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Putting Humpty Dumpty Together Again

What's Right with Betsy

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"I do better expressing myself in writing than orally because, if I write, I think . . . and I can stop without trying to shoot it out really quick. . . . It's hard to think and talk at the same time to let it all be expressive, like do it smoothly. Like writing, you can go back and change like this paragraph I want first, second, third. Then talking you won't understand me 'cause I'm like confusing you 'cause I was talking about this. Then I switched to this that should have been first and then. So, in writing." (Betsy, age 17 years)

Betsy is a telling case of the struggles and victories of a youngster who has grappled with a language learning disability for most of her 17 years.¹ Her story is a fitting way to conclude this volume because she represents how a child with motivation and resilience can confront the educational and interpersonal obstacles she has experienced. Her story, which predates the passage of the No Child Left Behind Act of 2001 (hereafter NCLB) and the 1997 Individuals with Disabilities Education Act (hereafter IDEA; see Silliman & Wilkinson, Chapter 1, this volume), is a metaphor for the ongoing debates in theory and practice about the meanings of a *learning* disability versus a *language* disability. Her chronicle also illustrates the value

of cross-disciplinary cooperation in the service of a child's language and literacy needs and crystallizes the research directions that evidence-based practices might take in melding together different research frames.

In a manner of speaking, Betsy's story reflects the Humpty Dumpty tale. Although it is not generally known, Humpty Dumpty was an atypically large egg prone to taking risks. In his eagerness to see the king and his court as they returned to the palace, Humpty sat on a high stonewall. Despite warnings from the king's daughter to take care so that he would not fall, the excited Humpty forgot caution and crashed to the ground, shattering into so many pieces that he could never be put "together again." Humpty Dumpty's tale captures how Betsy, a child with a fractured system, long struggled to keep her self-esteem from shattering. If the individual needs of students with language learning problems are to be met in a comprehensive way, Betsy's story of self-discovery is a motivating one because it makes a persuasive case for joining together the preventive educational services that have been fragmented for many years.

To tell her story and its implications, we connect Betsy's patterns of development and her educational history to three issues that surround all children with language learning disabilities. These issues are the ambiguous definition of a language learning disability, its causes, and its long-term outcomes. First, we examine Betsy's changing profile from grade 1 in 1986 to grade 6 in 1991. Next, we allow Betsy herself to speak about her journey through school, offering insights about her strengths and needs in language and literacy. Finally, we offer some future directions for achieving collaborative and integrated services for students like Betsy.

BETSY'S STORY

Not Ready to Leave the Nest: The Preschool Years

Betsy, a healthy neonate, was the second of two children born to a middle-class family. Her motor skills followed a pattern of normal development; however, her language was delayed and her speech was unintelligible. Betsy's mother reported that throughout early childhood Betsy became easily frustrated by her inability to express herself adequately. This frustration was often manifested as violent temper tantrums. At age 3 years and 2 months, at her mother's request, Betsy was referred by her pediatrician to a speech-language pathologist who identified a severe articulation disorder. Betsy then attended private therapy sessions for her speech and vocabulary development until the age of 5 years, when she entered kindergarten. At that point, Betsy began to receive services from the school-based speech-language pathologists for her "articulation," which had since improved in intelligibility. The continuing concentration on Betsy's speech

production beginning at age 3 years and 2 months, while not inappropriate, was not sufficient. As Betsy progressed through the preschool years and early elementary grades, this narrow focus became symbolic of many lost opportunities for preventing more serious problems with language and literacy learning.

Language Impairment and a Learning Disability: Specific and General Views, Causes, and Outcomes

Betsy's developmental profile through the preschool years is consistent with the "late talker" pattern (Rescorla, 2000; Thal, Reilly, Seibert, Jeffries, & Fenson, 2004), or a preschool-age child who appears normal in all other ways except for an unexpected delay in speech. At the same time, her profile captures the clash between two perspectives about the diagnostic definition of a language disability or impairment, the *specific view* and the *general view*, as well as portraying two controversies about the causes and long-term consequences of a language learning disability.

The Controversy about "Specific" in Specific Language Impairment

The prevailing view frames language impairment as a disruption in the system of verbal communication specific to the linguistic system. More explicitly, despite normal development in the nonverbal domain (Bishop & Clarkson, 2003), *specific language impairment* (SLI) is defined as "'unexpected and unexplained variations' in language acquisition" (Rice, 2003, p. 63). Figure 12.1 displays two debates about the meaning of SLI.

The first controversy is "big modularity" (Schaeffer, 2004, p. 135). In the modularity perspective, syntax, or grammar, is viewed as a specialized innate system, or *module*, separate from other cognitive processes (de Villiers, 2003) (see Figure 12.1). The reason offered for this specialization is that a system is dedicated to the processing of grammar (Elman et al., 1996). Because the brain is organized in a unique way for language, SLI is then considered as a distinctive disorder because it is the verb system through which tense is marked that is selectively disrupted (de Villiers, 2003; Rice, 2003). This selective disruption of tensing is speculated to have broad ramifications for basic development of grammatical morphology well beyond the preschool years. *Grammatical morphemes* are linguistic devices for indicating subject-verb agreement when agreement is obligatory in Standard American English. Examples of these required tense inflections include *-s* and *-ed* as in "Paul walks home," when referring to a present, ongoing action, and "Paul and Michael walked home," when referring to a

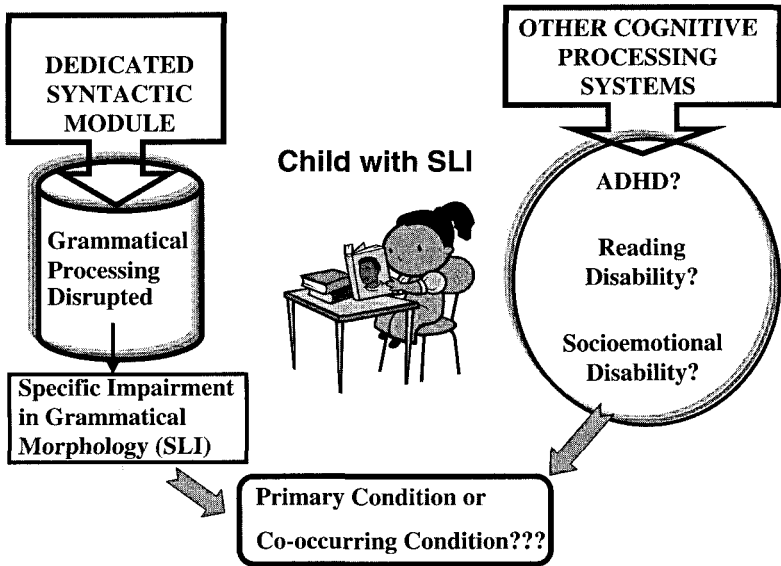


FIGURE 12.1. The modularity and co-occurrence controversies associated with the specific view of specific language impairment (SLI).

past action. Disruptions in the timing of the acquisition of these grammatical tense markers may represent a general delay, or a selective “delay-within-delay” (Rice, 2003, p. 71), in linguistic development.

A detailed discussion of modularity is beyond the scope of this chapter. Nevertheless, on first appearances and consistent with the SLI perspective, it seemed that all that was “wrong” with Betsy during her preschool years was her delayed language production in combination with her severe expressive phonological difficulties. Not all agree with the SLI view. For example, Elman et al. (1996) suggest that the more interesting question is *not* the innateness of a grammar module, but the extent to which brain structure for language and speech becomes progressively more specialized over time by virtue of children’s continuous interactions with the talk that serves as the input for further brain development. In addition, an important clinical question that goes beyond the innateness controversy concerns the reliable prediction of transient delays in language development that may resolve versus language difficulties that will persist. By age 3 years and 2 months, Betsy so concerned her mother that she wanted an evaluation by a speech–language pathologist for Betsy’s speech problems, not her problems with language development. Recent research (Bishop, Price, Dale, & Plomin, 2003) indicates that a parent who seeks professional services for significant speech difficulties as a primary concern by the time

a child is age 4 years may be a predictor of the boundary between transient language delays and chronic problems in language development that have a genetic component.

