the problem: i.e. to break the vicious circle now in operation whereby poverty typically involves the absence of opportunity to develop the potential of children which in turn produces continuing poverty through intellectual, social and emotional incompetence when these children become adults. Children have the greatest potential for improvement and so the impact of a planned intervention at this age will produce the greatest gain. The project seeks to create an expanded Head Start with the emphasis on development from birth through five years. It is not proposed to just provide a short period of intensive planned development prior to regular school. Hopefully the programs would eventually be carried through all the school years and provide a new model for education.

If successful, the program would take the so called disadvantaged child and produce a result which surpasses the so called privileged child (this is the miracle Montessori produced with the slum children of Rome). An outcome such as this would in turn create pressure for improvement in the present school systems. Another possible benefit would result from the program which emphasizes quality of child development rather than quantity thus making a small contribution to the solution of the over-population problem and the problems of too many children in one family. Hopefully, there will be an increased interest in planned, instead of haphazard, parenthood. By focusing on infants and small children we can more easily obtain cooperation between various groups which ordinarily do not cooperate since people can usually agree on the desirability of a better life for their children. Thus another side benefit from these projects might be the reduction of inter-group conflict and suspicion through working on a common goal.

This brief contains a mere sketch of the projects and the possible content. The details need to be spelled out in terms of the specific components and methodologies but this involves an extensive examination of the many available programs to assess their suitability for the intended target population and the feasibility of putting them into operation in various settings of Canada. Figure 1 provides a quick overview of these four interrelated projects.

Figure 1: Capsule overview of the four inter-related projects.

		Child Development Projects	
		Birth through 2 years Enriched Home Environment & Cooperative Nursery	3 through 5 years. Primary learning center: Pre-school Total Education and Development Program
Adult Education Projects	Parent Education	Convince parents of importance and assist in creating an enriched home environment for optimum development. Set up a cooperative nursery at specific places - one for every 5 to 10 families. "Family Life Skills" course with much practice; application involves starting cooperative nursery and enriching the home environment.	Get cooperation and assistance of parents. Emphasize the importance of early childhood for cognitive, social, emotional and physical development. Cooperation and assistance is required of parents if child is to be in program. Participate in "Family Life Skills" course; Application involves participation in the Primary Learning Center and enriching the home environment.
	Para-Professional Early Child-hood Education Training	Outreach Aides. Home workers and home visitors; "Developmental baby-sitters". Help train parents in stimulation games and behavior. Help set up stimulating home environment. Help establish and staff cooperative nursery.	Pre-school Aides. Program to produce aides who can participate and assist the professional in creating the optimum learning environment. Combination of certain aspects of NewStart Socanic training, Life Skills Coach training and special training in the methodology of the optimum learning environment for early childhood.

A BRIEF DESCRIPTION OF THE CONTENT OF THE FOUR INTERRELATED PROJECTS

A. PROJECTS WHICH FOCUS ON INFANTS FROM BIRTH THROUGH TWO YEARS

1. ADULT EDUCATION PROGRAMS

a. THE PARENT EDUCATION PROJECT

The importance of the parental role in the development is not usually questioned but the means by which parents can come closer to an optimal developmental environment is not clear to many people. They frequently and wrongly assume that the present child rearing practices are sufficient when, in fact, they fall far short. The following extended quotation from the "Hall-Dennis Report" (Hall Dennis, 1968) gives an indication of the necessary conditions and behaviors of parents to approach an optimum developmental environment in the home. "From the beginning, the range and variety of learning opportunities, the recognition of the child reaching for a new experience, the subtle balance between the emotional support for exploration and the tempered protections designed to lessen frustration and learning disasters, are all important components of the adult's role in the learning experience of a child. It is in the early years that so much of the foundation for the widening world of knowledge is built for a child. In contrast, it is in the early years that protective shells can also be gradually created around the mind of a child so that learning, exploring, and discovering become too painful to attempt...

