

Original Research

Inside the Greenhouse: Hothousing, Cultivating, Tending or Nurturing Precocious Readers?

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Abstract

This paper adds to the debate about hothousing through reports of a study of 11 young children who are able to read at advanced levels at an early age, without formal instruction (Margrain, 2005). Precocious readers have learned to read 'spontaneously', with self-regulation and self-motivation. The 11 four-year-old children in this study were not stressed, pressured or formally taught to read, yet had reading accuracy ages up to 10 years 8 months, comprehension ages up to 7 years 5 months, and fluency rates up to 13 years. Sigel (1987) defines hothousing as "the process of inducing infants to acquire knowledge that is typically acquired at a later developmental level" (p. 212). If young children are able to acquire early and advanced knowledge without this being induced by adults, then they should not be considered as hothoused. Instead, children's individual motivation, skills and abilities should be acknowledged and responded to; and the support that responsive parents give to their children should be valued and respected.

Key Words: Reading; hothousing; advanced learning; academic ability

Introduction

Background

Sigel (1987) defines hothousing as "the process of inducing infants to acquire knowledge that is typically acquired at a later developmental level" (p. 212). Increasingly busy lifestyles and the increasing promotion of products and programmes in recent years that claim to enhance early academic achievement has caused educational concern that children are becoming stressed, pressured and hurried (Elkind, 1987, 2001; Quart, 2006). Children can be hothoused by parents, teachers or other adults, but within this paper the focus is on parents. There is a growing interest in gifted education in New Zealand (Moltzen, 2006), yet there is also a persistent assumption that parents of precocious learners have pressured and stressed their children (Bicknell, 2006; Margrain, 2005).

The New Zealand early childhood curriculum, *Te Whaariki* (Ministry of Education, 1996), promotes an holistic model of early childhood education. This means that all areas of learning are important, for example physical and social. The New Zealand curriculum does not promote isolated academic learning. The curriculum advocates sociocultural support and responsiveness to children's individual strengths and interests. While this approach has the potential to meet the needs of all individuals, there is little specific support and guidance for early childhood teachers regarding gifted education in New Zealand.

This paper reports findings from a study of 11 precocious readers; 4-year-olds with advanced reading abilities (Margrain, 2005). Precocious readers have learned to read

‘spontaneously’, with self-regulation and self-motivation. The study provides evidence that the children were not stressed, pressured or formally taught to read despite having reading accuracy ages up to 10 years 8 months, comprehension ages up to 7 years 5 months, and fluency rates up to 13 years. The parents of the children in this study also valued a holistic approach to learning and they responded to their children’s strengths and interests.

The argument of this paper is that if young children are able to acquire early and advanced knowledge within a responsive environment, *without* being induced by adults, then they have not been hotheaded. By providing examples of precocious reading abilities and learning the paper also advocates for recognition of, and acceptance of, children with advanced abilities and giftedness. It is important that children’s strengths and interests are not solely attributed to adults, for example by the assumption that an early reader has been formally taught to read.

The Case Against Hotheading

Hotheading, according to Sigel (1987), involves overt pressure and stress on young children to achieve at atypical levels. Elkind (1987) describes pressure, or hurrying of children, as abusive. Hotheading has been critiqued for providing unnatural, tasteless produce, and this has been applied as a metaphor for children’s hotheading (Quart, 2006).

A further concern about hotheading is that children may become socially isolated or “segregated like hothead plants, like houseplants that cannot be put into the world” (Quart, 2006, p. 18). Gallagher and Coché (1987a) suggest that consequences of hotheading include “the loss of childhood as a playful period” as a result of “the negative effects of structured authoritarian approaches to teaching. The result is a decrease in the quality of thinking, especially in the reduction of curiosity” (p. 201). Hotheading is also claimed to negatively affect children’s self-development and socialisation skills (Gallagher & Coché, 1987b).

A Gifted Education Perspective

The critique against hotheading is based on an assumption that children have been pressured, or induced, to succeed beyond their interest or ability level. However, gifted children are naturally able to achieve at levels far beyond their chronological peers. Characteristics of giftedness that came to the fore in Murphy’s (2005) study of young children’s play in early childhood settings included advanced language, advanced knowledge, high curiosity, interest in abstract and conceptual themes and these children had particular play preferences (including pretend play and solitary play). It is important that characteristics such as these are recognised and celebrated, and not viewed as the result of adult interference. “Because children are not ciphers, we cannot engineer their intelligence or control their capacities in any mechanistic sense. We cannot even groom such qualities in any horticultural sense” (Zuckerman, 1987, p. 261).