The Co-Occurrence Controversy

A second controversy about SLI is one that also overlaps with the big modularly account. As shown in Figure 12.1, this is the co-occurrence issue in which two or more impairments appear together with an overlap of symptoms (Kaplan, Dewey, Crawford, & Wilson, 2001). The question of interest is whether the language impairment is the primary condition, which implies causality, or whether it coincidentally occurs at the same time with another impairment that then influences the "look" of the SLI (Botting & Conti-Ramsden, 2004; de Villiers, 2003). One example of co-occurrence would be SLI and attention-deficit/hyperactivity disorder (ADHD), or the inability to readily self-regulate one's learning (Westby, 2004). A second illustration is the overlap between a language impairment and a child's ongoing struggles with decoding and reading comprehension (Catts, Fey, Zhang, & Tomblin, 1999; Catts, Fey, Tomblin, & Zhang, 2002). A third example is the coexistence of SLI and socioemotional difficulties, such as the violent temper tantrums that Betsy's mother described her as exhibiting when others did not readily understand her. Donahue and Pearl (2003) note the complexity of the problem of unraveling whether persisting language learning difficulties are "causes, outcomes, correlates, or simply coincidental with . . . social interactional difficulties, at any one point in time" (p. 92) (for further discussion of social interactional issues, see Donahue & Foster, Chapter 7, this volume).

A radically different perspective on the co-occurrence issue reworks the old notion of minimal brain dysfunction into a new concept based on neurobiological research. What appear to be associations between two developmental conditions, such as a reading disability and ADHD, may actually reflect varying expressions of atypical brain development (Gilger & Kaplan, 2001; Gilger & Wise, 2004; Kaplan et al., 2001). In effect, based on the nature and quality of gene-environment interactions, atypical brain development may be evidenced in multiple ways across children in a variety of behavioral areas, including the social, emotional, attentional, linguistic, and academic domains. One important point is that co-occurrence of disabilities seems to be the rule, not the exception, because pure cases of a disability seldom occur (Gilger & Kaplan, 2001; van Geert, 2004). Often the overlapping diagnostic labels that a child receives, such as "SLI and ADHD" or "dyslexia and ADHD," are arbitrary because they originate from the professionals who see the child (Bishop, 2004). A second critical point is that the term "atypical brain development" does not describe a

disorder but instead references an integrative concept about etiology that then is expressed as a “scatter of strengths and weaknesses” (Kaplan et al., 2001, p. 563) depending on how a child’s genetic makeup interacts with his or her unique experiences and the compensatory strategies that he or she develops (Bishop, 2004). In other words, there are no sharp boundaries between seemingly different impairments, such as a language impairment and a reading disability. When children like Betsy are viewed through a multi-dimensional continuum of strengths and weaknesses, rather than as “a category of disability,” the unevenness of their language skills (Leonard, 1998) may become more understandable as individual profiles that reflect varying gene–experiential interactions. Different instructional and intervention implications should also emerge from a more multidimensional view.

The “Specific” as Part of Broader General Systems Interactions

In stark contrast with those who promote the SLI perspective, Bates (2004) views the same pattern of disruption in oral language development as evidence of a more *general* involvement of information-processing systems that are broadly distributed in the brain and restrict how linguistic representations can be employed for an infinite variety of purposes. As shown in Figure 12.2, variations in cognitive information-processing systems—for example, the speed of processing or encoding events in memory—may reflect alternate types of brain organization that are not related directly to language, but that nevertheless can affect the timing of brain events necessary for “on-schedule” language development (Bates, Vicari, & Trauner, 1999). Disturbances in the timing of interactions among these general information-process systems are represented as gaps in Figure 12.2. For example, Bates (1997) acknowledges that grammatical morphology can be disrupted in some children; however, disturbances in grammatical morphology may selectively occur not because the verb tense system is specifically impaired, but because this linguistic aspect is “a weak link in the processing chain, one that is highly likely to fall apart when things go awry” (p. 467).

To expand further on Figure 12.2, Bates and Roe (2001) offer a vivid account of the “Humpty Dumpty Principle,” or what happens when things go awry and cannot readily be put together again. As a backdrop for this view of fractured development, a brief journey through the process of emerging, and well-timed, word learning is required. When a child initially attempts to break into the linguistic code, he or she relies on extracting and storing critical perceptual details in the acoustic stream, such as “‘the little sounds’ and ‘little words’ ” (Elman et al., 1996, p. 309). According to Bates et al. (1999), this major activity engages the left temporal cortex and is cru-

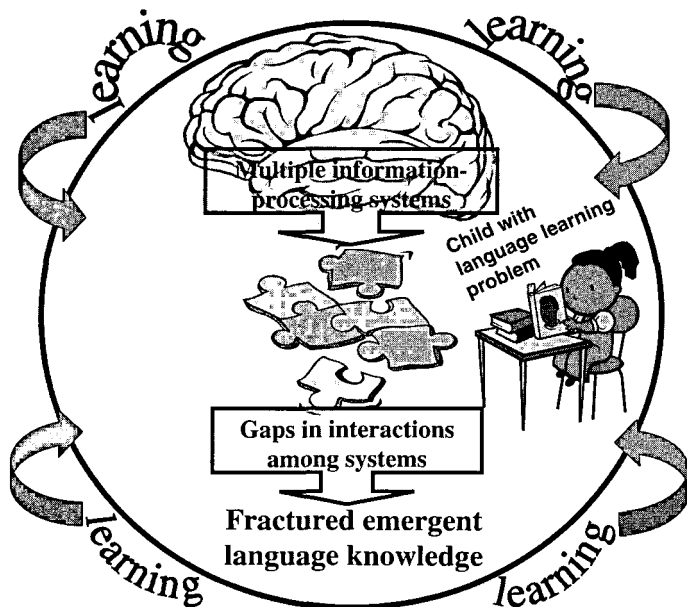


FIGURE 12.2. General systems interaction view of language impairment.

cial for the child's eventual production of new word meaning—for example, when the child is attempting to “fast map” the initial meaning of *hammer* as a new concept. While these perceptual bits may contribute to the child's initial connections between sound and meaning, these bits cannot stand alone for strong linkages to develop. They must be integrated over multiple sources of information in order to eventually derive the patterns that indicate the conventional meaning, an “emergent” process that draws extensively on right-hemisphere resources (Elman et al., 1996). The multiple sources requiring integration involve (1) visual information about the shape and size of a hammer; (2) tactile information about how a hammer feels, as well as knowledge of its functions and movements; and (3) prior experiences with a hammer, including emotions connected with hitting one's thumb accidentally with a hammer. In Bates's (2004) analysis, producing a new word requires greater perceptual analysis than does recognizing a word whose meaning is typically supported by the surrounding social and physical context; therefore, the bias of the left temporal cortex toward perceptual detail is not specific to language or even to hearing, but is a reflection of brain systems with enormous computing power that are “sculpted” (p. 249) by learning, including language learning.

As we mentioned earlier, the “gaps” indicated on Figure 12.2 are the results of disruptions to the timing of interactions among (nonlinguistic) brain infrastructures, their neural substrates, and experiences that propel brain changes. These disturbances then affect how adequately cortical regions specialize for specific cognitive functions based on their engagement in particular activities, like language learning (Bates & Roe, 2001). In this general systems interaction perspective, caution is warranted in assuming that “a particular neural correlate of language impairment reflects the behavioral state of the system. That is, the brain may still be in a relatively immature state because the relevant experience-driven events have not yet taken place” (Bates, Thal, Finlay, & Clancy, 2003, p. 37). In Bates’s (2004) opinion, “we may never observe a true case of specific language impairment. If language is impaired in some fashion, then we should always be able to detect at least some subset of nonlinguistic skills that are also impaired” (p. 252), such as symbolic play, spatial imagery in older children, nonverbal attention, working memory, and planning (Bates, 1997; Berninger & Richards, 2002; Bishop, 2004). Another nonlinguistic domain that might show some degree of impairment is inferencing, which relies on the integration of multiple sources of information for both oral and reading comprehension and may be independent of working memory to some extent (Cain & Oakhill, 1998; Cain, Oakhill, Barnes, & Bryant, 2001; Cain, Oakhill, & Bryant, 2004).