"Talking with children, playing games with children, providing stimulating and diversified learning experiences in the home - all of these are important platforms for learning. Teaching children simple numbers, counting, helping them become aware of time, naming parts of the body, concepts of color and direction; these are some of the countless words and games that most middle-class parents take for granted and teach almost unconsciously. Feeling objects, finding words for experiences, talking about events and things out of sight, or from yesterday, anticipating the future, are the subtle ways in which a child in a loving-caring atmosphere acquires the foundation upon which a school can build...children who are brought up in home background where the forms of speech are restricted, are at a considerable disadvantage when they go to school. The average child's active vocabulary increases at a dramatic rate between two and five years of age, reaching an average of over two thousand words. It has been estimated that a child needs to understand about three thousand words to begin reading. By four or five years of age, children should be articulating sounds about 90 per cent correctly. Most children can make sentences by the time they go to school and are able to understand simple instructions given by unfamiliar people. Unfortunately, there will be a proportion who, because of difficulties in development or unfavorable backgrounds, are likely to lack fluency or have difficulty making themselves understood. The psychological trauma caused by placing a child without adequate powers of communication in a strange social situation can be serious and very painful to the child involved.

"Psychologists have learned that the greater the variety of situations to which a child must accommodate his behavior, the more differentiated and mobile he becomes. Lack of variety and quality of stimulation rather than quantity can spell deprivation for any child. In disadvantaged areas, the segments of the spectrum of stimulation potentially available are often poor. In deprived conditions adults may speak to children, and the children may play on the street with old tin cans and tires, but the limitation of the quality, variety, and sequential presentation of ideas impoverishes the child's vocabulary and comprehension from a very early age.

'"Many deprived children show a retardation in speech development, a paucity of words, impoverished play and game knowledge, poor motor behavior, a 'devil may care' attitude toward discipline, and a negative image of themselves when they come to school. Often they have had little acquaintance with books, tend to reverse letters, and are pegged as failures early in their school experience. Children lacking language and symbol experience do not participate in learning situations, lack interest, are apathetic, and are hampered in the development of their cognitive process.

'"Many of the stimulating experiences for such children have failed to take place at the strategic critical points in their development, and although some of these sequences may be irreversible in their entirety, a thorough understanding of child development from infancy may point the way to reversing a sequence under artificially controlled conditions, so that the earlier stage of development may be simulated, and more complex cognitive patterns linked to it. Such is the basis of much remedial work.

'"What happens to a young child is of primary importance, because learning does not begin in school. Learning and the approach to the world of learning begin in the crib. Special efforts to prepare 'disadvantaged' children for learning in school should begin before the child enters the primary grades. It is in the early years that the child is receptive, his self-image is emerging, and his attitude toward learning not too deeply embedded in his total set or approach to the world." (Hall and Dennis, 1968, 50-52).

During the first years of life the most important "teacher" is the family, especially the mother, and the most important educational setting is the home. Thus, the target for intervention is this environment and its inhabitants. The goal is to raise the quality of the home environment in terms of sensory, emotional and social stimulation to approximate the specifications of the optimum developmental environment. (See appendix A). The projects of the University of Florida (I.J. Gordon, 1969) or the "Early Training Project" of DARCEE (Nashville, Tenn.) or the "Parent-Child Centers" (Lewis et al, 1970) could be used as models for this aspect of the total program. The formal training program of the parents could employ the NewStart Life Skills Course methodology of individual and group problem solving in the family life area (e.g. a "Family Life Skills" or "Child Rearing Skills" course). The eventual application of this course would involve improving the developmental quality of the home environment and parent-child interactions and establishing and operating a cooperative neighborhood nursery. The cooperative nursery would function as both a high level day care center and a continuing education program and trouble shooting center for the parents: a place where parents can gain new ideas, work out the difficulties of child rearing, coordinate the help and assistance of the neighborhood and establish a baby-sitting service of higher quality that exists at present. The program would train the parent how to optimally interact with their children along the lines suggested by Ginott (1965), T. Gordon (1970), Holt (1964, 1967, 1969) and Pickarts and Fargo (1971).

b. PARA-PROFESSIONAL TRAINING: OUT REACH AIDES

The para-professionals would be trained as home-workers or home-visitors and "developmental baby-sitters" who could help train the parents in games, behaviors and interaction styles which stimulate and accelerate cognitive, emotional, social and physical development (e.g. the Institutes for the Achievement of Human Potential stimulation and crawling exercises, Delacato, 1963, 1966; Doman, 1964; Doman and Delacato, 1965). They would also help set up a stimulating growth enhancing home environment and perform many trouble shooting functions to facilitate the

operation of the cooperative nursery. In addition, they could help handle and refer where necessary social-emotional (mental health) problems which arise .

