AN EXAMINATION OF EFFECTIVE PRACTICES FOR IMPROVING LITERACY SKILLS FOR A STUDENT WITH AUTISM SPECTRUM DISORDER

LOUISE ANDREA HALE
BACHELOR OF EDUCATION

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SCHOOL OF EDUCATION
FACULTY OF EDUCATION, HUMANITIES, LAW AND THEOLOGY
FLINDERS UNIVERSITY

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Abstract

This coursework project reviews current research and knowledge regarding both Autism Spectrum Disorders (ASD) and the acquisition of literacy skills in order to create an effective literacy programme for a student diagnosed with ASD. The student was 10 years of age and struggling with acquiring reading and writing skills. Informal assessments were used to delineate her current level of literacy skills and areas of need. A literacy programme was developed utilizing various strategies that research has found to be effective, including curriculum based measurement (CBM) of oral reading fluency, phonemic awareness strategies, and use of the student’s peers and interests for writing. The programme was implemented for a period of 12 weeks after which the student was reassessed to determine growth in literacy skills. Results of the programme were evaluated and implications for future use and study were discussed.
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Chapter I. Introduction

The purpose of this paper is to review current research and knowledge on both Autism Spectrum Disorders (ASD) and the acquisition of literacy skills in order to design and implement an effective literacy programme for a student (Amy) diagnosed with ASD, specifically autism, who is experiencing challenges acquiring literacy skills. Literacy is defined as the ability to read and write to a competent level (Encarta.msn.com). Informal assessments were conducted to obtain information as to the student’s current level of literacy skills. By combining the research on literacy and ASD, a programme was designed and then implemented for a period of 12 weeks. Ongoing evaluation was maintained and a summative evaluation produced together with suggestions for the future.

Amy, who was 10 years of age at the beginning of the programme, has been in an inclusive grade 5/6 class since September 2003. She has been diagnosed as having ASD with associated autistic features as well as mild to moderate intellectual disability. Intellectual disability does not mean not able to learn, but rather may learn skills at a slower more gradual rate, needing a step-by-step approach with many repetitions (Westwood, 1997). The project is not meant as a comparison of different educational strategies but rather an incorporation of what research has shown to be effective educational practice. The programme, although designed specifically to enhance Amy’s acquisition of literacy skills, may also be useful to other students.
Many principles are recognized as essentials to acquisition of literacy skills and persist throughout much of the current literature. Collins and Matthey (2001) stress that the home environment is crucial in the preparation of students for learning to read; whether parents are supportive of reading and model enjoyment of reading. Snow, Burns, and Griffin (1998) note that one of the best predictors of whether a student will function well in school, and become a competent member of society, is the student’s reading and writing progress. Allington (2001) reports that increased reading time is correlated with increased academic achievement. As Ruddell and Ruddell (1994, p.92) state “Oral language development, early writing experiences, encounters with environmental and other print, and myriad social interactions serve as the foundation for reading comprehension.”

Many different factors may occur in various combinations resulting in difficulties in acquiring literacy skills for any one individual, whether a general difficulty, a specific learning disability, or slow progress owing to intellectual disability. Torgesen (1998) stresses that those students with learning difficulties need to have intense, explicit, and supportive instruction. According to Westwood (1997) a different approach is not required for children with specific reading disabilities but rather a systematic structured program with real reasons for reading and writing. Westwood (1997) promotes an ecological perspective to look at all possible influences on the student.

Grigorenko (2001) states that phonemic awareness, phonological decoding, ability to process stimuli rapidly as well as automatizing the process, memory, and ability to recognize words are all prerequisites to successful reading. She indicates that specific areas of the brain have been implicated in reading-related disabilities and that indisputable evidence suggests a genetic basis for dyslexia (a severe reading disorder) and that it may be only part of an underlying anatomical syndrome. She recommends using wide-ranging approaches in attempting remediation.

To read successfully an individual must be able to decode the words and comprehend those words, necessitating an active role by the reader (Durkin, 1989). Without word decoding skills, comprehension, which is the ultimate goal of reading, is a moot point. However, decoding alone is not reading. The role of intelligence in reading needs to be considered as well. A study by Tiu Jr., Thompson, and Lewis (2003, p.434) found that “Although decoding may be the best single predictor of reading, IQ adds significantly to the prediction, more so than listening comprehension or processing speed.”

To physically decode the words on the page a student must be able to see clearly. Studies of the rate of eye movement during reading have determined that the brain actually supplies what is considered visual continuity (Durkin, 1989). Students with poor reading comprehension tend to read laboriously word-by-word, as their rate of perception may be inadequate. Mann, Suiter, and McClung (1987) state that the student may be locked into a word-decoding mode. A study by Baker, Willcocks, and Stein (1995) suggests that poor eye-movement control correlating with lack of phonological skills may be owing to eye-movement abnormalities. Some controversial remedial methods (Sollier, 2002) employ computerized
measures of eye movement based on the theory that there are visual perceptual deficits which cause tracking to be laborious and hinder visual efficiency. That information is then used to facilitate an integrated sensory approach to remediation.

Auditory integrity is another prerequisite to learning to read. Being able to discriminate different sounds for phonemic awareness may be facilitated with training (Westwood, 1997 and Whipp, 1994). Although Pikulski (1994) reports on the need for interventions at an early age, preferably by grade one, a controversial computer based program of auditory phonemic awareness training has reported significant improvements after intensive auditory training (Temple et al., 2000) presenting a case for brain plasticity. Brain plasticity proponents theorize that the brain has the capability to reshape its circuitry with intensive, repetitive experiences. An encouraging study (Simos et al., 2002) of children with dyslexia aged 7 to 17 demonstrated through magnetic source imaging scans that the deficit in functional brain organization those children experience, can be reversed after intensive intervention of as short a time span as two months. Even accepting the notion of brain plasticity, the preferred practice would be to not wait until intermediate grades, where and when it is more difficult and time consuming to correct reading difficulties. It is evident that the direct instruction of literacy skills should be practised in primary classrooms. In an e-mail discussion with Dr. M. Cynader of the Brain Research Centre at the University of British Columbia and Vancouver Hospital (personal communication, October 24, 2002), he stated that even though the ages of about 8 to 10 years old are critical periods to have learned to read, these time periods trail off in a gradual manner and “…there is evidence that disuse (or lack of use) can prolong critical periods, and of course we must contend with individual variability.”

The generalizing of decoding rules or sight words with automaticity relies on memory, which involves effective reception, storage, and retrieval of information (Lerner, 1989). The three aspects of memory may be adversely affected by the inability to attend to information. Individuals with attention deficit disorder (ADD) would be challenged to develop automaticity, exerting too much effort on basic tasks such as decoding words. Westwood (1997) suggests more practice and repetition to achieve automaticity of the skills required. The integration of phonemic awareness and the use of context are complementary in successful reading (Andrews, 1992) allowing for automaticity and therefore enhancing comprehension by reducing the amount of attention needed to identify words.

The United States National Reading Panel (2000) supports the direct instruction of cognitive reading strategies to improve comprehension. Of interest is a study by De Corte, Verschaffel and Van De Ven (2001) that found although the direct teaching of comprehension strategies could increase strategy adoption and application; it did not have the effect of raising scores on a standardized reading comprehension test. Metacognition, that is, thinking about one’s own thinking (Durkin, 1989), is used by effective readers to monitor their comprehension and to use fix-up strategies.

The whole language or constructivist approach to literacy, complete with its emphasis on emergent reading, writing, and spelling, as well as the child-centered enquiry approach, where the teaching and practising of skills is viewed negatively
by some of its zealous proponents, prevail in many local British Columbia classrooms. The approaches may be complicit in disallowing some students the structured approach of direct instruction (Heward, 2003; Moats, 2000) that may be more effective for learning. A more integrated approach encompassing the structured teaching of necessary skills along with the positive aspects of whole language seems more reasonable, especially for at-risk students (Harris & Graham, 1996).

Koegel and Koegel (1995) state that students with disabilities demonstrate learned helplessness, or a passive learning style, where they are dependent on others for reinforcement. When students self-manage or take responsibility for their own reinforcements, then learned helplessness might decrease. The authors theorize that this type of self-managing behaviour requires more interactions with the environment, providing more opportunities for behavioural practice and neurological development, as opposed to increased dependence on others. Similarly, some students get caught in a failure cycle where they avoid reading chores, giving them even less reading practice, resulting in even more failure (Westwood, 1997) as well as providing them with less background knowledge, considered crucial to comprehension.

Motivation is also required to be an active participant in successful reading (Durkin, 1989); that is using various strategies and background knowledge. The emotional element for the struggling reader is often an overlooked factor in considering reading difficulties (Dayton-Sakari, 1997), so it is imperative to try and break the failure cycle with materials that are of interest and meaningful to the struggling student (Johnson, 2004). Often writing is interwoven with reading to give a sense of purpose and motivation as the two skills are inextricably linked (Durkin, 1989 and Lerner, 1989). The last two points reflect some positive features of the whole language approach.

