Abecedarian Approach

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Contributor: Joseph Sparling

The Abecedarian Approach is an early intervention and contains a broad-spectrum adult/child curriculum. The Approach has been studied in three longitudinal randomized controlled trials in the USA, starting in 1972 and continuing today. Recent research studies in multiple countries have examined the Abecedarian Approach during the first three years of life. The collective findings from these studies lead to the conclusion that human development is malleable, especially in the years before school entry, and that high-quality early intervention exerts positive, early, and long-lasting influences on cognitive development, social development, and mental health.

Abecedarian | mental health | social development | language development | equity

1. Introduction

A broad-spectrum program such as the Abecedarian Approach attempts to influence multiple strands of development in a holistic way. “Broad-spectrum curricula exist because professionals who facilitate development recognize that each child is more than a collection of skills and attitudes. The ‘more’ can be seen in the pattern by which the skills fit together and reinforce each other. The broad-spectrum curriculum is congruent with the goal of developing an individual who is internally integrated and whose skills are generalized across many situations of life. Because of its emphasis on life situations, a young child’s broad-spectrum curriculum, when being implemented, looks like play. This type of curriculum comprehensively spans large blocks of time and is incorporated into all or most of the things the child does during the day” [1] (p. 2).

The Abecedarian Approach is distinctive in its design and research and in its persistent and pervasive focus on adult-child interaction. It is the only educational program that begins at the child’s birth, continues until the child enters school, is supported by over 40 years of high-quality scientific research [2], and has been effectively implemented through multiple methods of delivery (child care, home visits, and play groups).

2. What Is the Abecedarian Approach?

A key Abecedarian feature is that its educational program begins at birth [3] and supports this pivotal early period of learning and brain development. This dramatically separates it from other well-known early childhood programs that begin at age 3 or 4 years. At the time these other programs enroll children, the Abecedarian Approach has already had a significant part of its effect.

The adult-child curriculum of the Abecedarian Approach is a strong set of teaching and learning strategies implemented through intentional adult-child interactions that are explicitly described and illustrated in the Abecedarian program resources, activities, learning strategies, and training.

In creating this Approach for the Abecedarian Project in the early 1970s, we strove to capture the emerging scientific knowledge about how infants and young children grow and develop and to translate this technical information into playful activities and educational interactions. We attempted to create activities that could be understood and used by parents and by all adults working with and caring for young children. The Approach incorporated many features of a stimulating home environment as well as some features of a high-quality child care center.

These are the four pillars of the Abecedarian Approach briefly described:

- Language Priority—making each part of the child's day an opportunity for talking, listening, responding, and taking turns. The concept of Language Priority acknowledges the pivotal role of language in the young child's intellectual and social-emotional development. Although all aspects of development contribute to the child's later success, nothing is more directly linked to how the child will do in school. In the Abecedarian Approach, educators and parents put language at the top of the list of important things to do. We can remind ourselves of this priority by saying, "Language first!" We rely on language every day, in verbal and print forms, to convey ideas, information, instructions, feelings, and we use it to socialize, have fun, and be creative as well! In Language Priority, educators and parents emphasize language throughout the day. They respond warmly whenever children make an attempt to "talk" to them. Young babies' glances and gestures are accepted as important parts of a two-way conversation. Adults try to create longer "conversations" with individual children. The 3N Strategy (notice, nudge, narrate) is used to turn any event into an occasion for rich, extended language stimulation.

- Conversational Reading—reading books interactively, emphasizing the child's active role. The adult provides graded or hierarchical prompts, the 3S Strategy (see, show, say) to gradually elicit more developmentally advanced responses from the child. The word "conversational" emphasizes the back-and-forth, reciprocal nature of this type of reading. Conversational Reading, is not like the typical reading of a book where the adult goes through the book reading all the words on each page. It is different because: (1) It goes back-and-forth, like a conversation; (2) It includes spontaneous talk and often does not follow the text of the book; (3) The child (even the youngest) has an important and active role to play. Conversational Reading is modeled on the way parents and children read together rather than the way reading typically occurs in the classroom. In the Abecedarian Approach, every child (age 0-3) is read to individually each day, and pairs of children ages 3-4 are read to each day.