2. COOPERATIVE NURSERIES

a. THE PROGRAM

The emphasis would be on creating an optimal developmental environment which could be imitated, with help, in many homes. The place for more elaborate technology and a deliberate curriculum would be the Primary Learning Center. The materials and equipment of the nursery would be such as could be available in any home, and these nurseries might be a central repository for these materials; a place where parents could check out toys, and other equipment Far West Laboratory at Berkeley; Buist and Schulman, 1969) or receive free or at cost expendable materials (e.g. paint, clay, crayons, paper, pencils, beads, string, glue, etc.). The toys and equipment would be selected to develop the child's potentials in as many areas as possible (e.g. cognitive, emotional, social, and psycho-motor domains). The cooperative nursery would serve as a center for continuing education and inspiration of parents and a training center for para-professionals. The parents would operate the nurseries to help the children and also learn the techniques of optimal use of the materials and equipment. There should be many of these cooperative nurseries, similar to '"store front" schools, etc. e.g. one for every five to ten families depending on the number of children involved.

b. THE ROLE OF THE PARENTS

The parents are to organize and operate the nursery with assistance and consultation from a Research and Development center such as NewStart, mainly <u>via</u> para-professionals and financial aid. This will constitute part of the application of the Parent Education Project. Also, they are to use the cooperative nursery as a center for continuing education in the area of childhood development and a source of help in childrearing problems.

c. THE ROLE OF PARA-PROFESSIONALS

Para-professionals will be consultants, advisers and liaison between the parents and Saskatchewan NewStart. Also they will learn more about the materials and methodologies of creating optimal developmental environments as a result of practice and observation in the nurseries and the Primary Learning Center.

B. PROJECTS WHICH FOCUS ON CHILDREN FROM THREE THROUGH FIVE

James F. Allen, former U.S. Commissioner of Education, pressed for the establishment of a network of experimental centers for early childhood education aimed at children from about two to five years old. In an address to the 1970 meeting of the National School Boards Association he said "Child psychologists long have known that the first five years in a child's life are crucial in the development of intelligence - that as much of that development takes place in these beginning years as in the next 13. Under the plan, a child would stay in special centers until the age of six, learning to work and play with children of various backgrounds. He then would attend a non-graded primary school from ages six to ten, a non-graded middle school to about the age of l5, and then a more specialized secondary school for career preparation. The idea is to make the child's total environment one which will, as much as possible, serve positively his educational needs."

Hopefully, an integrated program begun at birth and continuing in a more formal and deliberate manner in the Primary Learning Center will eventually be extended throughout the school in a manner such as the "Follow Through Programs." (U.S. Office of Education, 1969)

1. ADULT EDUCATION PROGRAMS

a. THE PARENT EDUCATION PROJECT

In order for a child to be accepted into this program, at least one and preferably both parents (or foster parents and guardians) must assist at some level in the operation and conduct of the Primary Learning Center. If the child has no parents available (e.g. lives in an orphanage or is away from home) then someone from the institution who helps the children must also assist in the preschool. This involvement will help insure that the program will have the support and guidance of those involved and will increase the follow through of the programs at home. Program effects spread to the other children in the family and the result may be an out reach program which should be deliberately organized (e.g. by outreach aides) to assist the parents with their other children. This program should spread in its effect to the entire family. In addition, parents would also receive a "Family Life Skills" program indicated for the parents of infants through two years.

