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ABSTRACT

This research review summarizes the current research literature regarding Gesell screening. It also explores the controversy over whether developmentally unready children should be held out of kindergarten, retained at the end of the kindergarten year, or placed in pre-kindergarten or pre-first grade classes. A seven-page bibliography on developmental screening and retention is included. (PCB)

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THE USE OF THE GESELL SCREEN IN THE PLACEMENT OF YOUNG CHILDREN: A RESEARCH REVIEW

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Foreword

The Beryl Buck Institute for Education is dedicated to advancing knowledge about teaching and learning through long-term, field-based, collaborative research involving teachers, parents, and school administrators. The Institute is seeking to bridge the gap between the findings of educational research and the practical application of those findings in schools and classrooms.

This Research Review is intended for teachers, school administrators, and parents. It summarizes the current research literature regarding the Gesell screen, and explores the controversy regarding whether "developmentally unready" children should be held out of kindergarten, retained at the end of the kindergarten year, or, in some fashion, given "the gift of time.

At the conclusion of this discussion there is an ample bibliography organized in two sections: 1) Developmental screening of children; and 2) Retaining children once they are in school.

The Institute would appreciate receiving readers' comments regarding the usefulness of this paper and their suggestions for other educational issues needing review and discussion. Please call the Beryl Buck Institute For Education at (415) 499-4604 with your comments.

Carolyn Horan EdD, Executive Director
John R. Mergendoller PhD, Research Director

Introduction

Arnold Gesell (1880-1961), psychologist and physician, believed that a child's development is directed from within and unfolds in fixed sequences. Gesell called the process, maturation. He believed that it is this internal governor, rather than the child's interactions with the world, that directs the psychological and physical growth of the child.

Gesell recognized, of course, that children vary in their rates of development; he believed, however, that they all proceed through the same sequence of developmental milestones. Growth, for Gesell, is an orderly, structured process that progresses according to the individual's own timetable. Although two children may be of the same chronological age, their *developmental ages* -- or the number of specific developmental milestones they have passed -- may be very different.

Gesell assumed that children become ready to attend school at different chronological ages. He strongly opposed efforts to teach children before they were developmentally ready, fearing this would not only cause children undue and unnecessary stress, but would have little impact on children's learning.

Gesell Developmental Screening

The Gesell Institute, founded in 1950, promulgates his theories and distributes the three Developmental Assessment Batteries he created to measure children's developmental age: a Preschool Assessment for children ages 2-1/2 to 6; a Kindergarten Screening Assessment for ages 4 to 6; and a School Readiness Assessment for ages 4 to 9. Each assessment takes about 20 minutes to administer. Results are interpreted on the basis of how the performance of the child being currently tested compares to those of a small sample of white, middle-class children assessed in the 1940's. At the conclusion of the assessment, the examiner assigns the child's performance a developmental age.

Examiners are trained by the Gesell Institute to evaluate several aspects of the child's development by observing the child's abilities to demonstrate fine motor coordination, verbal skills, and visual-auditory perceptions. During the examination, a series of tasks are presented including cubes to assemble, forms to be copied, diagrams to be completed, writing and memory exercises, tests of gross motor skills, and language development. In addition, the examiner makes a general assessment of the child's personal-social behavior.

The Validity and Reliability of the Gesell Assessment

Among those researchers who question the use of Gesell screening, Meisels (1987) is perhaps the most articulate. He distinguishes the concept of development screening -- an attempt to identify children with *severe* learning and behavioral problems -- from the practice of readiness testing. He argues that readiness testing is generally done with instruments like the

Gesell screen, and such instruments are poor measuring devices on a number of counts. First, there is considerable evidence that examiners administer the test in different ways. Consequently, apparent discrepancies between children's test performances may really result from the inconsistent way the test was administered rather than actual differences in children's developmental readiness. In addition, children from minority and lower socio-economic groups consistently receive lower scores than wealthier, majority children, thus suggesting the test may be culturally and socially biased. Finally, Meisels argues that readiness tests must provide information about what a child is able to do if the tests are to be effective placement tools. Gesell testing, on the other hand, purports to describe how far a child has developed, but does not provide guidance about a child's ability to learn specific curricula.