Current research attests to the effectiveness of curriculum based measurement (CBM) as a means to direct instruction through direct and frequent measures of student achievement, for instance words read correctly per minute (Deno, Fuchs, Marston, & Shin, 2001; Heward, 2003; Matthews, 2003; Ysseldyke, 2001). A strong correlation between oral reading fluency, as measured by CBM, and reading comprehension has been demonstrated by extensive research. Reading fluency is defined by the National Reading Panel (2000) of the United States as the ability to read text quickly, accurately, and with expression. CBM measures also have high reliability and validity (AIMSweb, 2003; Foegen, Espin, Allinder, & Markell, 2001). The strategy of repeated readings is considered by some (Moats, 2003; National Reading Panel, 2001) to effectively increase oral reading fluency. Ysseldyke (1987, p.23) confirms the usefulness of CBM “…because the focus is on measurement of variables that teachers can control…To evaluate if instruction is effective is to use direct and frequent measurement of pupil progress.” CBM demonstrates general trends (Salend, 1998) in achievement in a formative manner rather than a snapshot of one test. It is imperative that teachers use what research has found to be effective practice (Chall, 2000; Heward, 2003; Matthews, 2003; Sasso, 2001) such as CBM, yet a recent study found that teachers were influenced more by their beliefs about the validity of CBM than by empirical evidence (Foegen et al., 2001).
Not only the student should be assessed but also the instructional ecology (Salvia & Ysseldyke, 2001), which Ysseldyke (2001, p.304) explains as the “…opportunity to learn …skill level and level of instruction, the ways in which instruction is planned and classrooms are managed, the way in which instruction is delivered, academic engaged time and instructional monitoring and adjustment.”

The ‘ecological perspective’ (Westwood, 1997) recognizes the interaction of untold factors and the necessity of personalizing teaching approaches to best facilitate success for the individual.
Chapter III. Autism Spectrum Disorders

ASD is a continuum of pervasive developmental disabilities (American Psychiatric Association [APA], 2000) consisting of:

1. qualitative impairment in social interaction…
2. qualitative impairment in verbal and non-verbal communication and imagination activity…
3. restricted repetitive and stereotyped patterns of behaviour, interests, and action…

Diagnosis is subjective although there is a concerted effort to “Move toward standard diagnostic procedures and standard batteries of information…” (Volkmar & Klin, 2000, p.61) in order to improve diagnostic accuracy. The underlying etiology has not been definitively determined, however, biological, genetic, and neurological factors are being researched (Scott, Clark, & Brady, 2000). Confounding accurate diagnosis is the possibility of concomitant disorders (Frith, 1991) such as a specific learning disability or ADD.

ASD covers a wide array of capabilities ranging from severe intellectual disability to genius, like the general population, with intellectual disability present in 75 % of those individuals diagnosed with autism (APA, 2000). Although there are many commonalities amongst individuals diagnosed with ASD, there can also be vast differences. Therefore, it is imperative to treat each as an individual, determining their strengths, weaknesses, and specific educational needs. Kunce and Mesibov (1998, p.229) state “…specific diagnostic labels…are less important to the design of educational interventions than a general understanding of the characteristics associated with these categories and a thorough individualized assessment of the student’s strengths, weaknesses, and interests”.

Some characteristics of students with autism listed in British Columbia’s Ministry of Education resource guide (2000) that may be relevant to the student’s academic learning are:

- Uneven cognitive functions
- Deficits in paying attention to relevant cues through stimulus over-selectivity (Janzen, 1996) or impairment in ability to share attention, referred to as joint attention (Carpenter & Tomasello, 2000)
- Organizational difficulties
- Some have strengths in visual-spatial abilities
Social skills deficits include a social cognitive deficit termed “theory of mind” (Schuler, 1995) where the perspective of others is not realized and the connection between actions and mental states is not made.

A person with ASD, wherein the individual seems to lack a “theory of mind”, or the ability to conceptualize the perspective of others, would find metacognition extremely difficult without explicit training and practising. According to Rydell and Prizant (1995, p.110), children with ASD may be restricted to a gestalt processing style, that is memorizing multiword units, initially without comprehension where “…language may be processed as whole units rather than analyzed and segmented into meaningful components allowing for rule induction.” This style of processing restricts generalization of language rules and perhaps may spill over into the acquisition of reading skills for some individuals. The idea that children are theory builders and hypothesis testers (Ruddell & Ruddell, 1994) where they are constantly making sense of the world and the language system may be wanting in students with ASD. Taking words literally, a typical characteristic of those with ASD, further hinders comprehension. Attention to detail may inhibit seeing the whole picture. Sequencing is also problematic.

Temple Grandin, a university professor diagnosed with autism, makes several suggestions for teaching students with ASD (1995, and in Scott, Clark, & Brady, 2000):

- Visual supports are helpful, visual presentations may stay, whereas words are fleeting
- Direct and broaden fixations, they are powerful motivators. Often fixations are avoided, but used discriminately they can enhance the student’s motivation.

- Develop the student’s areas of talent, as they may become the basis of a career.

- Treat sensory problems.

- Facilitate computer use to compensate for poor handwriting.

- Some children learn to read more easily by phonics and some by memorizing words.

- Mainstream to model normal social behavior.

- Intervene ideally by age three for most effective results.

- Structured classroom allows for security.

- Correct medications.

The BC Ministry of Education Special Programs Branch (2000) offers some additional suggestions for use in teaching students with autism that may be effective:

- Meaningful reinforcements (likes/dislikes).

- Age appropriate materials.

- Materials of the appropriate level to avoid frustration.

- For concentration provide frequent feedback.

- Timed work sessions.

- Personal schedules.

- Social stories (Gray, 1998).

- Provide extra time owing to poor motor co-ordination.
• In academic areas do not assume comprehension just because the student can repeat information

• Capitalize on strengths such as memory.

Twachtman (1995) suggests audiotaping and videotaping to provide feedback to the student. Videotaping may have some positive effect because of Amy’s enjoyment of videos and acting. Twachtman (1995) also recommends using the whole-language reading approach for students with ASD, theorizing that it may take advantage of the gestalt processing style by modeling chunks of appropriate language. Perhaps Twachtman’s recommendation may be more effective once basic phonemic awareness skills are acquired, in order to enable the prerequisite decoding skills.

Structured teaching principles, in particular Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) (Schopler, Mesibov, & Hearersey, 1995) have been promoted for individuals with autism. Kunce and Mesibov (1998) encourage structured teaching principles for students as well as making the classroom environment as meaningful as possible to the individual, to develop skills while making modifications in order to accommodate strengths and reduce deficits. The authors also stress the utilization of special interests and fixations as motivators and reinforcers. Kamps, Dugan, Potucek, and Collins (1999) state that the use of peers can be powerful motivators with the positive effects of gains in academic skills, social skills, number of interactions, and behaviour models.

Whether a specific learning disability, unique gestalt processing style, intellectual disability, or complications due to an attention deficit disorder, all students are unique individuals as a result of a multitude of factors including the interactions of their sometimes many physical, neurological, emotional, and instructional conditions.
Chapter IV. Amy’s History

Pre-School Years:

Amy was born in March 1993 by elective caesarean section with an Apgar score of 8 to 9, which is in the normal range. She had no apparent physical abnormalities. She has two older brothers, one of whom has quadriplegic cerebral palsy. There is a family history of cerebral palsy and attention deficit disorder. Her parents both work full time and are very supportive of their children.

In her preschool years, Amy demonstrated uneven and delayed development. Around two years of age her parents noticed her becoming extremely “picky”, only eating chicken nuggets and pepperoni pizza. Temper tantrums were noted as well. Her vision and hearing were checked and found to be within the normal range. The hearing assessment included an Auditory Brainstem Response (ABR). The ABR test measures brainstem response through electrodes placed on the head, indicating cochlear function (Burnip, 2003). The child is asleep or at rest during testing so it does not require the child’s cooperation.

At 2 years 10 months, she was assessed using the Wechsler Primary and Preschool Scale of Intelligence-Revised (WPPSI-R) (Wechsler, 1989) and found to be more than three standard deviations below the mean, denoting moderate ‘mentally handicapped’. At four years nine months it was noted that she spoke about 30 words, whereas one year earlier she had only 10 words. She was assessed on the Rosetti Infant and Toddler Scale (Rosetti, 1990) as 27 months. The Rosetti Infant and Toddler Scale is a criterion-referenced scale that assesses language and development.