It will probably be necessary to sell the value of this program to some parents since some may not consider the improvement of their children equal to the investment of their time and energy. It is the belief of this brief that once they understand the program and its goals parents will be quite willing to commit themselves at <u>some level</u> to this project. It is vital to the success of the project that there be some level of involvement on the part of the parents and, if the project produces the expected changes in children, those parents who are not convinced initially will become so when they see the benefits available to other children.

b. PARA-PROFESSIONAL TRAINING: PRIMARY LEARNING CENTER AIDES

This training would be a combination of parts of NewStart's Socanic and Life Skills Coach Training programs plus extended study and practice in the field of early childhood development. The training will involve some theory but mostly practice in creating optimal settings for development in the cognitive, affective, social and psycho-motor domains. The major thrust of training will be to provide practice in all the various methodologies so that the paraprofessional can be a meaningful and effective aide to the professionals who have charge of the various programs. Part of the program would be experience and training in interpersonal sensitivity and heightened awareness of the feeling life of children in particular and of people in general.

2. FORMAL PRIMARY LEARNING CENTER FOR CHILDREN THREE THROUGH FIVE YEARS

a. THE PROGRAM

There are many available programs and components of programs. The "Head Start Follow Through Program" (U.S. Office of Education, 1969) has involved 20 such programs which were felt to be most promising. They have a wide diversity in approach and they all attempt to create a more or less total educational environment which will optimally stimulate development. The project curriculum can be broken down into the three general areas (Bloom 1956; Krathwohl, Bloom and Masia, 1964).

(1) <u>Cognitive Domain</u>: The theory involved in this area is very difficult and would not be emphasized in the training of paraprofessionals. The emphasis would be to provide the minimum necessary theory to be able to understand and implement the practices of forming an optimal match of learning resources to the stage of cognitive development of the child. The program would involve developmental procedures in as many of the cubes of Guilford's (1968) structure of intellect as possible with special emphasis on general creativity in all areas of life and the productive use of imagination through "Children's Imagination Games". (deMille 1955; Gruber, 1962; Harvey, 1966a, 1966b; Kagan, 1967; Kubie, 1966; Torrence). In this area a great deal of work will be needed in teaching English as a second language (Ausubel, 1963; Bereiter and Engelmalm, 1966; Church, 1961, 1966; de Cecco, 1967; Karnes et al, 196~-69; Mullen, 1971).

(2) <u>Affective Domain</u>: This domain involves work in developing the social-emotional life of the children. The curriculum would include such programs as the "Human Development Program" (Bessel, 1968; Bessel and Palomars, 1967) the projects in education for self-governance and democracy developed by Adlerian schools (Dreikurs, 1965) and general work in interpersonal sensitivity and mutual respect and concern for others (Dinkmeyer; Dinkmeyer and Dreikurs, 1963; Glasser, 1969; Jones, 1966, 1968; Leonard, 1968; Moustakas, 1967; Pearson, 1962; Rogers, 1969; Rubin, 1969).

(3) <u>Psycho-Motor Domain</u>: This would involve a physical fitness and nutrition program to develop optimal motor coordination and neurological development. The curriculum would go from the very basic motor patterns of creeping/crawling used by the Institutes for the Achievement of Human Potential to treat brain damaged children and children with reading problems (Delacato, 1963, 1965, 1966; Doman, 1964; Doman and Delacato, 1965; Doman, Spitz et al, 1960), to advanced dance movements and gymnastics programs such as used in the Scandinavian countries. It would also involve coordination of the psycho-motor skills with the aesthetic areas of dance, music and art.

b. THE ROLE OF THE PARENTS

This has already been indicated. To reiterate, parents etc. must be involved at <u>some level</u> as a requirement for their children to be in the program. This does not mean full time involvement but may only be 3 hours a week on a week end or evening or providing transportation, or any one of a thousand useful things which are vital to the operation of the project. This involvement must be very flexible in terms of time and talent and should fit the needs and abilities of the parents as these are coordinated with the program.

c. THE ROLE OF PARA-PROFESSIONALS

This, also, has been discussed briefly. Basically the aides would perform functions under the direction of the early childhood education specialist and provide the necessary connecting link between the parents and the center staff. In fact, they may be parents who have gone through the special training course. They would have closer contact with the children than the specialist whose

function would be mainly as a consultant. The-actual roles and duties, of course, will depend on the program of the center but the aides will be the people who see to it that the daily operations of the center run smoothly.