Sigel (1987), while advocating against hotheading, acknowledges the diversity of individual abilities and interests.

Children can certainly profit from educational opportunities to develop knowledge and understanding of their world of objects, people, and events at a pace commensurate with their abilities and interests. Enrichment of this sort is not hotheading since children are not pressed to accelerate. (Sigel, 1987, p. 214)

Furthermore, the actions that parents take in supporting gifted children may be responsive to the children’s strengths and interests rather than to overtly induce achievement.

Many children who are gifted intellectually or with talent *demand* stimulation from their parents at an early age; they gobble up information and are insatiable in their quest for knowledge about the world or for opportunities to exercise their talent. (Elkind, 1987, p. 16)

If the anti-hothousing movement denies gifted children the opportunity to learn at the level that they are capable of and motivated to learn at, then it will be impossible to support them in developing their potential. Insisting that orchids should grow in a regular outdoor garden will cause the plant to wither rather than blossom.

Defining Precocious Readers

Precocious readers have been referred to as young fluent readers (Clark, 1982), young early readers (Stainthorp & Hughes, 1998, 1999) young able readers (Margrain 1998) and precocious readers (Fletcher-Flinn & Thompson, 2000; Jackson, Donaldson & Cleland, 1988). Precocious readers can be identified because they “have made substantial progress in reading comprehension before entering first grade”, and their achievement is important because “these children have had little or no exposure to standard reading instruction” (Jackson, Donaldson, & Cleland, 1988, p. 234). A striking feature of precocious readers is their voracious appetite for reading (Anderson, Tollefson & Gilbert, 1985).

Stainthorp and Hughes (2004) define precocious readers as “children who are able to read fluently and with understanding at an unusually young age before attending school and without having received any direct instruction in reading. Precocious readers appear to have taught themselves to read” (p. 107). This means that precocious readers differ from early readers who have been formally taught by such methods as *Doman* word flashcards or reading kits. Parents and early childhood teachers of precocious readers may have used informal teaching support, for example reading to children, but without the express intention of teaching early reading.

Literature on precocious readers consistently notes that the children play an active role in initiating and extending their literacy learning (Anbar, 1986; Clark, 1982; Teale & Jeffries, 1982). According to Jackson and Roller (1993), “the most sophisticated precocious readers are children who have driven their parents and teachers to keep up with them” (p. 32). Although formally ‘taught’ early readers tend to even out by the age of 8 years (Hendy-Harris, 1990; Jackson & Klein, 1997), ‘naturally occurring’ precocious readers appear to maintain their advantage (Durkin, 1966; Jackson, 1988; Juel, 1991).

Method

Research Questions

The main research question for the study was: “How are social scaffolding and self-scaffolding demonstrated within the learning of precocious readers?” The first part of this question acknowledged the teaching and support role of parents and teachers, and the second part of the question considered children’s deliberate self-teaching. A second question explored unexpected and unexplained examples of learning: ‘Can precocious readers provide evidence for the concept of spontaneous learning?’ The study drew on three theoretical perspectives: social constructivism, cognitive constructivism and bioecological.

Participants and Recruitment

The study was conducted between 2000 and 2005, in children’s homes, early childhood centres and new entrant classrooms. The 11 children attended 10 different early childhood centres, including two Montessori centres, six kindergartens and two centres that describe

themselves as 'private preschools'. Four of the children continued within the study for several months after beginning school, each child attending a different school.

Children were recruited as a result of personal contacts within the early childhood education sector. Flyers, inviting contact from people who 'know of a preschooler who is able to read', were also sent to local early childhood centres, kindergarten and playcentre associations, and home based early childhood education networks (Margrain, 2005). It was estimated that the services approached had 3500 three to four-year-old children on their combined rolls. Flyers were also left at public libraries inviting contact. From the recruitment processes, 15 children were nominated and all assessed by the researcher as having reading accuracy levels beyond 6 years using the *Neale Analysis of Reading* (Neale, 1999). Eleven children with reading accuracy levels close to or beyond the age of 7 years were invited to participate in the full study, and these 11 children, their parents and teachers all agreed to participate.