Some researchers question whether the Gesell screen is a valid placement instrument and a trustworthy predictor of later academic performance. In a review of the Gesell School Readiness Tests, Bardely (1985) expressed concern for the fact that there are no set cutoff scores required for making consistent and reliable decisions about placements. For example, Shepard and Smith (1986) noted that in one study favorable to Gesell screening, further analysis revealed that only half of the children labeled as potential school failures were identified accurately: flipping a coin would have yielded the same results.

Williams and Iverson (1985) assessed students with a series of readiness screens, including the Gesell, and also asked teachers to make evaluations of the same children. They found teachers did not select the same children for placement in compensatory-education classes as the tests did. The study concluded that teacher judgment was more reliable than tests in selecting children for special compensatory programs. What was most disconcerting to the researchers was the finding that teachers believed the tests were measuring skills accurately, when in fact their own evaluations were the better measure. The same conclusions were reached by Scheffelin and Ballard (1989).

A position paper, "Developmentally Appropriate Practice in Early Childhood Programs," presented in 1984 by the Board Commission of the National Association for the Education of Young Children, underscores that:

> Accurate testing can only be achieved with reliable, valid instruments and such instruments developed for use with young children are extremely rare. In the absence of valid instruments, testing is not valuable. Therefore, assessment of young children should rely heavily on the results of observations of their development and descriptive data. Decisions that have a major impact on children are not made on the basis of a single developmental assessment or screening device, but consider other relevant information, particularly observations by teachers and parents.

Other studies have examined how well the Gesell screen predicts later achievement (Ames & Ilg, 1964; Wood, Powell & Knight, 1984; Adamowsky & Serunian, 1983; Kaufman & Kaufman, 1972). In general, this research has found that children with higher developmental

ages also score better on first and later grade achievement tests. Pondering these results, some scholars question whether the Gesell screen is actually an IQ test in disguise, since IQ tests also predict school achievement, and measure something conceptually similar, if not identical, to developmental age (Shepard and Smith, 1986; Jensen, 1969, 1980).

The Gift of Time

A child's developmental age, in and of itself, is of no particular consequence. Most people would agree that different children develop differently and at different rates. What is of consequence, however, is the use of the Gesell screen to deny legally eligible children access to school or to control their progress through it. The Gesell philosophy assumes that a child's natural maturational process cannot be accelerated, hence advocates do not propose a particular curriculum. Rather, it is assumed that developmentally young children (i.e., children whose developmental ages are below their chronological ages) need the gift of time. This gift may be given in any one of the following ways:

- By attending a pre-kindergarten often called "Phase I" or "developmental kindergarten" for one year followed by a regular kindergarten;
- By spending two years in a traditional kindergarten;
- By staying at home a year and attending kindergarten the following year;
- By attending kindergarten and then a pre-first grade class.

Educators who advocate delaying a student's progress through one of these approaches claim that the delay gives children the opportunity to remedy inadequate academic skills and dispositions and allows children's natural developmental timetables to assert themselves. These educators assert that children who do not have the social and cognitive skills to cope with teachers and peers, or who do not demonstrate the responsibility necessary to complete grade level tasks have more opportunity to develop in a class where responsibilities coincide more closely with their level of maturation (Scott and Ames, 1969). Holding a child back thus provides additional time for personal adjustment and social development in the company of children at the same developmental level. By giving a child time to mature, it is argued, children will gain the competencies necessary for success when they enter the next grade.

Educators who oppose holding age-eligible children out of kindergarten, or delaying their progress once they are enrolled, make the following arguments.

- Research has demonstrated that retaining students does not increase their academic achievement and can instill a sense of failure and a lessening of self-esteem;

- o The progress of poor and minority children is more likely to be delayed than that of white, middle class children;

- o Retention is a poor substitute for intervention. If children need special assistance, they should receive it rather than a double dose of the (presumably ineffective) instruction they have already experienced.