SUMMARY AND CONCLUSION

1. Since early childhood is so important to the eventual actualization of human potential (social and human resources) the priorities of education should be reversed and money, time, energy, facilities and talents concentrated on young children. While initially expensive, such a shift in emphasis would save considerable money in the long run, assuming that the programs incorporate the principles of an optimum learning environment. (Appendix A) Many or most of the educational problems now experienced would be dissolved and the necessity for the present elaborate and expensive educational bureaucracy and remedial programs would be much diminished.

2. Opportunities for systematic education should be extended to earlier ages from birth on, with universal kindergarten as the first step.

3. The programs developed for early childhood should use innovative methods and materials available and provide the general and professional community with a concrete example of an alternate model for education.

4. The programs for children must be integrated with the community and its needs and problems as these are manifested in the children.

5. The community as a whole and especially the parents, must be involved in the planning and operation of the programs. Initially, there will be a need to educate and convince the public of the necessity and importance of early childhood education since there is considerable ignorance about the area.

6. A model is proposed for a complete program of early childhood education. The model involves four inter-related projects which seek to provide coordinated community wide involvement. Each program at each age level of childhood education has a co-ordinated set of adult education programs. Thus programs to provide an enriched home environment and nurseries, for children ages zero through two, are coordinated with parent education and para-professional training support programs. The establishment of a Primary Learning Center, for children ages three through five, involve parent education and involvement along with supporting training of para-professionals to assist in the operation of the center.

7. In the appendix a highly theoretical but complete statement of an optimum learning environment is provided as a guide line to evaluate the extent to which any given program as implemented approaches the ideal.

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Appendix THEORY OF AN OPTIMUM LEARNING ENVIRONMENT

(from Warren, P.W. "Behavioral skill and role training approach to Life Skills,"© in <u>Readings in Life Skills</u>, Saskatchewan NewStart Incorporated, 1973, pp. 120-151)

This theory is a combination of Kingsbury's (1964) "Learnviron" and Moore's (Moore, 1964; Moore and Anderson, 1969) "Clarifying Educational Environment".

1 DEFINITION OF SOME CRITICAL CONCEPTS

It is useful to begin by constructing a model of the critical attributes of a student to see what he brings to the situation and what we are trying to alter when we place him in our learning environment .

   a. <u>Plan</u>: (Kingsbury, 1964) A plan is a situation or event created in the student's own cognitive/ideational/value universe; a conceptual construct, mental image, wish, model, goal or ideal (see Miller, Galanter and Pribram, 1960).

   b. <u>Control</u>: (Kingsbury, 1964) Control involves handling the environment or oneself in such a way as to conform to a plan, i.e., the process of making a plan real. The three basic subprocesses in a cycle of control are Start, Change and Stop. To illustrate with an obvious example, if one is interested in driving a car he must have the necessary abilities to start it, to move it from place to place in the desired manner and to stop it at will. The three processes of control can be applied to any of the component abilities of the complex skill of driving a car.

   c. <u>Goal Set</u>: (Kingsbury, 1964) The goal set is a collection of plans whose presence in the real world is desired by a student and whose realization is accompanied by satisfaction, happiness, relaxation, joy, and a sense of accomplishment.

   d. <u>Autotelic Activity</u>: (Moore, 1964, p. 184) "... an activity (is) autotelic if engaging in it is done for its own sake rather than for obtaining rewards or avoiding punishments that have no inherent connection with the activity itself."

   e. <u>Acknowledgment</u>: (Kingsbury, l964) An acknowledgment is a non judgmental recognition of an act, communicated in some way to the student who has acted (Warren, 1969a, l969b). An acknowledgment is a source of information and must not be confused with the reward or punishment related to goals. For instance, in a programmed text when the student compares his answer with the program's answer and finds it right, that is an acknowledgment, <u>not a reward</u>. Getting the right answer may have nothing to do with the student's goals.

   f. <u>Personal Perspectives</u>: (Moore and Anderson, 1969, pp. 577 -578) Personal perspective refers to the characteristic attitude or orientation a person has to his world in general and the educational setting in particular. This characteristic orientation changes from time to time for a given person depending both on his preferences and moods-and on the situation in which he finds himself at the time.