Before entering Kindergarten in 1998, she was assessed using the Vineland Developmental Profile (Sparrow, Balla, & Cicchetti, 1984) for adaptive behaviours. Amy demonstrated some appropriate play skills using symbolic play with dolls and tea sets. She demonstrated atypical language development. The results suggested she was functioning in the ‘moderate mentally handicapped’ range, at about the level of a 1 ½ year old child.

Kindergarten:

She entered Kindergarten, at age five, with a significant delay in her speech with approximately 30 single words in her vocabulary and she could put together I want. Mitigated echolalia, that is repeating phrases that she has heard and
changing them slightly, was noted. She was able to print her name, her motor
skills being strong. Amy needed personal care time for eating and washroom
visits. Transitions were difficult for her and resulted in tantrums. She also ran
from supervising adults.

Later that year she was diagnosed with ASD associated with autistic features,
including poor eye contact. Her adaptive behaviour skills were at the lower end of
the ‘mildly mentally handicapped’ range. She demonstrated inappropriate
laughing, was impulsive, persistent, standoffish, tactile defensive, and non-
compliant. Tantrums included flailing and kicking. She acted as if deaf and
showed no fears. It was deemed she needed full time Special Education Assistant
(SEA) coverage at school, as there was a risk of running off or danger of injury.

Primary Grades:

Aggressive behaviours continued to be a concern throughout her primary
school years. She would bite, throw objects, and vocalize what one teacher termed
squawks. At times she would perseverate by acting frantic. Supports were put in
place including a choice board, sequence schedule using ‘work-then-break’ with a
timer, and verbal anticipatory cues. Picture Exchange Communication System
(PECS) (Bondy & Frost, 2004), theme boards, and scripts were utilized as well. Her
receptive language development increased significantly through use of the PECS
book, which utilizes a picture exchange system. Her expressive language also
showed developmental gains. She took an interest in animal books. By grade two
she was using some short sentences.

In grade three, aged eight, Amy was assessed using the Peabody Picture
Vocabulary Test-Third Edition (PPVT-III) Form III A (Dunn & Dunn, 1997). Her
standard score was 54 with a percentile rank of 0.10, which is within the extremely
low range. Although the test manual suggests it is a screening test of intellectual
functioning, McLoughlin and Lewis (2001, p.480) state, “The PPVT-III is best used
as a screening tool to measure one of the many dimensions of oral language
development, receptive vocabulary.” The Token Test for Children (DiSimoni, 1978)
was attempted but discontinued as being too difficult for her. The speech pathologist assessed Amy with the Test of Auditory Comprehension of Language-Revised (TACL-R) (Carrow-Woolfolk, 1999), which assesses receptive vocabulary and syntax, and on all sections her standard scores were below 65, below the first percentile rank, giving her an equivalent age level of three years, five months. She was nine years old. Her scores signified a severe language delay. Often she would still point and touch to be understood and repeat dialogues, although unclearly, from favourite videos. Amy was also obsessive/compulsive regarding certain objects, such as unifix cubes, which she would hoard.

In September 2002, Amy had a difficult entry back into school, even though it was to the same classroom and teacher as the previous year. Although her age appropriate grade was four, she was kept in a grade 2/3 class. Her aggressive behaviour had escalated, therefore a meeting was called with all pertinent parties and a protocol was put in place using contingency management to deal with the behaviour concerns. Behaviour improved throughout the course of the school year.

**Grade Five:**

Although Amy was held back a grade last year, it was decided to move her into her age appropriate grade (five) for this year (September 2003). There was concern about the transition because of the big difference between the two classes, with her previous class revolving around calendar time and centres and the grade five class being more traditional with desks in rows and structured curriculum areas. The administration believed she would respond well to the structure and for the most part she has, with only a few behaviour issues at the beginning of the school year. Amy occasionally would stick her foot out in a meager attempt to kick, but has not done so
lately. She also was reluctant to start work but that has not been an issue since October.

**Communication and social skills.** Amy presents as a friendly and attractive girl who displays no physical abnormalities. She often speaks in a deep voice and does not always enunciate clearly, which makes it difficult for her to be understood at times, although certain repeated phrases and sentences are articulated clearly. She is capable of making herself understood with words but still tends to point and touch and often uses just one word when she should use a sentence, for instance, “Cubes?” She is encouraged to use her words, instead of pointing. She often does not respond to questions so conversations are severely limited. Eye contact is generally good and she reads the teacher’s facial expressions quite well. Interestingly, upon leaving the class at the end of the day, Amy is reminded by the SEA to say good-bye to the teacher and she will do so while looking off in space, until reminded to look at the teacher. However, throughout the day she does usually look at the person to whom she is speaking. She gazes at the class for a minute before giving an exaggerated blink with both eyes, which apparently is her way of ‘taking a picture’ of the class before going home. Earlier in the school year, the teacher would sometimes hear a very deep voice mumbling and would have to look to see who had entered the class, only to see Amy acting out parts of her favourite videos. Her voice would change from high to low and gruff to sweet to match that of the characters.

Amy is very affectionate to her teachers and SEAs. She is reminded to keep “hands to self” and “kisses and hugs are for home”. As she enters puberty this may become a more predominant issue. Socially, Amy likes playing with peers and adores many of her classmates, but is limited in her interactions and ability to participate in activities that most 10 and 11 year olds are interested. She will often
watch their actions and model her actions after her peers. There are a number of classmates who enjoy playing on the swings and games of tag with Amy, and a few that look out for her and try to include her whenever possible.

Because she has been an extremely picky eater in the past, there has been a SEA assigned to her at lunch time when she is required to eat the lunch prepared from home. Often this will take, if not the whole of the 40-minute lunch period, a large portion of the time. This severely limits the time available for Amy to play and build relationships with classmates. The concern of her parents regarding eating is understandable, nevertheless there may come a time when it is decided that social skills and interactions are a more important issue.

The first time the class went to the gym this year a SEA came with Amy and went with her to the change room. The SEA helped out in the game the class played in the gym. The next gym period Amy motioned to the SEA and said “No, Mrs. Lee. Stay. I can do it.” Since then Amy has independently changed herself each gym period. She participates in most gym activities, following what the other students are doing, but is limited in participating fully in games with a lot of rules. Amy manages to dribble a basketball for only about five bounces, which is not sufficient to keep up with the majority of other students in a game.

Although sensitive to loud noises, Amy uses strategies to deal with them. She will press her fingers just below her ears, keeping her fingers there as long as needed. She will express her displeasure with a particular task by shouting loudly, “No!” or “Back off!” and she will sometimes feign crying, things not expected by the teacher or the students in an intermediate classroom. Generally she will respond appropriately to a second request, or a warning of having to go to the support
teacher’s room is usually enough to get her back on track. These incidents have decreased since September.

**Interests and preferences.** Amy enjoys holidays and her inner calendar or sense of time goes from one celebration to the next. She made certain to let the teacher know to take down Hallowe’en decorations one day after the event. St. Valentine’s Day is her favourite as she is partial to the ‘love and kisses’. She loves pretty things such as fairies and princesses. She enjoys watching videos and will sit through their entirety. Playing with Barbie dolls is an enjoyable pastime for her.

In class Amy primarily chooses cubes for her choice time. These are unifix cubes that snap together. She uses them as characters in her video reenactments. It is difficult to hear what she is saying in the reenactments as she speaks quietly whether it is in a high or low voice and it is often just phrases. She uses hand gestures frequently in these portrayals. She enjoys miming, such as pretending to use a spyglass, complete with hand over brow, to watch for students returning to class.

In our Christmas concert this year, one class sang Silent Night while using sign language. Amy was entranced by it. While watching a Christmas video she portrayed all the actions before they happened on the screen. She was creative with a bundle of white wool that she put up to her chin as a beard and then put it over her fist as hair and showed me a “grandmother”. Although she enjoys using the computer she only occasionally chooses computer as her choice activity, which could be due to the lack of activities on our classroom computer. She enjoys looking at pictures from outer space on the Internet and delights in the “fireworks” on the screen after a session of touch-typing. She becomes interested in different things in the classroom whether it be a particular art activity or looking in the microscopes.
**Academics.** In the past she was given work-then-break with choices frequently given throughout the day. A timer was used to regulate the amount of choice time. This year there has been more work time scheduled with frequent changes in activity then a scheduled choice time. The length of choice times has varied depending on the activities within the class, however, Amy responds well to a warning of one minute until clean up time and then she readily puts her things away. She has a picture schedule, however, she is able to read the teacher’s written schedule on the chalkboard and lets her know that it is Computer time. For the most part Amy is tolerant of changes in her schedule and will ask the teacher if she can have cubes when finished work. She may protest initially when asked to complete more work but will do it. Amy works quickly and does not like to have errors. She will hurriedly try to erase an error rather than have it circled or marked wrong.