An assumption is that Betsy entered the world with brain systems that were fractured. As some suggest (Edwards & Lahey, 1998; Maillart, Schelstraete, & Hupet, 2004), it may be that, as a preschooler trying to break into the linguistic code, she had difficulty formulating solid phonological representations from the perceptual bits in the acoustic stream, which then affected her vocabulary development, and ultimately expressed itself in her early unintelligible speech. Alternately, Betsy experienced protracted problems with the efficient integration of multiple sources of information, which impacted on her development of an interconnected repertoire of conceptual and linguistic knowledge and subsequently hindered her emergent inferencing skills. The two possibilities are not mutually exclusive, however, making it a prime challenge for Betsy, like Humpty Dumpty, to put the splintered pieces back together again through her learning experiences.

Finally, a practical point about the two conflicting perspectives on language impairment is worth mention. Berninger (2003) notes that, regardless of the perspective on the nature of a language impairment, the often unrecognized learning difficulties that children with this condition experience during the school-age years has resulted in their becoming “the most underidentified and underserved group at present” (p. 27).

What Is "Specific" in Specific Learning Disabilities?

Resolving these conflicting frames is also essential for understanding whether a *language disability* and a *reading disability* are two co-occurring and independent conditions, as assumed by the phonological core deficit account (Keogh, 2002; Lyon, Shaywitz, & Shaywitz, 2003; Stanovich, 2000; Torgesen, 2004), or whether they are intertwined beyond the well-documented domain of phonological processing (Dickinson & McCabe, 2001; Dickinson, McCabe, Anastasopoulos, Peisner-Feinberg, & Poe, 2003). The phonological core deficit theory continues to dominate as the primary "language-based" explanation for a reading disability (see also Troia, Chapter 4, this volume), which is typically equated with dyslexia.

A new working definition of dyslexia now refers to this condition as a *specific learning disability* that is the product of three unexpected, but distinctive and interrelated, breakdowns in learning to read (Lyon et al., 2003):

- *Word recognition* as defined by the accurate and fluent identification of real words
- *Spelling*, which entails the translation and encoding of phonemic information into an integrated code of phonological, orthographic, and morphological knowledge (Cassar & Treiman, 2004)
- *Decoding* as defined by the rate of the oral reading of nonwords wherein meaning is relatively absent and only the phonological structure is available for accurate pronunciation

This cluster of difficulties is said to differentiate the phonological core deficit underlying a specific reading impairment from other kinds of learning disabilities that may co-occur with a reading impairment such as SLI, but whose characteristics differ in theory from those of a particular problem with reading and writing (including spelling and handwriting). Moreover, dyslexia, as a neurogenetic impairment viewed on a behavioral level, is considered a condition that is nonresponsive over a reasonable period of time to scientifically based instruction implemented "by well-prepared teachers" (Lyon et al., 2003, p. 9; see also Silliman & Wilkinson, Chapter 1, this volume, for the highly qualified teacher controversy arising from the NCLB legislation). Because of this nonresponsiveness, significant problems with vocabulary learning and reading comprehension become predictable.

Given this cluster of difficulties, two interrelated questions arise about the extent to which a reading disability occurs in "pure" form.

1. *How common is a pure type of dyslexia (specific reading disability)?* An often cited, research-based estimate is that, in grades 2 and 3 (Shaywitz,

Shaywitz, Fletcher, & Escobar, 1990), dyslexia “affects one child in five . . . [in other words] . . . when administered a test of intelligence and a reading test individually . . . 20% of children were reading below their age, grade, or level of ability” (Shaywitz, 2003, p. 30). However, there is longitudinal evidence indicating that, to the contrary, a pure form of dyslexia is relatively uncommon. Using some measures comparable to those used by Shaywitz et al. (1990) combined with oral language measures, Catts et al. (1999) found that only 14% of grade 2 poor readers had experienced difficulties with phonological processing alone in kindergarten, suggesting that the phonological core deficit as a primary explanation for a reading disability may have limited scope. In comparison, 37% of poor readers in grade 2 demonstrated both phonological-processing and oral language difficulties in kindergarten, while 22% had oral language problems only, and 27% did not show either problem in kindergarten.

2. *To what extent do the key diagnostic features of dyslexia and SLI overlap?* The second question derives from research-supported assessment in the differential diagnosis of dyslexia and concerns whether key features of this differential diagnosis are specific only to dyslexia. According to Berninger and O’Donnell (in press), one diagnostic marker of dyslexia is that a child’s phonological representations are not well specified, which then affects the efficiency of the child’s phonemic awareness as well as affecting the ultimate efficiency of decoding. A second diagnostic marker is characterized by inefficiencies in verbal working memory, which we will return to shortly.

However, Berninger and O’Donnell (in press) propose that children with dyslexia differ from children with a language learning disability along a continuum of severity. The claim is that, in addition to problems with phonological representations, children with a language learning disability also have distinctive problems with morphological and syntactic awareness in the oral domain, unlike those with dyslexia.

In terms of morphological awareness, one pattern pertains to problems with the morphological representation of derived meanings, such as how two words are related or unrelated in meaning through suffixes. For example, “Does *quickly* come from *quick*?” “Does *mother* come from *moth*?” (Nagy, Berninger, Abbott, Vaughn, & Vermeulen, 2003, p. 733). This task requires phonological segmentation of the word and the ability to analyze whether the segmented portion is related in meaning to the target word (Carlisle & Fleming, 2003). Similarly, as children with a language learning disability enter the upper elementary grades, they may encounter significant difficulty in the generation of morphologically complex words that require the simultaneous integration of phonological, syntactic, and seman-

tic (morphological) relationships—for example, “*Major*. He won the vote by a _____” (Carlisle, 2000, p. 187).

The second pattern that Berninger and O’Donnell (in press) cite for distinguishing dyslexia from a language learning disability involves problems with more explicit syntactic processing, such as the verbatim repetition of sentences that increase in length and complexity—for example, “*Was the van preceded by the ambulance? The boy stopped to buy some milk, even though he was late for class*” (Semel, Wiig, & Secord, 1995). While this kind of task does call for the activation of syntactic knowledge, it also requires the activation of verbal working memory strategies for accurate recall, thus calling into question whether this task involves only syntactic processing. For example, in children at least age 11 years old with oral language status in the normal range of variability, sentence repetition appeared to identify more accurately those with relatively resolved SLI histories than did non-word repetition tasks (Conti-Ramsden, Botting, & Faragher, 2001). Reduced performance on sentence repetition also characterized younger children with poor reading comprehension who had unrecognized oral language problems (Nation, Clarke, Marshall, & Durand, 2004). These outcomes suggest that protracted inefficiencies with verbal working memory also contribute to performance on syntactic processing tasks.

As we mentioned previously, the second hallmark of dyslexia also pertains to problems with verbal working memory, which then limit children’s ability to translate letters into sound readily and to maintain appropriate attention to key aspects of language processing. Both of these features clearly overlap with the SLI perspective: children’s difficulty in encoding or storing new oral word meanings is related to problems in verbal (and/or phonological) working memory. The outcome is the formation of fuzzy phonological and morphosyntactic representations that then affect the scope and depth of their vocabulary learning (e.g., Conti-Ramsden, 2003; Dollaghan & Campbell, 1998; Edwards & Lahey, 1998; Leonard, 1998; Rice, Cleave, & Oetting, 2000) and their sentence comprehension (Montgomery, 2002a, 2002b).

Recently, studies of SLI have been extended to reading comprehension. What must be kept in mind in evaluating results are variables that can affect the validity of findings, such as the demographic characteristics of the samples and the cutoffs set to differentiate normal from atypical performance. In one study, more than half of the children, ages 7 to 9 years, with specific reading disability were found to have an SLI (McArthur, Hogben, Edwards, Heath, & Mengler, 2000). Similarly, about 50% of the children with an SLI were also found to have a reading impairment. In a second study, children with poor reading comprehension (mean age = 8½ years), without any residual phonological processing problems as

measured by phonemic segmentation tasks, were found to have “relative weaknesses across a range of [oral] language skills that are important to reading comprehension, from understanding the meaning of individual words to understanding figurative expressions” (Nation et al., 2004, p. 208). One suggestion is that inferencing might be a common breakdown that bridges both language comprehension and reading comprehension (Cain et al., 2004). However, there is a caution for the design of studies investigating the relationship between types of oral language skills and reading comprehension. Unless problems with oral reading fluency are ruled out with measures of rate and accuracy—for example, the child who orally reads slowly but accurately—difficulties may be falsely attributed to reading comprehension, such as inferencing failures, when the root problem is the overall fluency of word recognition (Duke, Pressley, & Hilden, 2004). Neither the McArthur et al. (2000) nor the Nation et al. (2004) studies clearly eliminated rate and accuracy factors as possible confounding variables (see Whitaker, Gambrell, & Morrow, Chapter 5, this volume, for exemplary instructional practices in teaching children to read).