(1) <u>Agent Perspective</u>. This perspective sees life as a puzzle and emphasizes a sense of <u>active manipulation</u>.

(2) <u>Recipient Perspective</u>. This perspective sees life as a game of chance ,and emphasizes a sense of receiverhood, i.e., the person is the <u>passive recipient</u> of consequences over which he has virtually no control.

(3) <u>Reciprocator Perspective</u>. Life is viewed as a game of <u>interactive</u> strategy presupposing an agent-recipient perspective. "For example, in playing bridge there is room for meaningful acts of agency and we are sometimes (recipient of) all manner of outrageous happenings ....But the heart of the game .... lies in the possible interrelations between the two opposing teams, each of which must take the other into account. This means that a genuine game of strategy .... does not reduce ... into either the form of a puzzle or the form of a game of chance. This means, also, that a person who is looking at the world from the standpoint of the reciprocal perspective does not see another human being as merely puzzling or unpredictable, but rather he sees him as someone who is capable of looking at him as he looks at the other."

(4) <u>Evaluator Perspective</u>. Life is viewed as an evaluative entity and assessing, <u>evaluating</u> or judging are emphasized. "This perspective presupposes <u>significant others</u> in interaction, i.e., it presupposes entities that behave in terms of the other three perspectives ....The point of view of a judge in a bridge tournament is not that of any player qua player, nor is it some sort of average of consensus of the players' viewpoints. The referee's concern ranges over the whole game -- his viewpoint presupposes that there are players with their reciprocal perspectives."

g. <u>Ability-Set</u>: (Kingsbury, 1964) The ability-set is the set of abilities with which a student controls himself and his environment. This set includes non-teachable reflexes, motor skills, highly sophisticated mental processes, etc. The ability-set contains those abilities, and only those abilities which are involved in controlling the self and world via the realization of planned goals. Obviously this ability-set varies with time. It collapses drastically with fatigue and expands with rest; maturation and learning also expand it. Electroshock, illness, the loss of an arm or an organ, and forgetting will shrink it. The location of the boundary line between the abilities a student does and does not command at a given time is of the utmost importance to the teacher.

h. <u>Ability Periphery</u>: (Kingsbury, 1964) The ability periphery is that set of abilities which a student does not, at the moment, command but which he could acquire immediately in an appropriate environment. Here we don't have to be too careful about what we mean by "immediately" as long as we think of a reasonably short time. By appropriate environment we can mean a sleeping environment, a learning environment, a hypnotic environment, an environment in which maturation can take place, etc. Naturally, what is in the student's periphery depends upon what is in his ability-set. If typing accurately at a rate of 60 word's per minute is in his ability-set, then typing accurately at 61 words per minute is probably in his Periphery, but if 20 words per minute is his speed, then 61 words per minute is not in his periphery. And there is no guarantee that if 61 words per minute is in his periphery at 10 a.m. it will still be in his periphery at 11 a.m. -- he may have lost an arm or got tired, etc.

2 . SOME CHARACTERISTICS OF AN OPTIMUM LEARNING ENVIRONMENT

The optimum learning environment is a situation which contains a student With an ability-set, a goal-set, and a personal perspective. The interactional possibilities of the situation are characterized as follows:

a. Perspectives Flexibility (Moore and Anderson, 1969, pp. 585-586) "One environment is more conducive to learning than another if it both permits and facilitates the taking of more perspectives toward whatever is to be learned .... Learning is more rapid and deeper if the learner can approach whatever is to be learned:

(1) from all four of the perspectives rather than from just three, from three rather than from just two, and from two rather than from only one; and

(2) in all combinations of these perspectives -- hence, an environment that permits and facilitates fewer combinations is weaker from a learning standpoint than one that makes provision for more combinations.