Children's ages at initial assessment ranged from 4 years 1 month to 4 years 10 months. Four of the children were girls, and seven were boys. All families included both father and mother. Four of the families identified as Asian, and seven families identified as European New Zealanders. Parent occupations, sibling order and the involvement of other significant adults in children's lives are reported in the study (Margrain, 2005).

Instruments and Materials

The study had ethics approval from Victoria University of Wellington, with fieldwork conducted during 2001 and 2002. To be able to address the research questions, a range of formal and informal methods were used within a case study approach. Methods included:

- Standardised tests of reading such as the *Burt Word Reading Test* (Gilmore, Croft & Reid, 1981) and the *Neale Analysis of Reading* (Neale, 1999)
- The *British Picture Vocabulary Scale* (Dunn, Dunn, Whetton & Burley, 1997), a test of receptive languages
- *Coloured Progressive Matrices* (Raven, Raven & Court, 1998), a test of visual problem-solving
- Special ability rating scales (Jones, 1988; McAlpine & Reid, 1996)
- Semi-structured interviews with parents
- Informal interviews with teachers and parents
- Observations of children in early childhood and school settings.

Of these methods, this paper primarily draws on the standardised tests of reading and interviews with parents. The reading test data illustrate the level of the children's reading achievement and the parent interviews describe the children's reading acquisition and engagement.

In addition to standardised testing, it was important that other activities occurred as part of the relationship between the children and researcher. This focus on building rapport was especially important given the children's young age. Some of the ways this occurred was when children showed me their bedrooms, toys, gardens, and photos, or drew me pictures and maps. Flexibility regarding test conditions was also important for this age group. For example, one child read to me while sitting inside a packing box. In most cases, I sat with the children on the floors of their homes while they read. Testing was generally conducted in the children's own homes, at times to suit the families. Assessment results were shared with families as soon as possible and a full profile book provided at the end of each child's involvement in the study. This involvement varied from 3 to 11 months.

Semi-structured parent interviews were usually conducted approximately one month after initial assessment of reading, for around 1.5 hours each. Five interviews were with mothers only, five interviews were with mothers and fathers together, and one interview with a grandmother and mother. In addition informal discussions occurred throughout the study. The interview material was analysed using a constant comparative analysis approach (Mutch, 1995), with manual sorting and coding. Codes were quasi-inductive, informed by literature, and quasi-deductive, derived from the data.

Findings

Precocious Readers: Reading Abilities

This section reports some of the reading abilities of children in the study: accuracy level, comprehension and fluency. Children's engagement with text and passion for reading is also described. The following section extends this discussion by considering how children had learned to read at these levels.

1. Accuracy Level

The children participating in my study all had reading accuracy levels well in advance of their chronological age. Accuracy rates on the *Neale Analysis of Reading* (Neale, 1999) varied from 6 years 8 months age equivalency for a child aged 4 years 7 months, to 10 years 8 months for a child aged 4 years 9 months. Henry read the following passage from the *Neale* in 89 seconds, with 110 words read correctly out of the 117 total words (94% accuracy). There were many words in the passage that are not usually able to be read competently by a 4-year-old, including: "extraordinary", "responsibilities", "expeditions", "knowledge", "surroundings", "illustrated", "circular", "apparently", "territory" and "subsequently." The seven errors are shown in bold, with the correct word in brackets afterward.

Among animals the fox has no **rival** (rival) for cunning. **Aspychus** (suspicious) of man, who is its only natural enemy, it will, when **purshowed** (pursued), perform extraordinary feats, even alighting on the backs of sheep to divert its scent. Parent foxes share the responsibilities of cub-rearing. Through their hunting expeditions they acquire an uncanny knowledge of their surroundings which they use (Repeated: 'which they use') in an emergency. This is well illustrated by the story of a hunted fox which led its **pusers** (pursuers) to a **negited** (neglected) mine-shaft enclosed by a circular hedge. It appeared to surmount the barrier. The hounds followed headlong, only to fall into the indirectly (accumulated) water below. The fox, however, apparently on **familiar** (familiar) territory, had skirted the hedge and subsequently escaped.