Amy’s math skills are reasonably strong. She can add and subtract two digit numbers with regrouping and she is progressing well with her multiplication facts. She utilizes a strategy to deal with simple word problems in that she will not or cannot read the problem, but will pick out the numbers she sees and if she has been working on addition then she will add them. Often this strategy will work, however, earlier this year she was given a small unit test on addition that included some word problems, but the class was doing a times table drill before the test, which she wanted to do as well. So she did the multiplication drill first. Consequently, when she went to answer the addition problems on her test she multiplied all the numbers. She is also working on improving her skills with money and telling time.

Amy’s reading and writing skills are significantly below grade level. Her reading decoding level is at the pre-primer to primer level, severely limiting the material she is able to read. Her reading comprehension ability is difficult to
determine because of her limited conversational ability and her difficulty in responding to questions, as well as her not responding when her attention is elsewhere. Her written output is minimal, although she copies words easily and will fill in blanks with assistance. She has adequate fine motor skills but will colour hastily rather than neatly. She prints well and is attempting cursive handwriting.

Literacy skills are tremendously important to the future of any individual, but especially for someone like Amy who is basically at an entry level. It is crucial to try to make as much progress as possible while Amy is still young and opportunities are not lost to her. Amy has come a long way since starting school, but if her literacy skills can be improved, many more options will become available to her, not only in school and her future career, but in social relations as well. Amy has been receiving a great deal of assistance in reading but fine-tuning instruction to fit her very specific needs may prove to be beneficial.
Chapter V. Previous Literacy Programme

Reading:
In the past two years Amy received approximately 50 to 90 minutes each week working with a support teacher (ST) and younger students in a guided reading group. She does not seem self-conscious going to the group with these younger and much smaller students and readily holds hands with the support teacher, which is not common among other students of her age. Amy enjoys working with other students whether younger or her age.

Most recently she was ‘reading’ level five (pre-primer) to level seven PM (+) Story Books published by Scholastic, using prescribed strategies such as accessing background knowledge and looking at the pictures for information. Speech sounds, word structure, and spelling patterns were emphasized and hands-on methods have been used with letters to create words. Writing was not incorporated. Amy had not been assessed, merely moved along with the group. Progress has seemed almost stagnant for two years; when new books of a similar level were introduced Amy could not read them. Books appear to be memorized. The same system was put in place for this year.

Amy has three 30 minute blocks a week with another support teacher, however, this time has not been very structured, being cancelled frequently and used for things other than reading and writing. Several times this year the scheduled time has been cancelled as often as twice a week. Therefore that time cannot be relied upon as an integral part of a structured programme for Amy. Four days a week Amy has time with a SEA for reading practice. Phonic books at the pre-primer level are being used, as she cannot read others with any degree of fluency.
For independent class work Amy uses Explode the Code (Hall & Price, 1998) Book 1 ½ with consonant-vowel-consonant (CVC) words, usually three times a week. It involves reading and some writing. The school does not have a level one book, which may have been better to start her with initially. She works quickly through the basic circling and marking with an ‘x’, as well as copying words. When it comes to reading two different sentences and deciding which one matches the picture she has perfected a guessing strategy; she sees a word in the sentence that has something to do with the picture and will pick that sentence. If the sentences were designed in a more discerning way she might have trouble choosing the correct one, although this has not been tested. Nevertheless, it could be argued that the key word strategy is helping her learn the words even though she is not necessarily reading the whole sentence. She finished Book 1 ½ and got 4/8 correct when she had to circle the word that was said aloud, 4/5 correct when printing the word that was said, 3/6 correct when choosing the right word to end the sentence, and 2/3 correct when reading a short paragraph and choosing what it is about from three choices. Again, she uses her key word strategy, as with math word problems, as opposed to reading the sentences.

Writing:

Journal writing has been once a week with a SEA, who usually has to give Amy a topic and struggles with getting thoughts and ideas from Amy. The SEA makes sentence frames for Amy to fill out and then she recopies the whole story, usually about three to five sentences in length.

Spelling words are taken from the phonic books she is reading. She is given the words on Monday. In class she does various activities such as writing the words out three times, putting them in alphabetical order, and using them in sentence frames supplied by the SEA. Her spelling test scores fluctuate but she often has a few incorrect. The mistakes involve both vowel and consonant errors.
**Speaking:**

Once a week Amy is required, like her classmates, to present a newspaper article to read to the class. Amy usually brings a picture with a caption and she may say a few words about it such as “Christmas train. Lights. Santa”. The students then ask her questions but she rarely answers anything more than a very direct simple question with a yes or no answer. The SEA has tried ‘planting’ questions with the other students but often Amy will not respond and just go on to the next person who has a hand raised.

Amy also sees the speech pathologist for 45 minutes once a week. This commenced in November 2003 and has been cancelled a number of times. During this time social stories are practised with a classmate and a mirror. The speech pathologist has been told that Amy still has enunciation difficulties and does not respond well to questions; therefore the speech pathologist has said she may address this with some practice questions in the future.
Chapter VI. Assessments

It is always important to do a thorough assessment, however, the thoroughness must be balanced with what may be intrusive or detrimental to the student (McLoughlin & Lewis, 2001). Results may be variable and inconsistent with a child like Amy, demonstrating the need for ongoing evaluation in order to be cognizant of what is working and what is not.

The goal of assessment is to better understand the student's strengths and needs in order to plan more effectively for that student (BC Ministry of Education Special Programs Branch, 2000). Kunce and Mesibov (1998) suggest a thorough assessment is necessary because of the significant variability that exists amongst those diagnosed with ASD, rather than applying blanket interventions. Venn (2001) reiterates that it is crucial to balance qualitative and quantitative information. Because formal tests may overestimate the student’s ability to use knowledge, informal observations and assessments need to be ongoing as changes and progress may not be readily apparent. Anxiety, lack of attention, and lack of motivation may also skew results negatively for students with special needs (Salend, 1998), which includes those with ASD.

A series of assessments were conducted with the specific purpose to get a clearer picture of Amy’s current educational needs and what subsequent instructional steps should be taken. Assessments used were those commonly available to the classroom teacher. Information was obtained from family, teachers, other caregivers, support teachers, and SEAs. The following informal assessments were used:

1. Teacher observations of oral reading and writing
2. Phonemic Awareness Screening Test (Whipp, 1994)
3. Dolch Basic 220 Word List (Shanker & Ekwall, 1998)
4. San Diego Quick Word Recognition List (LaPray & Ross, 1969)

5. Fry Oral Reading Test (Fry & Ransom, 2001) with simplified running record

6. Mann-Suiter Developmental Paragraph Reading Inventory (Mann et al., 1987)

7. Likes/Dislikes Survey


The following assessment results were obtained in December 2003 and early January 2004:

1. **Teacher Observations:** Amy enjoys choosing books from the library but often insists on selecting animal picture books that are in French. It is the pictures that she is interested in, although it is not understood why she chooses books with French words, as she does not speak French, other than choosing French books has annoyed her father in the past. She enjoys reading simple books in English to her little buddy in grade one. And depending on the story, she enjoys having someone read to her.

   When she reads aloud each word is clipped at the end and the sentences are not smooth flowing. She often says the wrong vowel sound, such as a short u sound for a short a sound. Even though she can name all the letters of the alphabet and at times give the correct sounds that the letters make, she is inconsistent in reading them and it is evident in recent Explode the Code (Hall & Price, 1998) exercises and spelling tests (**wat** for **wet**, **sad** for **sag**). Amy was required to read the following sentences for the Explode the Code test: *It is big and hot. If it has not set yet, it is up. I get tan if I sit in it. It is the sum, sun, or sup.* These sentences demonstrate how many small words she was not able to read and how it is possible that one word
such as *hot* may have enabled her to choose *sun* for the answer, or it was a lucky guess.

When reading aloud, Amy does not always look at pictures on the page to help discern what the text might be about and to subsequently read the correct words. She is able to read some easy grade one books although it is possible that they are memorized, as the reading skills are not transferred to a new text. She is able to do mechanical chores such as find a specific word and answer some specific questions with one-word answers, but Amy has not been able to answer open-ended questions.

Amy does not initiate writing on her own. She will draw something and put a one-word label on it, otherwise she waits for sentence frames to fill in and then copy. Because a SEA has always assisted Amy in the past to write a journal article, it was decided to determine what she would write on her own. “On her own” must be qualified because she has a word list from which to copy words she uses frequently. Amy made many verbal protestations, for example, “*No, no, I want cubes. I can’t believe it. No fair. Let’s get out of here. No thank-you. No way.*” After several minutes she wrote the date and Dear Journal, followed several minutes later by six words relating to Valentine’s Day (Appendix A). It took her a total of twenty-five minutes.

2. **Phonemic Awareness Screening Test** (Whipp, 1994) (Appendix B):

   **Section 1. Rhyming:** Amy often gave associated words rather than rhymes, for example her response to *wig/dig* was *dirty*. And for *run/fun* she gave *shoe/foot*. She stated one correct rhyming word and could not give any response for *ben/hen*.