On the one hand, this overlap between characteristic indicators of dyslexia and SLI may be coincidental. On the other hand, the notable similarity between the diagnostic portraits of dyslexia and SLI—or a language learning disability—may possibly represent related expressions of atypical brain development (Gilger & Kaplan, 2001; Gilger & Wise, 2004; Kaplan et al., 2001) or a more general involvement of certain cortical functions that remain less specialized for particular language activities (Bates, 2004). Given their different diagnostic and intervention outcomes, these three possibilities remain to be explored. Applied to Betsy, the important questions to consider relate to what can be predicted for her as she enters formal schooling and how her profile of strengths and weaknesses may change over time.

What Can We Predict for Betsy as She Steps from the Nest?

Consensus does not yet exist that almost all children with reading problems likely have a “fundamental impairment in language, beginning in the early preschool years” (McCardle, Scarborough, & Catts, 2001, p. 235). What can be agreed on, however, is that the profiles of a language impairment and a reading disability, including their severity, will vary within children and may take different forms depending on the nature of interactions between genetic and experiential factors (Snowling, Gallagher, & Frith, 2003). Some children may chronically struggle with new vocabulary learning and decoding fluency, while others may be continually challenged by the semantic, syntactic, and inferential demands of text comprehension

due to the underdevelopment of these synergistic processes in the oral domain (Carlisle & Rice, 2002; McGregor, 2004; Scott, 2004; see also Gillam & Gorman, Chapter 3, this volume).

Based on a variety of prospective longitudinal studies in the United States and Great Britain, including twin studies, it is now well established that a preschool-age child whose delayed language or severe phonological impairment² does not resolve by kindergarten entry, like Betsy, is at least five to six times more likely to be at risk for a language learning disability and subsequent academic problems than peers without any visible evidence of a language delay (Bird, Bishop, & Freeman, 1995; Bishop et al., 2003; Botting, Faragher, Simkin, Knox, & Conti-Ramsden, 2001; Catts et al., 1999; Catts et al., 2002; Felsenfeld, Broen, & McGue, 1994; Johnsrøn et al., 1999; Rescorla, 2000, 2002; Stothard, Snowling, Bishop, Chipchase, & Kaplan, 1998; Thal et al., 2004). Regardless of how the disability is expressed, the combination of a quality curriculum and its early introduction (Berninger & O'Donnell, in press) plays a pivotal role in moderating the effects of a language-based disability on educational outcomes in reading, writing, and spelling (see Silliman & Wilkinson, Chapter 1, this volume; Silliman, Wilkinson, & Brea-Spahn, 2004).

Trying to Be a Good Egg, but Anxious about Doing So: The Elementary Years

Betsy entered kindergarten in 1984 when the whole language approach was the dominant method for teaching children to read in her school district. As we noted earlier, she continued to receive speech services in kindergarten for articulation. By the end of grade 1, when Betsy was 7 years, 3 months old, her grade 1 teacher referred her for a school psychological evaluation. According to the school psychologist's report, the reason for the referral was the teacher's concerns that, although Betsy had made "good progress" and was ready for grade 2, she had difficulties in learning "a series of items, such as the alphabet, understanding new skills and concepts, expressing her ideas, and phrasing questions." In addition, the teacher said that Betsy "sometimes forgets almost immediately what she has seen or heard, and has difficulty following oral directions." In terms of her coping skills, the teacher found that Betsy appeared anxious at times and tended to have perfectionist tendencies. There was no mention of what Betsy did "right."

Given the current stress on the prevention of reading failure, one can only wonder how Betsy may have responded at that time to a comprehensive program of preventive intervention in her first-grade classroom. In the best of all possible worlds, this program would have been crafted to her oral language and basic reading needs and delivered collaboratively by an

educational team knowledgeable about “oral and written language structure, developmental sequences in oral and written language learning, and the ways in which speech and print can be problematic for children” (Moats, 2004, p. 274). Instead, Betsy was placed in the position of waiting to fail.

A Profile of Uneven Abilities

From the end of grade 1, when Betsy was first referred for special education services, to grade 6, her first year in middle school, she displayed increasing mismatches between her considerable intellectual abilities and her proficiency as a reader, writer, and speller. Most likely, this widening gap was an outcome of at least two variables. One concerned the increasing metacognitive and metalinguistic demands that schooling requires for full participation in the academic discourse of the classroom and textbooks. The other variable involved the regular and special education instruction in which Betsy participated. Both functioned on Betsy’s behalf as separate entities with goals that did not necessarily relate to Betsy’s changing needs.

- *Intellectual ability.* At the end of grade 1, based on the school psychologist’s evaluation of her intellectual potential, Betsy attained a performance score of 124, a verbal score of 119, and a full-scale score of 124, indicating that she was functioning at the 94th percentile intellectually relative to chronological age. This suggested that she had developed sufficient conceptual knowledge, including vocabulary skills, to achieve such high scores. Obviously, Betsy was bright.

- *Academic achievement in reading, vocabulary, spelling, and grammar.* At the time of her original referral at the end of grade 1, based on a basic skills measure that the school psychologist administered, Betsy’s word recognition and spelling skills were equivalent to the beginning of grade 2. Table 12.1 shows Betsy’s subsequent academic achievement from grades 2 to 6 on the nationally normed comprehensive assessment program that her school district administered to all students beginning in grade 2.³ Four trends can be discerned from the scores: (1) Although her scores declined significantly over time, Betsy still managed to score consistently within normal ranges of variability on the vocabulary and grammar portions of the comprehensive assessment (vocabulary was assessed as part of the reading comprehension measure); (2) grade 3 was a hallmark for her in reading comprehension, spelling, and grammar; (3) by grade 5, her spelling skills were no longer advancing; and (4) by grade 6, she had reached the cutoff between the normal range of variability in reading comprehension for grade-level and below-grade-level skill.

- *Oral language ability.* Unfortunately, the only available results from oral language assessments consisted of a single reevaluation conducted in

TABLE 12.1. Betsy's Achievement in Reading Comprehension (Including Vocabulary) and Language Arts (Spelling and Grammar) on the Comprehensive Assessment Program from Grade 2 (CA 8; 2) to Grade 6 (CA 12; 2) Administered by Her School District (Scores Are Reported in Percentiles)

Grade	Reading comprehension	Vocabulary	Spelling	Grammar
2 ^a	58	61	20	75
3 ^b	68	34	53	90
4	51	75	51	50
5	39	52	5	44
6	25	40	7 ^c	48

^aDecoding (word attack skills) was not assessed beyond grade 2. Betsy scored in the 68th percentile.

^bBeginning with grade 3, percentiles reported were national percentiles (local percentiles were unreported).

^cAssessment of derivational morphology (affixes) did not begin until grade 6. Betsy's percent correct in this area was 33%, below the national average percent correct of 42%. Her percentage of correct vowel spellings was 71% (only vowels were assessed at grade 6), which was equivalent to the national percent correct average of 72%.

grade 6 when Betsy was 12 years, 3 months old, and in her first year of middle school. By this time in her school career, Betsy was still in a general education classroom and had been receiving pullout resource services for 5½ years for language impairment and a specific learning disability. Two general language measures and two additional measures of vocabulary comprehension and vocabulary production were administered.

On one of the language measures, Betsy performed within the lower limits of -1 standard deviation on the receptive (comprehension) subtests (standard score = 89). Her major area of weakness was inferring relationships within semantic categories—for example, “Which words go together: *eagle, wing, hand.*” On the expressive (production) subtests, she scored below -1 standard deviation (standard score = 70), experiencing the most difficulties with formulating “compound and complex sentences incorporating age-appropriate vocabulary” and in recalling sentences increasing in length and complexity. As we noted earlier, children with superficially resolved SLI histories who manage by age 11 years to score within normal ranges on certain standardized language measures may continue to perform below expectations on sentence repetition tasks (Conti-Ramsden et al., 2001). On the second language measure, a similar pattern was found for resolving sentence ambiguity and formulating sentences that fit particular situations. Betsy had less difficulty with making pragmatic, or social, inferences, which drew more on her world knowledge of conventional social behaviors and required less demanding metalinguistic processing

of relational and morphosyntactic patterns. These configurations are consistent with characteristics of SLI, as well as the Berninger and O'Donnell (in press) profile of a language learning disability. Finally, on both of the general vocabulary measures, Betsy scored within the normal range of variability; however, neither of these measures required that she understood or produced multiple meanings.