The Impact of the Gift of Time

We reviewed thirty-eight studies comparing the consequences of giving students believed to be developmentally unready for school "the gift of a year" versus placing them in school when they are chronologically eligible. We obtained mixed results.

- o Twenty-four studies were generally supportive of the assumption that waiting a year to enter school made a positive difference in children's lives.

- o Fourteen studies reported that the "gift of time" made no difference.

We will explore in more depth below a representative sample of this research.

Studies demonstrating the gift of time has a positive impact on children

Studies favoring the use of the Gesell screen present evidence that placing a child in kindergarten or promoting a child to the first grade when the child is not assessed as developmentally ready -- what Gesell adherents call "overplacing" -- is harmful. A number of studies suggest that developmentally unready children who are given the gift of time perform better when they enter school than developmentally unready children who enter or continue their progression through school (Caggiano, 1984; Defiance, Ohio, 1982; Durkin, 1987; Landry, 1987; Pheasant, 1985; Turley, 1982). Some of these studies report that appropriately placed children have lower retention rates, need fewer special services, and have higher reading and mathematics achievement compared to overplaced students.

Raygor (1972), for example, compared test results for promoted children (those who went on to first grade despite a recommendation to remain in kindergarten), transition room, and retained kindergarten children. Promoted children performed significantly lower on the first-grade Stanford Achievement Test than transition room students or those students who repeated kindergarten.

Studies demonstrating the gift of time have a negative (or no) impact on children

There are a number of studies demonstrating that placing children in school according to their developmental age does not have salutary effects; the research by May and Welch (1984, 1985) is representative. Their initial study demonstrated that children who were judged developmentally unready but placed in regular classes did not experience more difficulties than children given the gift of time, when the criterion was referral to special language and reading programs. Moreover, these researchers found that children rated as immature on the Gesell screening test, and who had spent a year in a developmental kindergarten program had the lowest scores on a number of ability and achievement measures even though they were almost a year older than other children taking the same test.

Several studies indicate that children who are retained in kindergarten or placed in transition rooms achieve less than students who are promoted to the next grade. (Bell, 1972; Erskine, 1972; Gredler, 1984; Holmes and Mathews, 1984; Mathews, 1977; Safer et al, 1977; Skelton, 1963). In a longitudinal study, Peterson et al. (1987) found that despite initial gains, students who were held back in kindergarten did not differ with respect to class standing from promoted students three years later.

Holmes and Mathews (1983) found that non-promoted pupils had lower self concepts, less positive attitudes, and lower attendance than promoted pupils. Further evidence of the negative effects of holding out on personal adjustment and socialization have been documented by Bolton (1986), Loomis (1965), Smith and Shepard (1987), and Thompson (1980).

Leinhardt (1980) studied three groups of children nominated to spend a year in a transition room following kindergarten. The first group was enrolled in a transition class. The other two groups were enrolled in a regular first-grade class, but received different forms of reading instruction. One group was taught with a specially devised, individualized reading program within the regular classroom. An identical individualized reading program was also used with the children in the transition room.

At the end of the year, results demonstrated that children placed in the regular first-grade class and taught with specialized materials were reading at higher levels than transition-room children receiving the same instructional program. The transition-room children, in turn, were more proficient at reading than the children in the first-grade class who had been taught with the basal materials.

Why was the transitional classroom less effective? According to Leinhardt, transition-room children received an average of 2-1/2 hours a week less of reading instruction; they covered fewer reading lessons (50.4 vs. 26.8); and their progress was not assessed regularly or consistently, despite the fact that the adult/student ratio was three times higher in the transition room.

On a more subtle basis, Leinhardt suggests that the transition-room program was watered down, and presented too little challenge to the students. This, plus the negative expectations of school personnel, may have contributed to the poor educational outcomes.

Abidin et al. (1971) investigated the long- and short-term consequences of retaining first- and second-grade students. They found that there was no short-term evidence of the impact of retention on students' achievement or intelligence. The long-term impact, however, was "not so benign." The retained children displayed a continuing deterioration in both achievement and intelligence through the sixth grade.