   **Section 2. Blending Words:** She gave no response to the first four other than to say “*Mrs. Hale, no.*” The word r-o-ck she did attempt but the result was *cock-sh-no*. At that point the assessment was stopped.

   **Section 3. Segmenting words and counting sounds:** This too was a struggle; the closest to a response was *li-p* for *lip*. She did not understand the concept.
**Section 4A. Isolation Beginning Sound:** Examples were practised but when the assessment was started with *dig* she said *pig* (now the rhymes!). All the other responses seemed to relate to pig, she repeated the nursery rhyme “This Little Piggy” repeating *Wee, wee, wee all the way home.*

Although the phonemic awareness tasks are not new to Amy, as they have been used with her previous and current reading programmes, she found the tasks difficult even with considerable prompts and examples. At this point it was believed that these assessments were not going to be useful in determining her phonemic awareness, but rather her responses demonstrate the unique cognitive associations that Amy makes. She did demonstrate that she knows rhyming words but not when she was asked for them.

3. **Dolch Basic 220 Word List** (Shanker & Ekwall, 1998)(Appendix C):

On the Pre-primer list she initially made two errors reading *home* for *here* and *friend* for *find* before self-correcting the latter. She read the words quickly as if she had seen and read the list many times before. On the Primer list she initially made 19 errors, self-correcting on four. Total words correct: 73/92, with self-correcting 77/92. Amy rated at instructional level in the Pre-Primer category. Notable was her difficulty with “w” words in the Primer list such as the following:

- *want*--said *went*
- *saw*--said *as*
- *white*--said *whit, went*
- *who*--said *woa*
- *what*--said *this, which*

This was confirmed with a ST who also stated that Amy made the same *w* word mistakes all of last year, along with consistently substituting *he* for *she*.

4. **San Diego Quick Word Recognition List** (LaPray & Ross, 1969) (Appendix D):

Pre-primer words- independent level (90% correct)
Primer words- instructional level (80% correct)

Grade 1 words-frustration level (40% correct)

Grade 2 words-frustration level (20% correct)

This assessment also gives a numerical range of levels in the Scholastic PM series to determine appropriate reading material. Levels zero to five books are Pre-primer and 6 to 10 are Primer level. Also, she may be using the initial letter coupled with the shape and look of certain words, for example square for spring and queen for quietly; or merely the first letter.

5. Fry Oral Reading Test with simplified running record (Fry & Ransom, 2001) (Appendix E): Level A (easy grade 1): two errors, independent level (0-2 errors). The errors were a substitution with no phonetic similarity (look for it), and an insertion, or it may have been a wrong word that she corrected herself (big for dog). Level B (hard grade 1): six errors, frustration level (5+ errors). The errors were was for saw, two omissions, one insertion, and two substitutions (worm for warm and work for walk), both having the same first and last letters and the same number of letters. Even when she was encouraged, she did not self-correct.

6. Mann-Suiter Developmental Paragraph Reading Inventory (Mann et al., 1987) (Appendix F):

Pre-primer oral reading- three errors (89% correct)

Pre-primer comprehension questions- three errors (25% correct)

The three oral reading errors were of differing nature: one short vowel for long vowel, one insertion with omission, and one wrong word with no correct sound initially. She read the passage in 60 seconds equaling 29 words per minute. The comprehension errors were drastic in that responses were a maze of different associations, for example: Why did Jane call the little dog funny? Amy: Funny dog.
funny dog—but that was the was—ha, ha, ha. Amy finds it difficult to deal with the open-ended nature of the questions. She does not refer back to the text even when directed by the teacher, she may look in the direction of the reading passage but does not read the words until the teacher points to a specific word or line to read. Even then she does not answer the question.

7. **Preference survey**: In school Amy’s most requested choice activity by far is to play with the unifix cubes. Other choices she makes are for plastic beads that snap together and computer activities. At home she adores playing with Barbie dolls and watching videos. She also likes picture books about animals.

<table>
<thead>
<tr>
<th>Likes</th>
<th>Dislikes</th>
</tr>
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<tbody>
<tr>
<td>unifix cubes</td>
<td>certain foods</td>
</tr>
<tr>
<td>Barbie dolls</td>
<td>certain textures</td>
</tr>
<tr>
<td>holidays-Valentine’s/Christmas</td>
<td>dogs</td>
</tr>
<tr>
<td>animal books/ sticker books</td>
<td>wet clothes</td>
</tr>
<tr>
<td>water/swimming</td>
<td>dirty shoes or hands</td>
</tr>
<tr>
<td>pretty things, sparkles</td>
<td>loud noises</td>
</tr>
<tr>
<td>Disney characters/videos</td>
<td>negativity</td>
</tr>
<tr>
<td>computer</td>
<td>spelling tests</td>
</tr>
<tr>
<td>McDonald’s</td>
<td></td>
</tr>
<tr>
<td>lego</td>
<td></td>
</tr>
<tr>
<td>puddles/splashing</td>
<td></td>
</tr>
</tbody>
</table>

8. **Auditory discrimination of short vowels**: No results were obtained as Amy merely repeated the letters a-b-c as answers when asked what vowel sound she heard in certain words.
It appears that Amy is in the pre-primer to primer category of decoding, which is where instruction is currently focused. It also appears that she does not have some of the basic sight words needed and some of the basic sounds, such as the short vowels, consistently in place in order to make progress. Sound differentiation practice could be used for assisting in phonemic awareness. Her cognitive skills may be such that repetition and overlearning, well beyond what one usually expects, are needed to retain information. As Twachtman (1995, p. 159) states “Building skills on so shaky a foundation is tantamount to constructing a house on quicksand.”

Reading comprehension is meager, 25% at the pre-primer level. Her attention does not remain on the task at hand, whether phonemic awareness tasks or comprehension questions. Her unique style of making associations amongst words and concepts contributes to inhibiting her ability to remain focused on the text in front of her.
Chapter VII. New Literacy Programme

As an intermediate teacher it is always a challenge to decide how much time should be devoted to attempting remediation or making compensations for deficits in basic skills such as reading, writing, and mathematics. And, how much time should be devoted to other subjects like science and social studies that have specific time allotments for intermediate grades, but may or may not be valuable to the student with special needs. Nevertheless, a truly individualized education plan should allow for using instructional time on what is considered to be the greatest need.

The design of the new literacy programme attempts to recognize the inherent interdependency of reading, writing, speaking, and listening as crucial components of a complete literacy programme. Writing and speaking practice, which were minimal in the past, will be increased. Amy’s assessment results, combined with current theories of learning for students diagnosed with ASD and for literacy skills in general, were used to design the new programme. The programme will not only continue the emphasis on phonics and phonemic awareness instruction, along with sight word practice, but also include regularly scheduled practice of comprehension strategies, recognizing that mere decoding does not reading make. It is anticipated there will be gains in oral reading fluency with concomitant gains in reading comprehension. The reading component will be more structured with set routines, such as repeated readings, building on the skills Amy has acquired, and repeatedly practising the next steps in the learning continuum. The length of the programme will be 12 weeks, however, the philosophy behind CBM is that changes will be made on an ongoing basis as required through the use of frequent informal curriculum based measurements to determine current instructional needs. Although a major
review of the entire programme will be done at the six week mark, changes will be made as needed. Assessments will be completed again at the end of 12 weeks.

Amy’s interests will be utilized as much as possible, particularly in her writing programme. Language experience strategies will be employed following the theory that what she wants to talk about should be used to stimulate her writing. Peers will be used more directly and frequently, with prescribed times scheduled, to assist in creating stories. The use of high interest subjects and working with classmates should be highly motivating for Amy. And of course her beloved cubes will be in place for her choice time.

Although it is extremely difficult to make predictions as to the amount of progress that should be expected with a student like Amy, some specific learning objectives will be set. With the short time frame, large gains are not expected. And while any progress is appreciated, it is effective to have specific goals on which to focus. The following performance objectives are priorities for Amy:

1. the student will be able to read correct vowel sounds in CVC words 9 times out of 10,
2. the student will be able to read aloud all of the pre-primer and primer words on the Dolch list,
3. the student will be able to answer correctly simple comprehension questions using the five ‘W’s on at least four out of five questions,
4. the student will read aloud a previously unseen pre-primer level text at acceptable rate of 60 words per minute,
5. the student will write a short journal article without adult assistance on a topic of her interest
6. the student will answer three ‘planted’ questions after presenting her newspaper article.

The new programme consists of reading, writing, and speaking instructional components with listening skills inherent in each. Although it is acknowledged that none of the components operate in isolation, they are separated for ease of scheduling and planning. The components of the programme are:

Reading:

There will be a 20-minute session consisting of the reading of familiar phonetic texts, Primary Phonics (Makar, 1978) and More Primary Phonics (Makar, 1977) on Mondays. Then three sessions of the complete 45 minute reading programme on Tuesday, Wednesday, and Friday, totaling 155 minutes weekly.