- Interaction Games—playing interactively through adult-child games tailored to the child's interests and developmental level. The *Interaction Games* (formerly *LearningGames*) are a set of individualized, game-like experiences that are shared between an adult and 1 or 2 children. Each child is engaged in at least 1 or 2 game

episodes per day. The games include many items that are familiar to parents and teachers. There are 3 types of games: (1) Games that are seamlessly integrated into the routines of caregiving; (2) Games in which the adult joins and enriches in-progress child play; (3) Games in which the adult initiates an interaction, inviting the child to join in. Adults use the 3R Strategy (read, role play, reflect) to become familiar with the games. The games appear easy on the surface but challenge the adult to find just the right level and variation for the individual child. While the action of the game is simple, the significance to the child's development can be profound.

- Enriched Caregiving—incorporating educational content and social-emotional connection into the child's daily care routines such as feeding/eating, changing diapers/toileting, bathing/washing hands, getting dressed/undressed. Adults enhance the basic level of care they provide by emphasizing its social-emotional aspect as well as incorporating explicit educational content such as shapes, sizes, colors, numbers, and processes. The Abecedarian Approach affirms that, in the first five years of life, education and caregiving cannot and should not be thought of as distinctly different activities. The phrase "enriched caregiving" is intended to remind all of us (researchers, parents, caregivers, teachers, and program administrators) that "care" for an infant or young child can and should do several things at once. Care can meet the vital needs that support life and stimulate growth while also being responsive to the individual child's own preferences, abilities, and life situation. Further, care frequently can be enriched with educational content. Enriched Caregiving is described in the 3C Strategy (care, connection, content). By highlighting the pivotal role of care in the education of young children, the Abecedarian Approach imbues all the child's day with educational meaning.

Each Abecedarian pillar is one way of looking at adult-child interactions. In the Abecedarian Approach, interactions occur intentionally, individually, and frequently. If the adults are educators, they have written plans. If they are parents, the "plans" may be more informal. This allows the adults to engage in the activities intentionally and focusing on individual children. Most of the interactions are performed one-on-one (or one adult to two children when the children are developmentally ready) allowing the adult to tailor content and responses to the child's individual needs. Each of the elements of the Abecedarian Approach is incorporated into the child's day multiple times, the repetition providing many opportunities for practice.

Since the Abecedarian Approach focuses on multiple strands of child development, one way to think about the Approach is to consider how the parts of the Abecedarian adult-child curriculum are intended to relate to the observed or hypothesized Abecedarian effects or outputs. **Table 1** provides a summary this set of relationships in an Input-Output Map.

Table 1. Abecedarian input-output map.

INPUTS (Program Components)	OUTPUTS (Child Effects or Pathways to Effects)									
	Cognitive Advantage		Executive Function		Motivational Advantage		School Behavior		Social Adjustment	
	Knowledge	Skills	Self-Talk	Planning	Locus-of-Control	Goal Direction	Attention	Task Orientation	Turn Taking	Relation-ships
Interaction Games	■	▒	▒	▒	■	▒	■	▒	■	■
Conversational Reading	▒	■				▒	■	▒	■	▒
Language Priority	■	■	■	■			▒		▒	
Enriched Caregiving	■	▒	▒		▒	▒		■		■

"The innovation of the Abecedarian Approach was in bringing together all the elements of high quality and holding them steady over an extended period of time at a level of consistency that would yield significant, measurable, long-term benefits for vulnerable children and families" [4] (p. 6).

The research demonstrates that, on average, children from low-resource backgrounds who have experienced an early Abecedarian program enter school with a developmental and educational advantage compared to children from similar backgrounds who have not experienced the program and that the advantage accrues to their benefit throughout their school years and into middle adulthood.