Sitting on the Wall, Waiting to Fall

The conclusion by the diagnostic speech-language pathologist was that, despite "making steady progress in language processing and production, Betsy continues to present the profile of a student experiencing significant deficits in the development of receptive and expressive language skills." The recommendation was to continue Betsy in the language intervention resource program. In other words, Betsy's eligibility for special education services beginning in grade 2 was based on the considerable gap between her high intellectual level and her average to below-average performance on standardized language measures.

Moreover, in grade 1 her desire to achieve (the "perfectionism" that her teacher described) combined with her fear of failure provoked a metamorphosis. By grade 6, the diagnostic speech-language pathologist now described Betsy as "becoming easily frustrated and giving up at times." It seemed that trying to be a good egg was no longer worth the effort. As she approached adolescence, Betsy, like Humpty Dumpty, appeared poised to take a big fall off the educational achievement ladder. Now that we have an overview of how professionals saw Betsy, the next section focuses on what we can learn from Betsy's own perspectives on her strengths and struggles as a communicator and a learner.

BETSY'S PERSONAL JOURNEY

As Betsy's story continued from grade 6, she managed to "squeak by" academically until grade 10, where the academic demands, especially in social studies and science, proved to be more than she could handle. For example, she "hated" reading in middle and high school because her reading was slow, a fluency factor that must have significantly influenced her reading comprehension as shown in her decreasing performance over time on the annual comprehensive assessment measure (see Table 12.1). According to Betsy's description of reading, "It's just so slow, so slow. Like I read it once and it's just words and I have to read it again to get the pictures, 'cause I'm so worried that I get it mixed up." In grade 10 Betsy became withdrawn and often spoke of dropping out of school because she felt that

she did not belong there. School officials, hoping to keep Betsy in school, asked her if she was willing to attend an alternative public high school designed for potential dropouts who were struggling with the academic and social demands of a traditional high school, and she agreed with this plan. At the same time that Betsy was experiencing internal turmoil about her lack of membership in the high school community, her mother characterized Betsy as a social individual who made and sustained friendships. She also saw Betsy as a creative and imaginative person who expressed herself through sculpture and writing. It was through her active pursuit of writing, particularly when experiencing emotional conflict about her feelings and identity, that Betsy produced an extensive body of work.

Most relevant for our purposes here, over an 8-year period, Betsy had produced stories, letters, and poems that met three criteria: (1) all were self-generated and unrelated to any school purpose or school assignment—these expressive writings were created at home where Betsy often spent hours alone in her bedroom, writing in a notebook or on a scrap of paper; (2) all were written for Betsy's own communicative purposes—she described this purpose as analogous to writing letters to herself: "Everything I write is a journal. Like more my poems are a journal 'cause I remember that same day I wrote that. I remember the feeling. And like when I read it, the feelings come back"; and (3) only Betsy edited or corrected what she wrote. As changes evolved in her life circumstances and combined with the development of her personal identity, so differences became apparent in the moods and feelings expressed in her creative/imaginative writing.

In addition to her letters, stories, and poems, at age 17 years Betsy also participated in two interviews that told her story. We draw on the interviews and expressive writings to tell this story from Betsy's perspective.

Expressive Writing in the Elementary Years: Creating Involvement

Betsy's first memory of being encouraged to write occurred when she was in grade 2. Her speech-language pathologist at that time encouraged Betsy to write: "She wanted me to write all the time. And I wrote like really scary stories, horror stories, and I liked that."

While in grade 2, Betsy began tutoring outside of school to help her with her reading. She recalled that she and her tutor frequently went to the library to read books. Apparently sensing Betsy's resistance to reading, the tutor encouraged her to write stories about the books they shared. By grade 4, Betsy's enjoyment of narrative writing was such that she wanted to be an author. She also remembered that her grade-4 teachers also encouraged her writing. In grade 5, she became a member of Young Authors and was selected to write a story. She wrote about a little girl who was

adopted by a rich family and an older boy, who also wanted to be adopted, but was never chosen. Betsy said that she got the idea for the story after watching a television program about adoption, stating that "I learned that, you know, older kids don't get adopted." Tables 12.2 and 12.3 display two of the "scary" stories that Betsy wrote at ages 9 and 11 years, "The Grandma Story" and "The Wolf Story," respectively.

During Betsy's elementary-school years, fear and loss are major themes of her fictional stories, which appear to function as a communicative medium for working through social problem solving. "The Grandmother Story" is told in the first person. It deals with the fear of losing loved ones, as well as the fear generated when the grandmother tells about her brother who died, who "did bad stuff to people," and returns to "haunt you and scare you very much." "The Wolf Story" also has the storyteller as a main character, whose friend, Amelia, turns into a wolf, and kidnaps the storyteller's mother. The strategy for returning Amelia to her normal state involves tickling her feet. In both of these stories, Betsy conveys emotional involvement with the characters that she has created, which indicates a developing theory of mind, through the syntactic devices she selects.

In "The Grandma Story," Betsy uses a relatively long sequence of quoted dialogue or utterances that are projected onto story characters (T-units 14–20 and 22–23). The quoted dialogue types that she employed were the free direct form where the dialogue sequence lacks a framing clause to mark either the projected talk or change in speaker roles—for example, "Yes I do! Well he is back! What?" and the direct form (Nordqvist, 1998). With this second type, the dialogue sequence is syntactically marked by a framing clause that contains a mental state verb—for example, "She *said* you now my brother died at 40 years old" (see also "The Wolf Story," T-units 14–15). While the free direct form is less developmentally complex, it still commonly appears in the narrative writing of 9-year-old children, which suggests that many children, like Betsy, are still influenced by "thinking-for-speaking," or writing like talking, rather than thinking (planning)-for-writing at that age (Strömqvist, Nordqvist, & Weneglin, 2004). Prosodic and gestural cues are absent in writing; therefore, as a way to "perform" her narrative, Betsy relied on two nonlinguistic counterparts in "The Grandmother Story," rather than on the linguistic mode, to convey the attitudinal viewpoints of her characters. These nonlinguistic devices were underlining and exclamation points, both of which served the function of emphasis. In neither story does Betsy explicitly mark quoted dialogue with quotation marks, which may indicate that her engagement in story creation took precedence over punctuation refinements.

While her writings (and oral interviews) were rich with psychological verbs that denoted awareness of characters' internal mental states (e.g., "know," "want," "love," "decide") and psychological adjectives that de-

TABLE 12.2. Fictional Narrative, "The Grandma Story," Written by Betsy at Age 9 Years (Grade 3)^a

T-unit ^b	Number of words	Number of clauses	The Grandma Story ^c
1	8	2	It started <i>when I was 9 years old</i> .
2	5	1	I loved my grat [great] grandmother.
3	5	1	We were like best friends!
4	8	1	She lived with my grandmother & my grandfather.
5	7	1	I visted [visited] <u>everyday</u> & watched her sew.
6	6	1	But one day I went there.
7	7	2	I thought ϕ it was a nornmol [normal] day
8	4	1	but it wasn't.
9	7	1	Momo & PoPoP that's my grandparents
10	4	1	They were not there
11	4	1	but grandmother was there.
12	4	1	She seemed very serrys [serious].
13	6	1	So I lest [listen] in very good.
14	11	2	She said you now [know] my brother died at 40 years old.
15	7	1	And he did bad stuff to people!
16	3	1	<u>Yes I do!</u>
17	4	1	Well he is <u>back!</u> <u>What!</u>
18	5	1	Shh! Shh! You may not belive [believe] this
19	3	1	I can't!
20	15	2	But <i>when</i> he now's [knows] A bot [about] you he will haunt you and scare you very much!
21	5	1	And then the door slammed!
22	6	1	Oh! mom let's go home!
23	4	1	OK! <u>By!</u> [Bye] <u>Take care!</u>

^aOriginal word spacings, capitalizations, underlining, and spellings have been retained.