Reading of familiar leveled text (20 minutes):

- Neurological impress (unison reading) and repeated reading methods (Lerner, 1988; Moats, 2003; and Westwood, 1997) will be used to model fluency and expression. A description follows this programme schedule.
- Address simple comprehension tasks, for instance naming the main characters and retelling key events, utilizing the five ‘W’s card (who, what, where, when, why) as a visual reminder for comprehension tasks. The comprehension questions should be asked regularly and answers modeled.
- CBM recording of a one-minute read. Note the types of errors. Record on graph.
- Include problematic words on spelling list.
Phonemic awareness training as needed including (15 minutes):

- **auditory discrimination** for example practice differentiating between *cab* and *cap* and *cat* and *cut*, using words from the reading material. Stress the different sounds of the letters. Practice with visuals such as letters or word cards as needed.

- **auditory analysis-segmentation and phoneme blending**. Make use of word families such as *back, tack, rack*, using rhyming games, alliteration (*big, bad, bug*), isolation of sounds, and blending practice. Recite or write out poems to practice rhyming words and alliterations. Stress enunciation to make sounds clear. Use games when possible, clapping sounds, variations of ‘I spy’, and illustrations as appropriate (for example: Have student draw that *big bad bug*).

- Include problematical words as spelling list words.

Dolch word list practice (10 minutes):

- Review ‘known’ words first then move on to new words. Show flashcards quickly to keep attention focused. Keep a visible list of words mastered (can be on index cards). Extensive repetition is required to assimilate words at a recognition level, a necessary step before consistent recall from memory occurs, for students with learning difficulties (Westwood, 1997).

- Whenever possible, pull words from the list that are in current use and use the words from dictated stories or in current reading material as appropriate. Use the list words in meaningful sentences. Intensive practice and use in context are required for learning and generalization (Bos & Vaughn, 1998).

**Repeated reading/neurological impress/CBM instructions:**
- Explain to student (S) what this procedure involves and reward time
- Preview new book with S, look at pictures, ask for predictions
- S and teacher (T) should be seated side-by-side
- T models reading at a normal rate with appropriate expression, S should track with finger
- S reads with T at the S’s rate, tracking with finger if helpful
- T pushes a faster rate with each repetition of reading
- Continue for approximately five minutes
- Tell S that you are now going to time them for one minute to see how fast they can read correctly.
- Give a one-minute timed read of words read correctly (see rules for running records). T marks errors in pencil in Teacher’s Copy. Minus errors from number of words read.
- Graph results (direct S where to colour, colour bar on graph same colour as book cover)
- S gets reward time if cooperative throughout procedure
- Do daily, proceed to next book when prescribed reading rate is reached.

**Running record rules (simplified):** Errors to record are omits word, misreads word (T gives word after 3 seconds), or inserts a word that is not there.

The short time frame of a one-minute read is within Amy’s attention span; she can easily recognize the brevity of the task. The types of errors recorded will then be used for subsequent phonemic and phonetic instruction.

When the reading time is completed Amy will be assigned spelling activities or reading/writing activities in the Explode the Code (Hall & Price, 1998) workbook.
One of the strengths of Explode the Code is the inherent repetition. Nevertheless, Amy probably needs even more repetition than the workbooks supply as she continues to struggle with short vowel sounds. When Book 2 is complete, whether she goes on to the next level workbook or repeats will be determined by her test results and how much assistance she needed on the exercises. Realistically, every class has time when the student with special needs is required to work independently and these workbooks are beneficial as there cannot always be an adult or student working with the individual with special needs.

**Writing:**

Each week, four sessions of 15 minutes, totaling 60 minutes, will be devoted to creative writing, employing language experience strategies. There may also be some additional unscheduled time to use for writing on a periodic basis. Initially, because Amy does not readily initiate topics yet loves playing with Barbie dolls and reenacting videos, her interests will be used to attempt stories involving Barbie dolls. The dolls will be supplied as visuals to stimulate ideas. Classmates will be enlisted to help Amy develop stories. Because other students cannot always understand Amy’s speech, she may feel compelled to speak more clearly. The increased interaction of the conversations with her classmates may provide further benefits such as enhancing social skills. Relevant words will be put on word cards as needed. Sentence building and reconstructing strategies will be used. A final copy of a completed story may be produced complete with pictures, presented to the class, or acted out, live or taped. When computer time allows, Amy will type her stories.

Spelling words can be drawn from both reading and writing activities as required and that will provide Amy with a large degree of success. The number of words should be consistent each week, with a reasonable amount being 10 words.

**Speaking:**

The class timetable has been rearranged allowing Amy time for practising her News article with a SEA, totaling about 20 minutes. The two can also practise responding to ‘planted’ questions the SEA will prepare for other students in the class. Questions should be geared to Amy’s comprehension level. The increased interaction Amy will have with her peers for language experience writing and
News should promote social and conversational skills as will the continuing programme with the speech pathologist. Later in the term a short speech will be required for public speaking. Amy will be allowed to choose a topic of her interest. Audiotaping and videotaping will be used for practice and feedback.
Chapter VIII. Ongoing Evaluation and Revisions

Initially, Amy did not want to read the phonic books but when it was explained that after reading she would get ‘cubes’ she complied. It took a number of days but she bought into the repeated reading system even asking, “Are we going higher (on the graph) today?” The graph recording her correct words read per minute (CWPM) (Appendix G), works as a visual and tangible representation of what she is accomplishing, plus the short one-minute timed readings appear to be comprehensible to Amy. She enjoys using the timer and independently uses it to time herself reading the whole book. Some days she is slow to start reading but a reminder about going higher is usually enough to get her started. Other times the reader starts without her and Amy becomes annoyed if she has a few pages to hurriedly catch up to the reader.

After six weeks of the programme Amy had completed three phonic books. As shown in the following table Amy’s initial reading rate was reasonable for grade one and two levels, but she had too many errors to progress to the next level according to the standard of four or less errors and 40 to 60 CWPM for instructional level, 60 CWPM for mastery set by Fuchs, Fuchs, and Deno (1982). Amy still had five errors on Book 2, however, her speed was such that it was decided she should progress to the next book.

<table>
<thead>
<tr>
<th>Table 1. Timed Readings: Correct Words Per Minute</th>
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<tbody>
<tr>
<td><strong>Start CWPM</strong></td>
</tr>
<tr>
<td>Book 1: 44</td>
</tr>
<tr>
<td>Book 2: 38</td>
</tr>
<tr>
<td>Book 3: 50</td>
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</table>
With just three books completed it is too early to determine if there is a
definite upward trend. Amy may be regressing to a previous oral reading rate with
each preliminary reading of the books, as her initial CWPM reverts. Although her
errors decrease and her reading rate increases significantly with practice, it is the
initial reading rate that needs to increase progressively. One would expect more of a
transfer from book to book and generalization of the reading skills (Moats, 2003)
because they are not of increased difficulty but are all consonant-vowel-consonant
stories. However, this could merely represent the need for a student like Amy to
have many more repetitions in order to solidify the learning and inherent word
differences in each book. It is hoped that the number of trials with each book may be
lessening. She tracks the words with her finger and, even at a reasonable speed,
struggles over the occasional word, which seems to indicate that the stories are not
merely memorized.

The repeated readings have improved the prosody of her oral reading. On an
initial reading of a text, her words are stilted, but after the repeated practice, she
reads with a more even flow and copies the appropriate expression that has been
modeled. Appropriate responses to comprehension questions remain a challenge for
Amy, however, the limited contrived language of the books makes for some unusual
stories with which to respond. She has made improvements with phonemic tasks,
readily practising rhyming words and word families. Segmenting words remains a
difficult task for Amy.

Initially Amy balked at the schedule change for journal writing but she was
thrilled when she realized she was going to be working with Barbie dolls and
classmates. The dolls were supplied with bathing suits and scuba gear, which turned
out to be even more exciting for Amy as she loves swimming. An extensive web (Appendix H) of ideas was scribed for her, some of which were quotes from the movie *Finding Nemo*, which would not have been recognized without the assistance of her classmate. Sentences were not forthcoming consequently she needed numerous prompts and assistance to produce them. Amy next had to put the sentences in order to create her story (Appendix I).