3. Cognitive, Social, and Mental Health Effects from Abecedarian Interventions

Since the Abecedarian Approach has been studied for a number of decades, there have been hundreds of peer-reviewed journal articles and book chapters published on the research findings of this program. Multiple Abecedarian studies show that intervening broadly for children from low resource families yields a variety of early and long-lasting positive outcomes [2]. In China the Abecedarian Approach has produced early cognitive effects (at age nine months) [5] and in the USA both early and lasting (to age 21 years) [6] cognitive effects. A study starting in the first year of the child's life in Pakistan, India, and Zambia showed complete closing of the cognitive gap by 36 months of age between children from low resource families and children from higher resource families [7]. In the USA the Abecedarian Approach has shown literacy and math achievement effects throughout elementary and high school [8] and higher university graduation rates measured at age 30[9]. A brain imaging study of Abecedarian alumni when they were about age 40 showed structural advantages for those, especially the males, who had received the Abecedarian treatment as children compared to the control group who had not [10].

In addition to cognitive and academic effects, there is an array of other Abecedarian intervention effects. The studies discussed below were chosen because they reach from the first year of life through the fourth decade of life and represent Abecedarian effects on various aspects of social development and mental health across that span.

3.1. Attachment

Because the first Abecedarian study, called the Abecedarian Project, was delivered through group child care, the researchers wanted to know if there was a positive or negative effect from the child care experience itself. At one year of age the infants and their mothers were observed in the Ainsworth Strange Situation paradigm [11]. This observational study, early in the history of the Abecedarian Project, showed that Abecedarian child care was not associated with increased insecure attachment and did not negatively change, and sometimes enhanced, the associations between the infant-mother attachment and the mother's involvement and warmth toward the infant during the first year of life [12].

3.2. Communicative Initiations

In the first Abecedarian study video data were collected on how 20-month-old infants from low resource families use intentional communication in a free-play setting. Children who received the Abecedarian program were compared to randomly assigned children who received other programs or stayed at home. They were also compared to a group of normally developing middle-class infants. The frequency of communicative initiations and the proportion of spontaneous communicative initiations—classified as "showing" and "requesting"—were used for the comparison. Receiving the Abecedarian Approach through child care significantly enhanced both the frequency and the developmental level of the communicative initiations of infants from low-resource families [13].

3.3. Language Development

A 2019 impact study sought to determine if the classic Abecedarian Approach, in the current time and in an on-going service setting, could improve the early developmental progress of historically underachieving Canadian children, including those of First Nations (FN) status. Both genders in the treatment group experienced net increases over the control group in language development, but the girls did better than the boys. Additionally, it is of particular interest that in the treatment group, the FN children began at a lower language level than the non-FN children, but both groups progressed at about the same rate [14].

3.4. Locus of Control

An academic locus-of-control measure [15], collected during the kindergarten and first grade years on the first two cohorts of the Abecedarian Project, showed that the untreated children had lower perceptions of control over their academic success than did their middle and upper socio-economic classmates. However, for the Abecedarian treatment children, beliefs in personal control over successful academic performance increased to approximately the same level as that of their low-risk classmates. For the treatment children in the study, academic locus-of-control was positively related to task-orientation, less distractibility, and internal motivation [16]—providing a possible explanation for how beliefs (locus-of-control) may be translated into positive classroom behaviors.

3.5. Problem Behavior

At 24 and 36 months of age, behavior problem scores for the treatment group in a study of children born at low birth weight were significantly lower than for the randomly assigned control group (Ramey et al., 1992). The

Abecedarian intervention had a greater cognitive effect for children with higher initial behavior problem scores [17].

3.6. Cortisol

The cortisol levels indicated that children who had been reared in a Romanian orphanage and had received the Abecedarian Approach early in life were better at handling the general stress of the day and specific stressful events than were the control group. In addition, for the untreated group there were some negative correlations between cortisol levels and cognitive development [18][19].

3.7. Risky Behaviors

Youth who had received the Abecedarian Approach in the first three years of life had fewer risky behaviors at age 18 than the randomly assigned control group [20].