^bThe T-unit is a clause, the basic unit of spoken language (Hunt, 1965). At a minimum, a T-unit consists of one main clause (a subject and a predicate) that can stand alone plus all dependent (subordinated) clauses or nonclausal structures (noun phrases, verb phrases, adverbials, etc.) attached to or embedded within it. A clause attached to another clause by a coordinating conjunction (*and, or, but, so*) would be considered two different T-units (see T-units 6, 8, 13, 15, 20, and 21), unless the second clause has a subject deletion that can be semantically linked back to the previously mentioned subject. For example, T-unit 20, "... he will haunt you *and* scare you very much!," is one T-unit because the deletion of "he" can be recovered from the original pronoun in subject position.

^cContractions were counted as two words; vocalizations such as "Shh" were not counted as words; italicization indicates a subordinating or dependent clause; a single underline indicates Betsy's own underlining; words with spelling violations are in bold type; ϕ indicates an implied sentential complementation marker ("that").

- Average T-unit length (Hunt, 1965): Total # of words in sample (138)/Total # main + subordinate clauses (27) = 5.1.
- Subordination index (ratio of clauses to main clauses [Hunt, 1965, p. 33]): Total # of main + subordinate clauses (27)/Total # of T-units (23) = 1.20.

TABLE 12.3. Fictional Narrative, "The Wolf Story," Written by Betsy at Age 11 Years (Grade 5)

T-unit	Number of words	Number of clauses	The Wolf Story
1	12	2	When the night was dark I was waching [watching] tv in my room
2	5	1	I herd [heard] a holing [howling] noise.
3	3	1	I looked out sid [outside]
4	3	1	It was Amelia
5	6	1	She was turning in [into] a wolf
6	9	1	I ran to the front door and loket [locked] it
7	6	1	I ran back to my room
8	3	1	She was gone.
9	6	1	I whent [went] to my mom's room
10	4	1	she was gone too.
11	3	1	I was crying ring ring
12	4	1	I answered the door
13	3	1	it was Heather
14	3	1	she said help!
15	7	2	Why a wolf is traing [trying] robb [rob] me.
16	7	2	I saw Amelia turning in to [into] the wolf
17	4	1	she took my mom
18	6	2	we have to teakle [tickle] her feet
19	5	1	And she will turn back.

- Average T-unit length (Hunt, 1965): Total # of words in sample (103)/Total # main + subordinate clauses (19) = 5.42.
- Subordination index (ratio of clauses to main clauses [Hunt, 1965, p. 33]): Total # of main + subordinate clauses (23)/Total # of T-units (19) = 1.21.

scribed characters' emotional states (such as "lonely," "scared," "happy," "surprised," "sorry"), she did not always follow through in her stories to express the important distinction between her own voice and those of the characters that she created in these texts. For example, she did not always consistently differentiate between first and third person in her writing. Other linguistic aspects gleaned from her earliest writings pertain to multidimensional issues with grammatical morphology, grammatical complexity, and her patterns of spelling errors.

Grammatical Morphology and Complexity

As we discussed earlier, a hallmark of SLI is the protracted oral development of the grammatical tense system in clauses where subject-verb agreement is obligatory. Neither "The Grandmother Story" nor "The Wolf Story" (see Tables 12.2 and 12.3) indicated that Betsy, in her spontaneous narra-

tive writing at age 9 years was having difficulty with the grammatical tense system—for example, in marking the past tense for both regular and irregular verbs. This pattern implied that, at a minimum, by age 9 years, Betsy had consolidated the phonological, morphological, and orthographic aspects of past tense representations into a flexible unit. The time at which this development occurred, of course, is unknown; but the selective delay pattern referred to by Rice (2003) does not seem to apply to Betsy at this age. Instead, Betsy's control of the basic grammatical tense system in her personal narrative writing is consistent with the findings by Green et al. (2003). Children in grade 3 have command of past tense and complex verb inflections (e.g., participles, copula, and auxiliaries) in their narrative text generation, although equivalent mastery of plural inflections may take somewhat longer.

At the same time, the grammatical complexity of both stories might be questioned, if not for a 9-year-old of Betsy's socioeconomic background (Story 1), certainly for an 11-year-old (Story 2). A common measure of advances in a child's grammatical complexity is average T-unit length, which represents a child's ability to pack in more information within either oral or written clauses (Scott & Windsor, 2000). It is defined as the average number of words per T-unit in a given sample (Hunt, 1965). A second general measure of advances in grammatical complexity is the clause density ratio, defined as "the extent to which utterances/sentences [T-units] contain subordinate [dependent] clauses" (Scott & Stokes, 1995, p. 310). The expectation is that, in both the spoken and the written domains, a child's clause density ratio will increase over time, providing evidence of the ability to advance information complexity through the use of subordination devices (see "The Grandmother Story" and "The Wolf Story" in Tables 12.2 and 12.3 for how each measure is determined).

The average length of Betsy's T-units for the two stories, written approximately 2 years apart, is essentially identical, 5.1 and 5.4, respectively. Similarly, the clause density ratios are identical at 1.20, which means that Betsy used subordinated clauses 20% of the time in both stories. The exact meaning of this ratio is unclear since there are few developmental standards for written narratives available for comparison. Moreover, it is also unclear if these figures reflect a leveling off, or plateau, in her ability to generate sentences containing more information density, as found when children incorporate more subordination into their narrative writing. For example, Betsy did not use multiple subordinators, such as "I didn't go to answer the door *because* I was afraid *that* Amelia might be there," a development in middle childhood and preadolescence that has distinguished children with a language learning disability from their typically developing peers (Gillam & Johnston, 1992). Certainly, the increasing obstacles that Betsy faced with reading comprehension may have impacted

on the expansion of her grammatical awareness. In turn, less available grammatical awareness may affect the continuing growth and assimilation of linguistic complexity with academic discourse proficiency (Silliman et al., 2004). Both influence whether a child is able to process text at deeper levels of comprehension and employ more literate grammatical complexity in writing (Scott, 2004). In general, there has been minimal research on the specific role of syntactic processing and sentence-level grammatical knowledge in either reading comprehension or writing (Scott, 2004; Treiman, Clifton, Meyer, & Wurm, 2003).

Spelling Patterns

Some authors (e.g., Scott, 2004) make the case that spelling is a primary reason why too many children write poorly, a problem that may be inter-related with children's overall skills in generating written sentences (Graham, Harris, & Chorzempa, 2002; see also Englert & Dunsmore, Chapter 8, and Singer & Bashir, Chapter 9, this volume), their rate of writing fluency (Berninger et al., 2002), and how spelling is taught. All or some of these factors may have been operating in Betsy's case, although Betsy could not be considered a "poor" speller based on her own compositions.

It is beyond our scope to analyze the misspellings in the two stories that Betsy wrote at ages 9 and 11 years (see Tables 12.2 and 12.3); however, her misspellings were systematic and not even unusual at this age since most related to vowel variations, particularly at syllable boundaries, and the conventional ways that these vowels were represented in the orthography (Berninger et al., 2002; Kessler & Treiman, 2003). In sum, it appeared that Betsy was still grappling with how consonants following the vowel affected consonantal spelling in two-syllable and multisyllabic words, for example, *nornmol*, *serrys*. Templeton (see Chapter 10, this volume) refers to this phase as discovering within-syllable patterns. In other cases, Betsy seemed to be dealing with when prepositions were (and were not) compound words, for example, *in to*, the orthographic marking of *-ed* ("The Wolf Story," T-unit 6), and vowel reduction ("visted," "The Grandmother Story," T-unit 5). Vowel reduction occurs when a vowel receives less stress and is less phonetically salient. Mastering the phonetic contexts of vowel alterations in spelling tends to precede the mastery of reduced vowel stress (Templeton, 2004).

Summary

Two related conclusions can be drawn from Betsy's elementary years. First, she demonstrated budding competence with narrative writing and spell-

ing outside of the school setting. Had school professionals recognized what she was doing right, this insight about her strengths might have been harnessed to create an intervention plan that would have explicitly assisted her with reading comprehension and her more literate use of syntax and derivational morphology. Second, although various classroom teachers and her speech-language pathologist individually encouraged Betsy's narrative writing interests, this encouragement was insufficient as a comprehensive strategy for facilitating her language and literacy needs in an integrated way. We now move onto Betsy's middle-school years. An important question, based on this review of her uneven patterns of strengths as a writer and speller and weaknesses as a reader, is whether linguistic and academic discourse issues grew to be ever bigger obstacles for her sense of competence as a learner.