Reading achievement levels on the *Burt Word Reading Test* (Gilmore, Croft & Reid, 1981), ranged from 6 years 8 months to 10 years 10 months. This assessment involved the child reading words from a list rather than within a text, yet results were consistent with the accuracy levels on the *Neale Analysis of Reading* (Neale, 1999). For example, Isla, aged 4 years 9 months, obtained a reading accuracy age of 7 years 7 months and 7 years 10 months on the two parallel forms on the *Neale*, and an equivalent age band of 7 years 6 months to 8 years on the *Burt*. Examples of words that children could read correctly from the *Burt* include "overwhelmed", "trudging", "journey", "explorer", "tongue", "encyclopaedia", "explorer", "binocular", "economy", and "overwhelmed."

2. Comprehension

Comprehension was assessed through the *Neale Analysis of Reading* (Neale, 1999), with five standardised questions being asked after each passage read with less than 16 errors. As a result of the children's responses to comprehension questions, their reading comprehension age ranged between 6 years 3 months and 8 years 3 months.

Comprehension scores were slightly below the reading ability ages for the children in this study, but still well above their chronological age. For example, Erin, aged 4 years 7 months, had a reading accuracy level of 8 years 1 month on the first version of the *Neale* (Neale, 1999), and a comprehension level of 7 years 1 month. Although her comprehension was a year below her reading ability, it was still 2½ years above her chronological age.

3. Fluency

A key finding from the *Neale Analysis of Reading* results was clear confirmation of the children's reading fluency. Every child who participated in the study had a fluency rate significantly above their chronological age, and most of the children had fluency rates above their reading ability rates. For example, Julia had a chronological age of 4 years 1 month, reading accuracy levels around 7½ years and fluency rates of 9 years 1 month and 12 years 3 months on each form of the *Neale*.

4. Engagement

Parents affirmed that the children read with fervour, enthusiasm and delight. Many families referred to the children's "love of reading" and "devouring books." The following responses are examples of replies to the parent interview question "How does [your child] feel about reading?"

Really interested, feels confident in himself that he's able to read. Feels capable, really happy he's able to read – maybe a sense of achievement.

She loves it, really enjoys it. By wanting to read, by doing it. We see her laughing in bed.

Being a Learner

Three aspects of learning are discussed in this section: motivation, self-regulation and spontaneous learning. The discussion affirms that, for precocious readers, their reading achievement is not due to being induced by parents.

1. Motivation: "Pleasure from completing something"

Oldfather and Wigfield (1996) make the unsurprising research conclusion that "when children believe they are competent and efficacious at reading, they should be more likely to engage in reading" (p. 91). It is also unsurprising that parents of the precocious readers in my research frequently pointed out that their children engaged with reading because they personally enjoyed it; if they had not sustained self-motivation to read, then they would not have gained the reading experience that they had. Parents asserted that reading was the children's interest, and not something that had been imposed from parents. They described children 'demanding' to be read to from a young age, their 'spontaneous' ability to read appearing around the age of 3 years, and their 'thirst' for reading and learning.

Not my choice – he demanded to be read to. It wasn't coaching – not 'what's that letter' – just reading ... He enjoys it a heck of a lot. There is no way he'd do this much if he didn't enjoy it. It's just something he does.

He devoured books.

It all comes from her.

Csikszentmihalyi (1978) links engagement with “emergent motivation” through the learner becoming caught up in the activity. In terms of reading this is demonstrated when children lose track of time and becoming immersed in reading, thus demonstrating what Csikszentmihalyi describes as the “flow experience.” Oldfather and Wigfield (1996) extend the concept of engagement with their construct of the “continuing impulse to learn . . . characterized by intense involvement, curiosity, and a search for understanding, as the learner experiences learning as a deeply personal and continuing agenda” (p. 94). The children participating in this study were reported by their parents as having a strong continuing internal impulse to learn.

If it's something he's interested in . . . (David's mother). Yes, that's the key. If he's not interested then he'll go so far then not bother (David's father)

She feels pleasure from completing something.

2. Self-Teaching

The zone of executive functioning (ZEF) focuses on independent, child-centred factors (Berk & Winsler, 1995). The more well-known zone of proximal development (ZPD) instead focuses on the support of adults or more competent peers in extending what the child is able to do alone, to what the child can do with support (Vygotsky, 1978). The ZEF aligns literature on metacognitive thinking and reflection, self-teaching and self-evaluation. In this study of precocious readers, many examples were provided of children's systematic or metacognitive thinking. Nathan's mother noted that he had a strong sense of how things “should” be. Children combined systematic and analytical approaches to learning with questioning, reflection and memorisation.