3.8. Depression

Young adults who had received the Abecedarian Approach as children had fewer symptoms of depression than the control group. There were no significant mean differences in the home environments of the treatment and control groups, but the negative effects of lower quality home environments on young adult depressive symptoms were almost entirely offset by the Abecedarian treatment [21].

3.9. Healthy Life Style

For participants who received the Abecedarian treatment, the odds of reporting a healthier, more active lifestyle in young adulthood were 3.92 times greater compared to participants from the control groups [6].

3.10. Criminal Behavior

Proportionately, more women than men who participated in the early childhood Abecedarian program had less criminal activity than the control group. This gender difference occurred because the home environments were worse for the girls, with corresponding greater scope for improvement by the program. For both genders, treatment effects were larger for the least advantaged children, as measured by their mother’s education at the beginning of the early childhood intervention. The dollar value of the social cost of criminal activity averted was higher for men because they committed more costly violent crimes [22].

3.11. Social Services Benefits

Young adults with Abecedarian early childhood treatment had slightly higher job prestige scores than the control group but the difference did not reach statistical significance. Approximately a quarter of each group had married by age 30, but the odds of being the head of one’s own household were almost twice as high for the treated group. Administrative data on use of government welfare funds showed that, within an 89-month time window, individuals in the control group were 6 times more likely to receive benefits at least 10% of the time [23].

3.12. Hypertension and Other Health Indicators

Findings in a health study indicated that males who had received Abecedarian treatment had significantly lower blood pressure than did males in the control group. None of the males in the treatment group exhibited the complex of conditions called metabolic syndrome (large waist, unfavorable cholesterol levels, and elevated blood pressure) known to be predictive of heart disease, whereas 25% of the males in the preschool control condition did so. Females did not show the same treatment effects as males, but females who had been in the early childhood Abecedarian treatment group were less likely to be affected by abdominal obesity and were less likely to fall in the pre-hypertension category than were the control females [24].

3.13. Social Decision-Making

Social decision making was measured—especially in terms of how the subjects would choose to divide resources. At about age 40, the Abecedarian treatment alumni opted for greater fairness and equity in the division of resources than did the control group or a general population sample [25].

3.14. Cognitive Advantage Plus Social Adjustment Plus Motivational Advantage

What early factors bear on later achievement in school and life? Following a mediation of effects strategy, an analysis of several early interventions showed that a predictive model comprised of cognitive advantage, plus social adjustment, plus motivational advantage accounted for 100% of the preschool effect on years of education at age 21 for children who had received the Abecedarian Approach in the first five years of life [26].

3.15. Abecedarian Training and Caregiver Behavior

Compared with the control group, Abecedarian trained caregivers had substantially higher frequencies of rich oral language interactions, interactions to support children's understanding of vocabulary or concepts, and responsiveness to children [27]. None of the provider baseline characteristics significantly predicted the three provider outcomes. The fact that Abecedarian training makes a significant difference in how adults talk to and interact with the children in their care confirms that the logic pathway, training > adult behavior > child developmental progress, is functioning as desired. It is within the adult-child relationship that positive child development occurs and thrives.

4. Conclusions

Multiple Abecedarian studies [2][28] have shown that early and broad intervention early in life for at-risk children yields early and long-lasting positive outcomes. Among these are cognitive, social, and mental health benefits that prepare the child for school and life success.

If an academically at-risk child has daily had individualized games, reading sessions, and information-filled caregiving/language interactions from responsive adults during three to five years of educational child care and/or

home life, then the experience of school (even though it is taught mostly in groups and often is not individualized) is likely to be easy to comprehend and respond to. Successfully playing a game with a caregiving adult will map onto the new experience of doing a lesson with a teacher. From his or her early experience, the child expects to receive adult input, to pay attention, to respond, and to succeed. This is the social, attitudinal, and learning dispositions advantage the child brings to school. Moreover, the child enters school developmentally on track (from mastering all the knowledge and skills incorporated in the Interaction Games and other activities) and does not have to play catch-up. This is the cognitive advantage that enables the child to benefit from each succeeding experience as it presents itself.

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