Expressive Writing in the Middle-School Years: Growing Self-Awareness

Betsy fondly recalled the help she received in elementary school from her teachers and speech-language pathologists. But her memories of middle school were less fond because, in her opinion, the educational staff, including her special education teachers, did not "know how to handle kids" and did not seem to be as qualified as her elementary teachers. Moreover, it was during her middle-school years that Betsy became increasingly aware of the problems she had with easily expressing herself orally and the anxiety it created, which drew her even more into writing as her means of personal communication. As she explained:

"Cause I can ramble, ramble writing. I love rambling. I can't ramble speaking because my words just like, like get all mixed up. Like I meant this word and that one paragraph, but it came down here. And like when I write, I'm just like . . . I'm speaking what my mind's really speaking. Not how it talks, like I get . . . like my tongue gets caught. So my tongue gets stuck on things. But my hand doesn't. I believe your hand connects to your mind, you know, like you don't have to worry about if a word comes out."

A Focus Inward with Poetic Writing

Betsy described middle school as a miserable time, noting that she "lived in hell for a period of time"; however, she recognized that "every kid is miserable in middle school." It was during this time that Betsy began to write poems, stating "I liked dark poems and really sad poems in that stage of my life and stuff." Two poems reflecting her dark period, "The Beholder of Love"

written at age 12 years and "The Canvas White" written at age 13 years, are shown in Figures 12.3 and 12.4. Although both are short, they reflect a new look at Betsy's more literate command of linguistic complexity.

Advances in Linguistic Complexity

Betsy's poems portray her application of compensatory strategies that appeared to allow flexibility in the expression of linguistic complexity. The poems have minimal subordination; however, they incorporate nonclausal devices for elaborating meaning in a more literate way, specifically, by altering sentence voice and expanding verb and noun phrases. For example, "The Beholder of Love" poem, written in Betsy's first year of middle school, has two occurrences of the passive voice following the copula (see Figure 12.3). "The Canvas White" poem, which she wrote at age 13 years (see Figure 12.4), is even more complex as it is characterized by the inclusion and coordination of three literate linguistic devices. These are: (1) an end-focus principle whereby new information is emphasized through reversals of noun and adjective positions ("The canvas *white*"; "the pencil *sharpened*"), combined with (2) a derivational form ("the pencil *sharpened*"), and (3) noun postmodification ("the pencil sharpened *at the tip*"; "turning the canvas *into*

The feeling inside
 can only be felt
 by the beholder
 of love. The power
 is controlled by
 the heart but
 only the soul
 will show
 on the outside

FIGURE 12.3. Betsy, age 12 years, in grade 6: "The Beholder of Love" poem.

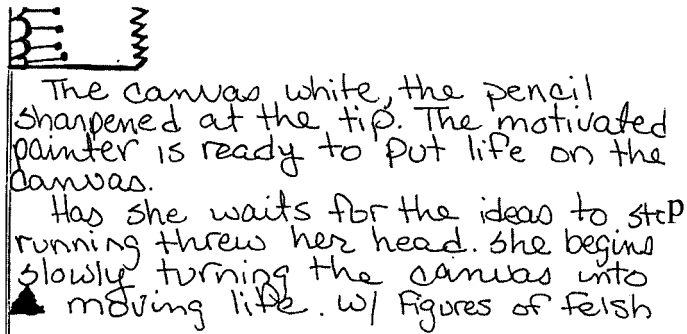


FIGURE 12.4. Betsy, age 13 years, in grade 7: "The Canvas White" poem.

moving life w/figures of felsh [flesh]"). Thus, at a time when the diagnostic speech-language pathologist was casting Betsy's language-processing problems as difficulty in formulating complex sentences, Betsy was creating poetry by manipulating her linguistic knowledge of semantic-syntactic relationships to create metaphorical images of her feelings.

One speculation is that, as a result of her language learning disability, Betsy had a limited, but still powerful, set of complex semantic and morpho-syntactic resources that she applied in creative ways to achieving a more literate mode for her self-expression within the narrative genre. In these natural literacy contexts, Betsy was making the most efficient use of the relatively unlimited time available to plan what she wanted to say, and, most importantly, how to express and revise it using her limited repertoire of linguistic resources. During her interview, Betsy seemed to suggest that this was the case. She described her goal in written self-expression, elaborating on the advantages of the planning time offered through writing, as well as the advantages of computer programs as a support:

"To get it out is my first goal, just to get it out, and understand may be. No one else does. But then put it in. Like there should be an 'and' there or there should be something to finish. That's not a full sentence, but at least I got it out. And I can finish it and I don't really mind. Computers do the spelling for me."

A small caution is indicated here about how adequately spell-checking programs produce "good spellers" from inadequate ones by eradicating misspellings. Graham et al. (2002) report that spell checkers are only partially successful in eliminating the misspellings of students with learning disabilities. We now shift to the final years of Betsy's educational journey, her high-school years.

The High-School Years: Searching for the Road Back

By her second year in high school, Betsy reported that she no longer wrote her “ramblings” because she had become depressed again and did not even want to touch paper: “I just didn’t want to do anything.” As we mentioned at the outset of this section, by grade 10, Betsy had just about fallen off the educational ladder and was prepared to become a school dropout. However, her enrollment in an alternate public high school for grades 11 and 12 slowly changed her worldview.

Being Challenged

The curriculum at the alternate high school was presented as a self-paced plan, and, rather than lectures, consisted of “worksheets” containing the information that had to be learned. Betsy said that she preferred the worksheets to oral lectures because she read the printed material at her own pace; therefore, she felt less “stupid” because she did not have to publicly ask the teacher “What did you just say?” Another positive aspect of the alternate high school was the personal attention that teachers gave students, which made Betsy feel safe in being able “to ask them anything ‘cause the teacher’s right next to me.” Additionally, Betsy was no longer receiving special education services, a fact that did not disturb her because she felt increasingly comfortable in her new setting. Moreover, she felt comfortable because “everyone in the school has—um—I think a disorder.”

However, a major curriculum barrier for her was the composing of expository text. Her prior educational experiences had not sufficiently provided her with the explicit writing, linguistic, and self-regulation strategies by which she could generate well-formed informational and persuasive text structures (see Singer & Bashir, Chapter 9, this volume). For example, at the end of grade 8 when Betsy took the state writing assessment, the task was “writing to convince.” Betsy received a score of 2.5 (on a scale of 1 to 5), which indicated that her response only slightly addressed the topic, did not clearly express her thoughts, and contained some misspellings and incorrect uses of punctuation.

For the first time in a long while, Betsy encountered a teacher, her English teacher, who held high expectations for her and made her “do more than what she was giving to the other kids. She expected too much from me.” Initially, this made Betsy angry. However, this same teacher introduced activities on persuasive texts that motivated Betsy’s interest and drew on her situational knowledge, while also offering opportunities for her to acquire new content knowledge and expand her cultural literacy (see also Pressley & Hilden, Chapter 6, this volume, for more on this topic).

These activities included producing 30-second commercials on the "Wonder Bra," comparing an older and newer version of the novel *Little Women*, and preparing oral debates on controversial topics pertinent to teenagers. In retrospect, Betsy evaluated these challenging activities as positive because she developed some procedural strategies for constructing persuasive texts in a more competent manner. Although still ambivalent about preparing persuasive texts, Betsy started to "love persuasives" because she came to believe "I can do that . . . and I could even do them more after she sent me back to the computer like 500 times." Betsy also discovered other strategies to support her reading comprehension of more complex literary and expository content. For example, she used books on tape, following the text as she listened to the tape; however, these taped books were not always readily available.

Feeling more comfortable with herself, Betsy began her poetry writing again. Even her terminology changed in describing the kind of writing that she now enjoyed. Instead of "ramblings," poetry was an activity more like "a journal 'cause I remember that same day I wrote that. I remember the feelings and when I read it, the feelings come back . . . and when you read it, it like soaks in your skin."