He has a way of analysing what the problem is – probably putting a grown-up context onto it. He has the ability to think a problem through and think of a way to fix it. I never thought about it [before]. A very quick learner.

He sits and looks a long time first, then gets it right when he tries. He's pretty successful, whether riding a trike or whatever – I don't see that he gets it wrong.

Several parents of children participating in this study highlighted a specific focus on self-teaching. The children were perceived to “teach themselves” more than they were “taught” by others.

She taught herself, that's the amazing thing.

Reading – she sussed that one out.

Mostly he's a self-starter – we try to keep up with him.

When asked “Who is it, if anyone, who has mainly taught your child?” – Henry's parents emphatically stated “Henry!”

The analogy of being a ‘sponge’ was repeatedly used as the children ‘soaked up’ all that they could from their environment. When I visited Henry's school, the teacher said to me “he's such a sponge.”

He learns from everywhere. Comes home with things from other kids' houses, TV, books, phrases from the computer. The 'sponge analogy' – learns from everywhere.

It does not even seem like Matthew is learning. Yet he is constantly absorbing information and remembers them in context, and that is just amazing.

As well as absorbing information 'like a sponge', children were also reported to have excellent memory skills. They learnt quickly and retained their knowledge. Perez, Peynircioglu and Blaxton (1998) noted that these learning strategies could be secured at a young age.

Just really quick in grasping anything. Anything you teach her once or twice she gets it. At the [early childhood] parent-teacher meeting the teacher confirmed it – she grasps things very quickly.

He has a very good memory. He really could remember it - he had that retention of his memory.

The parents' reference to children learning 'like a sponge' acknowledges the role of the individual child. No matter how much information is provided to children, whether they learn is influenced by their thirst for learning and how willing and able they are to absorb new knowledge. In this study, the children were competitive and sought challenges.

3. Spontaneous Learning

Parents perceived that the learning of children participating in this study was "instantaneous", and they described a different concept from the zone of proximal development and the zone of executive functioning. A key difference is one of rapidity: a 'flash' of inspiration or a 'moment' of intuition were terms used by parents.

Many parents referred to their children's implicit and intuitive understandings as "spontaneous learning." Sometimes parents referred to children's 'teaching themselves', but clarified that 'it just happened' or was 'natural'. It therefore appeared that children's learning was not always taught, not always metacognitive, and sometimes spontaneous. Matthew's family, for example, was astonished when the pretext for *Star Wars* rolled onto the screen and he began to read it aloud ("in a galaxy far, far away ..."); Matthew was aged 3 years and had not seen *Star Wars* before. Like the other children in the study, he had not been formally taught.

A little concerned at the fuss everyone was making over his reading – it is just something that happened and no big deal . . . spontaneous.

Isla revealed she could read just before 3 years [old] when she took a cereal packet out of the cupboard and began to perfectly read what was written on the side – I couldn't believe my ears. [The packet text] included the word 'fantastic'.

Erin's mother described her opinion that Erin's reading was something that had 'just happened' and that Erin had ownership of it. David's parents commented that his reading development didn't appear to be in stages – the comment was made repeatedly that it happened "overnight" – "one day he couldn't read, the next he could."

Being Taught

We [parents] were told early on that the best way to help is to give wide experiences – [we] looked laterally. We haven't done skiing trips but have involved them with daily life. Cooking is good with maths, reading, patterns, conclusions. We go to museums – can be harassing, but they enjoy it. Love libraries. By encouragement and giving him time and the opportunity to do stuff ... We haven't actually sat down and taught him stuff, except in a passive way – but I 'spose reading is active.

Examples of support provided by parents of the children participating in this study illustrate their commitment to responsive approaches rather than overtly inducing or pressuring achievement. Parents saw their role as being responsive to their children's strengths and abilities, noting that they were guided by their children's interests. This is a broad concept of "teaching" in a broad definition rather than a deliberate, planned approach. Parents particularly noted the importance of communication within the family, responding to their children's questions and readily providing information.

If she talks about something from [pre]school we talk, look in books, look on the Internet – a learning experience for us too ... Generally whatever she talks about we read about it and talk to her about it.

Our family makes a conscious effort to take time to talk to him as an adult, listen to what he has to say. If he asks a question we explain, we take the time.