It was then realized the amount of difficulty she has with sequencing events. She was not able to choose what happens first, next and last. She merely typed up the sentences in any order and it did not matter to her about the sequence. Amy practised the story and it was videotaped. She enjoyed this but her reading for the tape was somewhat stilted. She did not have as much practice with her story as with the repeated readings. The significance of Amy’s stories to her compared to the artificial Phonic book stories was noted. Amy was able to correctly answer two out of three questions about her story:

2. Is the water hot or cold? *Cold.*
3. When does Barbie go swimming? Here Amy repeated the whole story.

February brought its own unique trials, as St. Valentine’s Day is the highlight of Amy’s calendar year. The beginning of February started with talk of *love, kisses, a ring, marry, true love’s first kiss*, and *Princess Fiona* from the movie *Shrek.* Her behaviour had to be addressed a few times as she often was preoccupied with St. Valentine’s Day and all that goes with it. A Valentine’s story would be her second writing topic. Again she had lots of ideas to web and things she wanted to say, many of which were from the movie *Shrek.* Amy read her story (Appendix J) to the class
with better fluency and expression than her previous story, which may be attributable to the repeated practice, but also partially to modeling of the movie characters. Five comprehension questions were asked and she answered them, although the fifth answer is questionable:

1. When is Valentine’s Day? *Valentine’s Day is February 14.*
2. What colour are hearts? *Red, purple, pink.*
3. Who did you give cards to? *Cards to friends.*
4. What movie do you have? *Shrek.*
5. Why did you have cake? *Yes, Happy Valentine’s Day.*

King (1998) states that people with autism often have difficulty understanding questions and tend to learn them in an approximate order of *what, where, who, whose,* and then the more difficult forms requiring more complex processing of *which, why, when,* and *how.* Because Amy continues to struggle with answering her classmates’ questions during the presentation of her news article, it was decided to restrict the ‘planted’ questions to strictly *what, where,* and *who* questions before adding others. Initially, *what, where,* and *who* questions will be used to build success in Amy’s responses to comprehension questions, with not only the Phonic books but also her written stories, before adding other question forms.

Part of the reading and writing time will be used to practise putting short scenarios of three sentences in order of first, next, and last to attempt to improve Amy’s ability to sequence events. The scenarios will utilize real life activities, known stories, and Barbie dolls. Amy will be asked to use more words in an attempt to have her give more than single words for her writing ideas.
Although the required time for the new activities will likely come from the phonemic awareness practice, it is recognized that the minutes allotted to different tasks necessitates flexibility, for instance on some days Amy wants to try a story again to go higher on the graph. While the total time allotments remain the same, the minutes for each specific activity are retained as guidelines only and discretion is utilized in deciding amounts for the original programme tasks and the newly instituted tasks, depending on Amy’s needs and sometimes her wants.
Chapter IX. Results

The following reassessments were conducted after 12 weeks of the literacy programme:

1. Teacher observations:

   Amy’s oral reading has improved in speed and fluidity with practice, although it continues to be stilted with initial readings. When reading aloud, her attention appears to be more focused on the reading passage than previously, which may be attributable to her increased speed and familiarity with reading continuously while using the repeated reading method. She continues to make errors in short vowel sounds, for example short e for short i, without always checking for help from a supporting picture. She is well versed in the routine of the CBM reading programme and even corrected a substitute on the routine. She continues to enjoy “going higher”, starting new books, using the timer, and colouring in her own graph. Accessing Amy’s comprehension of stories remains a challenge. There does not appear to be any change in her selection of library books, which are still animal books, although they are not always in French.

   Amy has shown an increased interest in writing when using topics of her interests. However, she still tends to give single words and phrases rather than complete thoughts. For instance, when asked to write about Easter, she initially turned back to a page in her writing book where she had written several single words in response to a classroom visit from a student’s pet rabbit. When it was made clear that she needed to write a story, she wrote the word Easter and then just a few single...
words (*rabbit, pink*). Only with considerable assistance using sentence starters and frames did a story emerge.

Using pictures from favourite videos to stimulate ideas, Amy wrote stories about *Lion King* and *Cinderella* with a classmate. Again, her ideas started mostly with single words. Sentences were not forthcoming without considerable assistance. The order in which she put the sentences was not necessarily correct or sensible. Her Cinderella story (Appendix K) demonstrates the lack of proper sequence. Sequencing of what happens first, next, and last remains a challenge, although Amy more reliably chooses correctly what happens first, rather than next and last. More practice is needed with sequencing. Amy continues to have one or two errors each week on her spelling tests.

Amy is no longer reticent to get up and read in front of the class. Her enjoyment and eagerness to share her writing by reading aloud to the class is encouraging. When the class was doing speeches, although her speech was not ready yet, she eagerly wanted to present what she had written so far. In fact, she got up in front of the class and attempted to read everything she had written in her writing book this year and excitedly wrote down more single words related to a recent visit of a pet gecko. A few days later a student brought a puppy to visit the classroom and again Amy excitedly wrote down single words, which she then insisted on reading to the class. It appears that one word means a lot to her, eliciting many thoughts. When she did her speech, which was her *Lion King* story, some of her reading was stilted and some consisted of fluid phrases. Videotaping the rehearsing of her story and having her view it did not seem to positively affect her resultant presentation.

2. **Phonemic Awareness Screening Test** (Whipp, 1994) (Appendix L):
Section 1. Rhyming: Amy was able to state a rhyming word for one of the four words as in the initial assessment, however some of the words she said were close if not rhymes (sit for wig/dig and gun for ben/hen). It appears when the teacher moves to the next word, Amy’s thoughts sometimes remain with the previous word.

Section 2. Blending Words: Amy successfully put together the blended sounds for four out of six words, a task she could not respond to during the first assessment.

Section 3. Segmenting words and counting sounds: This task remains difficult for Amy as she merely repeated the words.

Section 4A. Isolation Beginning Sound: Again Amy did not demonstrate understanding of this concept as she gave word associations instead of beginning sounds. Her results on a word association test may prove interesting.

Amy read all the Pre-primer words correctly. On the Primer list she initially made eight errors and then self-corrected on five of the words. Her score increased by 12 words from 77/92 to 89/92 (instructional level). The three errors were our, ride, and saw. On the First grade word list she made 12 errors and self-corrected on six words (instructional level). She was able to read the ‘w’ words on the Primer list but struggled with ‘w’ words on the First grade list (walk, were, when).

   Pre-primer words- independent level (90% correct, previously 90%)
   Primer words- independent level (100% correct, previously 80%)
   Grade 1 words- instructional level (80% correct, previously 40%)
   Grade 2 words- frustration level (30% correct, previously 20%).

5. Fry Oral Reading Test with simplified running record (Fry & Ransom, 2001) (Appendix O):
Level A (easy grade 1): one error, independent level (0-2 errors). The error was a substitution of *dog* for *big*, opposite of an error on the initial assessment. She self-corrected easily when it was pointed out to her. Previously she had two errors.

Level B (hard grade 1): three errors, instructional level (3-5 errors). The errors were all substitutions (*use* for *us*, *win* for *warm* and *new* for *now*), all having the same first letters. Previously she had six errors, which is the frustration level.

Level C (easy grade 2): four errors, instructional level (3-5 errors). One error was a substitution of a similar word (*home* for *house*) and the other two errors were sound errors (*upened* for *opened* and *leff-it* for *left*). This level was not attempted during the initial assessment.

6. **Mann-Suiter Developmental Paragraph Reading Inventory** (Mann et al., 1987) (Appendix P): Pre-primer oral reading- two errors (93% correct), previously three errors (89% correct). Pre-primer comprehension questions- three errors (25% correct).

She read the paragraph in 40 seconds (43 words per minute), which was 20 seconds quicker than in the first assessment. The comprehension score was the same as the initial assessment, although with different answers. Again, Amy did not look back at the story to assist her in answering questions. Even though it is evident in everyday work that Amy knows the meaning of the word *little*, she was not able to state it.

7. **Auditory discrimination of short vowels**: Amy was able to state the names of the vowels making the sounds in the following words: *strip*, *trap*, *block*, and *bread*. She was not able to discern the short *u* sound in *bunk*. Improvement was demonstrated as no results were obtained during her initial assessment.
The following are the priority objectives that were set and the results obtained:

1. The student will be able to read the correct vowel sounds in CVC words 9 times out of 10. On a list of 10 CVC words (sad, wag, bus, net, pin, tag, pup, den, cup, and hug), Amy successfully read 9 out of 10 words, self-correcting on two words (pen for pin and cap for cup). She could not read the tenth word hug saying “hang, hung, read it please”, and of course then giving the teacher a hug with a big smile when it was read.

2. The student will be able to read aloud all of the Pre-primer and Primer words on the Dolch list. Amy did read all of the Pre-primer words and although she did not successfully read all of the Primer words she increased her score on the two lists from 77/92 to 89/92 (Appendix M).