"....the attitude the learner brings to the environment each time he enters it [is critical]. Imagine a learner who, one day, is filled with a sense of agency -- he is in no mood, for instance, to [receive from] anything or anybody. An environment will be more powerful from a learning standpoint if it lets him start off with whatever perspective he brings to it, and then allows him to shift at will ...."

"When experts in education maintain that formal schooling is unsuitable for [people], the use of the word 'formal' denotes the typical classroom situation in which most acts of agency are allocated to the teacher, the [evaluator's] role is also assigned primarily to the teacher, and the assumption of the reciprocal perspective in the form of interacting with peer-group members is forbidden through rules which are against note passing and which impose silence. About all that is left to the [students] is to be recipient to the acts of agency of the teacher. This undoubtedly is an unsuitable learning situation for most [people] .... Any environment which tends to confine people to one basic perspective is apt to become boring rather quickly."

b. Autotelic Flexibility. (Moore and Anderson, 1969, pp. 585, 587--588) "One environment is more conducive to learning than another if the activities carried on within it are more autotelic."

For an environment to be autotelic it must frequently protect students against serious consequences so that the goings on within it can be enjoyed for their own sake. It is relatively easy to keep physical risks out of educational environments. It is more difficult to keep psychological and social risks out. If a student feels, while practicing a skill, that he may disgrace himself or look like a fool, or lose his position of respect in the group, or blight his future by failing to perform well, then the whole learning environment is shot through with high psychological and social risks. For a learning environment to be autotelic, it must be cut off from just such risks. ".... the best way to learn really difficult things is to be placed in an environment in which you can try things out, make a fool of yourself, guess outrageously, or play it close to the vest -- all without serious consequences. The autotelic principle does not say that once the difficult task of acquiring a complex ....skill is well

underway; it is then not .appropriate to test yourself in a wide variety of serious (situations). It is a common misunderstanding of the notion of an autotelic environment to assume that all activities should be made autotelic. Not so. The whole distinction requires a difference between a time for playfulness and a time for earnest efforts with real risks."

c. <u>Productive Flexibility</u>. (Moore and Anderson, 1969, pp. 585, 588-589) "One environment is more conducive to learning than another if what is to be learned within it is more productive .... one cultural object (i.e., something that is socially transmissible through learning) is more productive than another cultural object if it has properties which permit the learner either to deduce things about it, granted a partial presentation of it in the first instance, or make probable inferences about it, again assuming only a partial exposure to it .... Of two versions of something to be learned, we should choose the one which is more productive; this frees the learner to reason things out for himself and it also frees him from depending upon authority."

d. <u>Personalization Potential.</u> (Moore and Anderson, 1969, pp. 585, 590-591) "One environment is more conducive to learning than another if it: (1) is more responsive to the learner's activities, and (2) permits and facilitates the learner's taking a more reflexive view of himself as a learner ....The environment must be both (1) responsive to the learner's activities, and (2) helpful in letting him learn to take a reflexive view of himself ...."

> (1) <u>Responsiveness</u>: "The notion of a responsive environment is a complex one, but the intuitive idea is straight-forward enough. It is the antithesis of an environment that answers a question that was never asked, or, positively stated, it is an environment that encourages the learner first to find a (problem), then find (a solution).The requirements imposed upon an environment in order to qualify it as 'responsive' are:

>> (i) It permits the learner to explore freely, thus giving him a chance to discover a problem.

>> (ii) It informs the learner immediately about the consequences of his actions ....

>> (iii) It is self-pacing, i.e., events happen within the environment at a rate <u>largely</u> determined by the learner ....

>> (iv) It permits the learner to make full use of his capacity for discovering relations of various kinds. (No one knows what anyone's full capacity for making discoveries is, but if we hand the learner a solution we certainly know we are not drawing upon his capacity.)

>> (v) It is so structured that the learner is likely to make a series of inter-connected discoveries about the physical, cultural, (personal), or social world. (What this amounts to depends, of course, upon what kinds of relations are being 'taught' within the environment .)