Retention criteria. Many argue that retention decisions are not actually made on the basis of academic need, but rather on the basis of ethnicity and deportment. For example, Caplan (1973) examined the deportment marks for two groups of girls who were matched on the basis of academic report card grades. One group of girls had repeated one grade; the second group had been promoted. The deportment of the retained girls showed significantly more disruptive classroom conduct than the promoted girls. Teachers, according to Caplan, appear to decide whether or not to promote girls partly on the basis of their classroom behavior and not solely according to their achievement.

Abidin et al. (1971) explored the reasons given for retaining first- and second-grade students. They found:

- Immaturity was given as the main reason for 28% of the retention;
- Academic failure was given as the main reason in 32% of the retention;
- No specific reasons were given in 24% of the retention; and
- Miscellaneous reasons such as high absenteeism were given in 16% of the retention.

Many researchers have commented on the suspect and inconsistent manner in which decisions are made to give students the gift of time, and question the fairness of these decisions. For example, boys, children with late summer/early fall birthdays, and children who are small for their age, are more likely to be held out than other children (Smith and Shepard, 1987).

Safer (1986) found that most children are retained in the elementary grades because of academic failure and misconduct. Safer also noted that those students retained in the first grade have lower IQ's and score lower on achievement tests than do those retained in the upper grades.

The Gift of Time: A Summary

Those in support of retention hold that teachers can do little for a child who is unready for school until the child spontaneously achieves the appropriate school readiness behaviors. Altering the method of instruction, supplying remedial help, tutoring, and personal guidance are believed to be fruitless. Accordingly, remediation is thought to be irrelevant and possibly dangerous. It is important for these children not to suffer from pressure or be expected to perform tasks that are above their level of development. (See Smith, 1989, for an interesting study of the relationship of teachers' beliefs to retention practices.)

On the other hand, the opponents of retention claim that repeating a grade does not ensure subject mastery, nor will maturity gained through "the gift of time" alleviate social, emotional or academic difficulties. These individuals further contend that if children are given enough appropriate opportunities at home and in the classroom through individual attention, tutors, remedial work, and varying modes of instruction to meet individual learning styles, they can master subject matter. Maintaining high expectations and not giving up on these children are central to the intent of keeping them at grade level (Smith and Shepard, 1987).

Summary

Gesell wrote most of his work before 1948. He first presented the Gesell Developmental tests in 1925. The tests were normed on a small group of white, middle-class Connecticut children almost a half-century ago. The changing demography of our schools refocuses our attention on the reliability of tests or screens -- and especially the Gesell Screen -- because of the public notice it has received. One must question the fairness of any test that identifies a higher percentage of students from non-English speaking minority groups, or impoverished backgrounds as developmentally immature.

Although there have been numerous small-scale studies conducted on Gesell, none of these have conclusively answered the questions raised regarding the efficacy of the screen and the value of the gift of time. Until a well-designed study is conducted that includes a diverse student population, and follows them over many years we will lack conclusive evidence of the merits of Gesell screening. The prevailing trend of the research we have examined, however, is to fault the Gesell Test as a measuring instrument and criticize the gift of time as an appropriate strategy for the remediation of deficits in learning and behavior.

Since Gesell's original work, research and development have produced new theories and data. Current research, based on continually revised understanding of the development of intelligence, is being directed toward different approaches to teaching and learning. Most researchers and theoreticians agree with Levine (1987) that a child's learning is dependent upon multiple influences at any given point in time. Although developmental maturation is important, this is but one factor in a child's ability to learn and profit from school experience. A key challenge for today's educators is to design curricula and classrooms that can accommodate children exhibiting a variety of developmental levels, interests, and abilities, rather than assuming the gift of time will enable children to fit into the classroom as they currently exist.

As our knowledge of learning and our ability to design schools to better facilitate learning progresses, we suspect the Gesell Test, and the maturationist view of human development that it reflects, will be seen as a well-intentioned but fundamentally-flawed approach to help children learn.

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