Swimming, gym, singing, piano playing, visiting relatives, the park, beach, toy shops, train rides, baking, using the computer, reading, doing puzzles, ball games and doing housework are just a few of the many, varied activities children enjoyed doing with family members. Parents involved children in everyday activities and community outings and valued the social and cognitive opportunities in early childhood education. These examples illustrate that parents viewed their children's learning holistically. They did not focus exclusively on academic learning. Parents also appeared to have a practical understanding of their children's zone of proximal development, demonstrating skill in recognising teachable moments and ensuring that learning was natural and easy for children.

We sang to her, nursery rhymes, danced around with her (p. 6). We present ideas to see if she's ready to learn new things. [Her mother] is giving her a variety of experiences that will help her. Discuss and present her with books. Try to give her new things, social development, play . . . She's not been allowed to have difficulty – she doesn't normally have difficulty. She's not in a situation of difficulty because we're always supportive.

Children's involvement with activities was seen by parents as partnership rather than as 'top-down' teaching. Henry's father mentioned Henry "helping me work on things in the garage" and his mother noted "we've spent quite a lot of time on the beach together." Isla's activities included "helping feed the animals."

Some parents strongly rejected that they had taught the children, possibly wanting to discount notions of formal teaching, hothousing or being pushy parents. Erin's mother said that she had tried to teach her older son to read, but had not been successful. As a result of this experience, she decided that she would definitely not try to teach Erin to read, and had been frustrated when Erin "taught herself" as she felt this showed she was "completely

useless” for either of her children. Other parents also stressed that they had not deliberately taught their children:

Compared with other children, she’ll go into [her school] and they will not have experienced other children like her. In fact, I’m worried, and this is why I’ve not deliberately taught her. I’m too nervous to have a frank talk in case I get off-side with them.

At no time did I set out to teach her to read. From her earliest years I have followed her lead and interests though I have introduced new books, tapes, ideas to her to see if she’d be interested in pursuing them. If not I’ve left it until a later time or dropped it. At all times I’ve been ultra careful with her attitude to learning, being careful not to turn her off in any way.

Conclusion

Sigel’s (1987) definition of hothousing stresses “the process of inducing infants to acquire knowledge that is typically acquired at a later developmental level” (p. 212). Evidence of the latter part of Sigel’s definition does not necessarily mean that the former part of the definition is applicable for all children. This study of precocious readers reports a group of children with reading knowledge and skills well in advance of their chronological age, without having had this learning overtly ‘induced’. Precocious readers by definition have advanced reading abilities, but have not been formally taught. The case studies in this study instead describe motivated, self-regulated learning, and at times spontaneous learning. The support that parents provided the children was often little different to that which many parents provide; this support was necessary but not sufficient to ‘create’ a precocious reader. The rate and level of children’s learning may be atypical and unexpected but was definitely the children’s achievement.

In addition to reporting and describing precocious readers, their abilities and learning, this paper has reported responsive teaching and parenting. Reports of parents that ‘followed the lead’ of their children within an holistic learning environment challenge the assumption that parents induce achievement through stressful, pressured approaches. Negative connotations of hothousing do not accord parents with sufficient respect for their support of children, and do not reflect partnership or empowerment as promoted in *Te Whaariki* (Ministry of Education, 1996). Parents of children in this study did not overtly cultivate, prune, or crop. Instead, parents nurtured and tended, ensured roots were well-nourished, and also allowed their children to grow freely.

Gifted children often have a strong drive for success and achievement (McAlpine, 1996). Where children have this strong self-determination, the children have not been induced by adults, and thus not hothoused. Gifted education literature also highlights that where expectations of children’s achievement are low, or they are unsupported, the children’s learning growth will be stunted and constrained; they will fail to thrive (Colangelo, Assouline & Gross, 2004). Children’s wellbeing is thus at the heart of both dimensions of the hothousing debate. For the very same reason that there are cautions against adult-induced hothousing, children with special abilities must be allowed to flourish and blossom.

The key implication of this paper is that we do not serve our most able children well if we fail to recognise and value giftedness, if we assume giftedness is induced, and if we react negatively to exceptionality. Parents and children in this study can teach us to worry less about hothousing and more about support and encouragement.

[We] Don't stop encouraging. We don't impose any limits on what he wants to do, or read, and [his sister]. We encourage them to do whatever they can. . . . I have tried to encourage him, point him in the right direction, open doors If anything, the frustration is to convince the authorities that he's ready to do these things. They say we don't do these things before [age] 4 or 5, we need to keep at them to give him a shot.

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