Coming to the End of the Road and a New Beginning

As high-school graduation approached, Betsy was selected by her classmates to give the graduation speech. As might be expected, Betsy was terrified to do so, but with her mother's encouragement she took on the task, preparing her written remarks, rehearsing them endlessly, and then taking center stage as the honored speaker. This accomplishment was the pinnacle of her life; the individual who could not smoothly plan out how to talk, whose tongue seemed to get stuck whenever she attempted to verbally express herself, now stood in front of her peers and their families and pointed them to their futures with her words. At 17 years old, Betsy had earned her high-school diploma. However, the alternate high school, which helped her to reach a new level of competence, "to be a strong person," in Betsy's own words, closed immediately following the graduation. The school board's reason for the closure was to save money.

Epilogue

The following fall, Betsy enrolled in a community college, while living at home. However, she soon encountered major difficulties in her ability to keep pace with class lectures, take notes, comprehend the expository texts she had to read, and produce expository essays. This time, Betsy did drop out. Eventually, she made the decision to pursue a career as a graphic arts

designer and moved away from home for the first time to realize this goal. There is no further information about what happened to Betsy as she began traveling down this new path.

FINAL THOUGHTS: MELDING PRACTICES AND MAKING THEM WORK

As evidenced through her writings and oral history, Betsy spent much of her school years struggling to piece together a fractured sense of self as professionals in her schools simultaneously sought to “repair” the presumed broken pieces of her linguistic and discourse systems. Betsy’s ultimate success in finding value in her strengths and abilities far outshone these well-intentioned, but often disjointed, attempts at “fixing” her. In this way, Betsy’s story is again reminiscent of Humpty Dumpty’s tale. Perhaps if all the king’s horses and all the king’s men would have communicated with one another, united their skills, and worked collaboratively toward a common goal, they could have solved the Humpty Dumpty puzzle.

The issues raised in this volume make clear that proficiency with the multiple dimensions of literacy require many interacting components. Based on the dynamic systems view of language impairment outlined earlier (Bates et al., 2003; Bates, 2004; Gilger & Wise, 2004), disruptions in the timing of ongoing interactions between the genetic and the neural underpinnings of brain function and the nature and quality of experiences influence the appearance of a language learning disability at different points in a child’s development. For this reason, it is imperative that educators, speech–language pathologists, and other professionals, as well as parents, work together as early as possible to target instruction, intervention, and the development of related socioemotional factors at levels that address the student’s general, as well as specific, difficulties in language and literacy learning.

In addition to sustaining the best practices presented in the various chapters of this book, there is another priority. Much emphasis has been placed on scientifically supported instructional practices in reading, but unequal attention has been paid to assessment practices that have a solid research foundation—for example, in profile diagnosis (Berninger, Dunn, & Alper, in press). The profile analysis approach is geared to identifying individual strengths and weaknesses in language and literacy learning, or uneven abilities, which should then lead to a plan for appropriate curriculum modifications prior to any referral to special education. Of course, as Wallach and Ehren discuss (see Chapter 2, this volume), professionals face multiple challenges in developing and implementing collaboratively created programs designed to maximize students’ language and literacy

learning through curriculum modifications and the careful and continuous monitoring of students' subsequent response to instruction (Silliman et al., 2004). Large caseloads and piles of paperwork come to mind, as well as other obstacles such as time and scheduling constraints, administrative issues, and so on. However, in spite of these challenges, professionals who take the time to recognize and explore areas of overlapping service as well as the unique contributions that each can offer will achieve an important first step: the creation of a space in which open dialogue among colleagues is supported and valued.

As evidenced by current research and Betsy's poignant story, students with language learning impairments daily confront complex linguistic and social challenges (Brinton & Fujiki, 2004; Donahue & Pearl, 2003). As Wallach and Ehren (see Chapter 2, this volume) suggest, these students may have particular difficulty adapting to the language and culture of the school community. One way to mediate this issue is to create a safe, nurturing, and predictable schoolwide environment. This involves collaboration of the entire staff to develop common school procedures, expectations, and classroom environments that maximize student learning. The development of common structures and strategies implemented throughout the school will benefit particularly from the contributions of speech-language pathologists and other professionals working with students who face daily trials in language and learning. In addition, coming to a mutual understanding about the definition of literacy and how to help students reach related objectives will aid in the delivery of services that support and complement one another.

Moreover, collaboration is not despecialization, as some would argue. The ultimate goal is not to cross or erase the lines that define multiple educational services, but rather to step outside of a dominant paradigm that keeps each specialist boxed inside these lines. Rather than an overlap or distortion of roles and responsibilities, the integration of services can be considered as a blending of colors: each one contributes unique visual properties as it mixes with others to create a richer, more distinctive, hue. Betsy, whose fragile language-processing skills were splintered like the pieces of Humpty Dumpty's shell, exemplifies the student who would benefit most from an integrated form of literacy instruction and a collaborative approach to language intervention. Imagine how Betsy's experiences in elementary, middle, and high school would have changed had she continually received services from a team of highly qualified professionals (to use the terminology of the NCLB Act) whose goals for her were aligned not only with one another's but also with grade-level curricula and expectations. This collaborative team might have included Betsy's classroom teacher, her learning disability teacher, her speech-language pathologist, a school psychologist or guidance counselor, the administration, and her parents. Had these people

invested the time necessary to investigate the potential of each other's contributions and entered into one another's workspaces, they could have offered Betsy a dynamic, integrated, and collaboratively developed model of services.

But there are also others whose perspectives should be valued. From Betsy's perspective, an essential aim should be to assist children who are struggling with literacy to believe that they "can do." In her framework, "Make the kid read a lot. Then have discussions after the book to make sure you're really understood. That helps your writing a lot. . . . You should try to do activities outside of school too [to] try to get them encouraged to read." From the viewpoint of a parent (Krishnan, 2004), individuals who are highly qualified to serve students with special needs would share certain values and beliefs. Among these are the understanding that:

- All behavior is communication.
- Schools model the values of their communities, reflecting how communities feel their most vulnerable students should be treated.
- The assistance of a team for differentiating the curriculum for all students in a classroom is the rule, not the exception.
- The love of learning as a lifelong process must be infused daily into all aspects of classroom life. (pp. 1–2)

In conclusion, literacy learning as a collection of processing strategies and skills that continuously interweave with experiences can be thought of as an orchestra playing a symphony. Though they can function independently, each instrument and each part of the score contributes to the complex and dynamic sound of the whole concert. Harmony occurs when multiple instruments simultaneously produce individual yet related melodies. If one instrument is out of tune, the sound of the whole orchestra will be adversely affected. In the case of reading, writing, and spelling, students with language learning disabilities may experience "out-of-tune" elements that cause dissonance when they attempt to integrate the tools of literacy. Educators and clinicians alike should understand that every instrument forms a necessary part of the whole of literacy skills development. It is our collective responsibility to work together to seek out and actively investigate effective ways to tune each instrument in a student's literacy tool kit. It can be said that Betsy, like Humpty Dumpty, was an atypical egg who was in constant danger of falling off the wall and being shattered. The question to ask ourselves is not how to put the pieces back together for individual students but how to support what is right about them. Betsy's voice provides a signpost for us to follow: "If you read one of my stories, or you read one of my poems, you'd know how my mind works . . . 'cause I write exactly how it's in my head."

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NOTES

1. Betsy choose to be an active participant in the telling of her story as a way of helping others who must struggle daily with the multiple and complex challenges presented by a language learning disability. Both Betsy and her mother consented to have her story published.

2. Preschool-age children who have persisting unintelligible speech, like Betsy, combined with equally serious delays in lexical development, also similar to Betsy, are at significant risk for persistent language and literacy learning problems (Bird et al., 1995; Felsenfeld et al., 1994; Johnson et al., 1999; Leonard, 1998). However, mild-to-moderate difficulties with the precise motor execution of speech segments (articulation), if the only presenting symptom, is neither indicative of language learning difficulties nor predictive of problems in learning to read and spell (Bishop & Clarkson, 2003; Catts, Hu, Larrivee, & Swank, 1994; Hodson, 1994).

3. Although not shown in Table 12.1, in grade 6, Betsy's ranks in math computation and math problem solving fell below the 14th percentile, while her performance on math concepts ranked at the 23rd percentile.

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