> "The conditions for responsiveness taken together define a situation in which a premium is placed on the making of fresh deductions and inductions, as opposed to having things explained didactically. It encourages the learner to ask questions, and

the environment will respond in relevant ways; but these ways may not always be simple or predictable. For a learner to make discoveries, there must be some gaps or discontinuities in his experience that he feels he must bridge. One way such discontinuities can be built into a responsive environment is to make provision for changing the 'rules of the game without the learner knowing, at first, that they have been changed. However, it will not do to change the rules quixotically --the new set of rules should build upon the old, displacing them only in part. Such changes allow the learner to discover that something has gone wrong -- old solutions will no longer do -- he must change in order to cope with change. In other words, if you want a learner to make a series of interconnected discoveries, you will have to see to it that he encounters difficulties that are problematic for him. When he reaches a solution, at least part of that solution should be transferable to the solution of the next perplexity .... Though a responsive environment does respond, its response has an integrity of its own. It is incorrect to think of a responsive environment as one which simply yields to whatever the learner wants to do -- there are constraints ...."

(2) <u>Reflexiveness</u>: "One environment is more reflexive than another if it makes it easier for the learner to see himself as a social object .... The acquisition of the social self is an achievement in learning. Unfortunately, some of us are underachievers. One reason .... for our ineptitude in fashioning ourselves is that it is hard to see what we are doing -- we lack an appropriate mirror. The Reflexiveness which is characteristic of maturity is sometimes so late in coming that we are unable to make major alterations in ourselves .... If an environment is so structured that the learner not only can learn whatever is to be learned, but also can learn about himself qua learner, he will be in a better position to undertake whatever task comes next. It facilitates future learning to see our own learning career both retrospectively and prospectively."

e. <u>Principles of a Skill/Ability Development Environment</u>. (Kingsbury, 1964)

   (1) An ability is added to the student's ability-set only by providing him with something to do that requires the use of his related peripheral abilities. All time spent on related non-peripheral abilities is wasted time. The student must not do things he already does well or try to do things he cannot do.

   (2) The student should only be taught abilities and skills which are involved in the realization of an already possessed goal. The learning environment must clearly define how his actions are related to his particular goal-set.

   (3) The only learnable goals are the sub-goals of an already possessed goal which is being inadequately realized. These sub-goals may themselves become main goals if they achieve independence of their original goal. As an example we could take the boy who desired to marry a girl, but all the girls of the kind he had imagined as wives were marrying rich men. Being rich then becomes a sub-goal, but it may graduate to full goal status. For instance, he may become so involved in making money and enjoying the prestige that goes with it, and in buying things related to his other goals, that even marrying a girl who doesn't need money does not diminish his interest in creating wealth.

(4) The structure of the ability being taught must be well known to someone or something in the learning environment, (e.g., Model, Teacher, Expert, Coach, Fellow Student, Teaching Machine).

(5) Every mistake the student makes must be acknowledged and every successful completion must be acknowledged.

(6) The learning environment must be designed so that a mistake has no permanent or long term harmful or negative consequences; e.g., clear up misunderstood terms and concepts, and correct misperformed roles/behaviours for successive progress in the ability domain (see also the conditions of an Autotelic environment) .

(7) The learning environment must contain a monitor principle which is capable of deciding when a student is working in or out of his periphery and which decides on this basis what he is to do. Too much success indicates he is working within his ability-set and not learning; too much failure indicates he is working out of his ability periphery and not learning.

(8) Focus on individual's experience in performance mistakes adequate....differentiate inner experience.......excellence.

3. CONCLUSION

The specifications for this learning environment indicate an optimum environment. Learning will of course occur under less auspicious circumstances. The reason for the specifications becomes evident when used to analyze the failures of any learning environment which needs improving. The basic trouble(s) can be spotted. Why did a psychotherapy session fail? -- the therapist was assuming the presence of goals which were not in fact there, and/or was working in an area which was not real to the patient, etc. Why did a class do so badly? -- the lesson was outside the ability peripheries of the majority of students and/or there was no motivational tie in, etc.