3. The student will be able to answer correctly simple comprehension questions using the five ‘W’s on at least four out of five questions. Amy still struggles with answering comprehension questions, receiving a score of two out of five on the Mann-Suiter assessment (Appendix P). She correctly answered two out of three what questions but was incorrect on a third what question as well as a why and a where question. When using the what, where, and who questions that are considered more understandable for students with autism (King, 1998), Amy was able to answer four out of eight questions correctly when responding to her own written story of Cinderella, with one what and one where question being incorrectly answered (Appendix Q). When questioned using when and why, both answers were incorrect. In response to comprehension questions for a CVC phonic book, Amy answered three out of six who, what, and where questions correctly (Appendix R). Subsequent responses to two why questions were incorrect. Although, when looking
at her response to *Why does Val have a mop?* (Ned spilled the water), her statement “*Sorry Val*” demonstrates some understanding without answering the question directly. Even though the *who* and *where* questions do seem easier for Amy to answer, the *what* questions can contain a great deal more variation in form, for example *what colour is the dog?* is much easier to respond to compared to *what are they doing?* or *what does the word little mean?* The variation in *what* questions can require significantly different levels of comprehension.

4. The student will read aloud a previously unseen pre-primer level text at an acceptable rate of 60 words per minute. Amy was given a CVC story to read, which she read at 69 words in a minute with nine errors, meeting the goal of 60 words per minute, although this rate was never obtained in daily initial readings of CVC books. This would be a mid-grade two level, however, the number of errors is more than desirable.

5. The student will write a short journal article without adult assistance on a topic of her interest. Two pieces of writing were obtained. The first was a journal article with no assistance. Amy again uttered protestations that she was to write without help, however the reluctance to write lasted for about five minutes, much shorter than in January. Also the protestations were not as extreme. The article did not contain full sentences and was very similar to the comparison article from January (Appendix S). Although, if the number of words written is considered, then she almost doubled her written output from 6 to 11 words and in a shorter time.

The second Barbie doll story (Appendix T), initiated by Amy but with writing assistance from a classmate and an SEA, demonstrates more variety of thought than her journal article, yet Amy still does not initiate sentences. The classmate and SEA repeated, “*more words, use more words*” in an attempt to have Amy write complete
sentences. Amy’s classmate was videotaped reading the story and Amy viewed the
tape before she practised and read the story for taping. Amy’s speed of reading and
expression was better than earlier in the year. Several of the words were still clipped
except for the sentences You can fix it and Oh my gosh and the name Angelina,
ballerina, which were read smoothly and with expression.

6. The student will answer three ‘planted’ questions after presenting her
newspaper article. Although Amy goes through the motions of acknowledging her
classmates’ questions, she still does not always answer them, seemingly more
focused on the process of acknowledging students than actually responding to them.
She generally answers two out of three ‘planted’ questions even after practising the
answers. Progress has been made in that earlier in the year she wanted a SEA to
stand beside her to help her, now she puts her hand out in a stop position to keep the
SEA from coming to assist her. Reading of her newspaper article is stilted, as she
does not receive consistent time for adequate rehearsal.

The following table represents Amy’s results using repeated readings of phonic
books showing the number of words read correctly per minute:

<table>
<thead>
<tr>
<th>Table 2. Timed Readings: Correct Words Per Minute</th>
</tr>
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<tbody>
<tr>
<td>Start CWPM</td>
</tr>
<tr>
<td>Book 1:</td>
</tr>
<tr>
<td>Book 2:</td>
</tr>
<tr>
<td>Book 3:</td>
</tr>
<tr>
<td>Book 4:</td>
</tr>
<tr>
<td>Book 5:</td>
</tr>
<tr>
<td>Book 6:</td>
</tr>
</tbody>
</table>

It should be noted that Book 5 started the second series of books consisting of
CVCV words with long vowel sounds and more sight words. This change was
necessary as the supply of CVC books was exhausted because Amy had read the
others earlier in the year. With three books the number of errors remained at five but a decision was made to proceed to the next book because of excessive speed, tedium, or memorization. Moats (2003) recommends limiting trials to three or four to restrict mere memorization. However, with Amy’s extreme learning needs, more repetitions seem necessary. It did not appear that Amy memorized stories, as she did track with her finger and appeared to focus on each word. Amy’s initial CWPM rate is in the late grade one to early grade two range and end CWPM rate is in the mid-grade two to early grade three range.

The following graph records the words read correctly per minute with each initial reading of the phonic books as well as the trend line:

![Correct Words Read per Minute on Initial Trials](image)
The trend line shows a slight upward movement, which would be more pronounced if the graph had been divided into the first and second level of books. A steeper trend line would be expected with a typical student as the reading skills would be generalized to each successive book. The trend line of initial readings indicates a growth of four words in 12 weeks. Greenwood, Tapia, Abbott, and Walton (2003) found that low-risk students made an average increase of 3.7 words a month whereas high-risk students averaged an increase of 2.7 words per month. The authors also found one on one, small group, and peer instruction, which included the repeated reading method, to be most effective, with greater gains in Kindergarten and grade one. Deno et al. (2001) suggest standard growth rate expectations of two words per week for beginning readers with learning disabilities, one word per week for students in grades two to four, and slightly less for grades five and six. The authors do not differentiated between high and low-risk students. Although Amy did not reach those prescribed gains, a trend upward is encouraging, but may have gone unnoticed without the frequent CBM. It would be worthwhile to follow Amy’s progress using frequent CBM for an entire school year.
Chapter X. Discussion

The 12 weeks went by quickly and the programme was interrupted by an assortment of special events, which is typical in a school year. Although Amy’s progress in the acquisition of literacy skills was modest, she did make improvements in a variety of areas. She improved her decoding of single words and paragraphs, her oral reading fluency rate, her written output, and her public speaking. Areas of concern continue to be her ability to answer comprehension questions, whether about her stories or other’s, recalling sight words, differentiating sounds and decoding words consistently, writing sentences, and sequencing events.

Although not a focus of this study and therefore without specific data, it is evident that her social interactions with peers have improved and increased in number. Besides the scheduled time with classmates, some students make a point of including her at break times much more often than earlier in the year. Also several classmates have requested to work with her.

It was encouraging that Amy’s reading of an unpractised CVC book for the reassessment was 60 words per minute, demonstrating some generalization of reading skills has occurred. Although the increase in her oral reading rate of phonic books was minimal at four words in 12 weeks, a greater increase may have emerged if all the books had been CVC. A longer period of time in which to track her oral reading fluency progress is needed to determine if the gains are maintained.

The timer, which in previous years was used to delineate choice time for Amy, proved effective in focusing Amy’s attention to the specific reading task, whether it was the one minute read, reading the whole book, or the entirety of the reading skills session. Amy’s distractibility has not been officially addressed at school as there have been more pressing issues, nevertheless, the use of a timer for work periods seems an effective means to focus her attention. Solan, Shelley-Tremblay, Ficarra, Silverman, and Larson (2003) state that visual attention is
malleable and noted an increase in reading comprehension through visual attention therapy with the use of specific training exercises. The use of a timer may be an alternate and effective way of training visual attention.

Amy has sustained difficulties with phonemic awareness and phonological skills, struggling to consistently decode words such as *cap* or *cup*. Consequently, with limited time allotments available, it remains a quandary as to how much time should be spent on the different aspects of a literacy programme. While acknowledging that the previous years spent on phonemics, phonics, and guided reading aided her reading skills to a certain extent, perhaps now it is more useful for her to read as much as possible through the use of repeated readings, as she is still unable to read independently. Amy would also likely benefit from additional practice with the expertise of a speech and hearing specialist, as her enunciation is not always clear. An updated hearing assessment may identify contributing factors to her enunciation difficulty.

As Moats (2003) and the National Reading Panel (2000) suggest, guided oral reading is sufficient for “typical” children, however, struggling readers need more structured explicit practice that repeated readings provide. The repeated reading method allows for effective practice of fluency and expression, nevertheless, the repetitions might have to be excessive in order for Amy to overlearn and solidify the skills. The one on one condition of repeated reading method gives more time for the student’s eyes to be on the text as opposed to when working in a group. This method may also facilitate the learning of chunks of appropriate language that is suggested by Twachtman (1995). Moats (2003) also suggests a method of oral reading practice, phrase-cued reading, where the text is marked into appropriate phrases to model for the student.
Dunlap, Kern, and Worcester (2001) acknowledge that CBM, with its use of individualization, empiricism, and as a low-inference measure, is a complementary instructional method to applied behaviour analysis (ABA). ABA is a behavioural programme used with some children with autism, including Amy in her home. CBM of oral reading fluency rate, as a low-inference measure, seems to make sense to Amy in that the nature of the task is within her understanding. CBM of oral reading fluency actually facilitates joint engagement, usually a difficulty for individuals with autism, by focusing attention where directed. It also incorporates the use of routine and repetition, features commonly enjoyed by students with ASD.

With Amy’s gains in oral reading fluency it was hoped there would be concomitant gains in reading comprehension (Aimsweb, 2003; Moats, 2003; Stage & Jacobsen, 2001). However, the oral reading fluency gains were minimal and consequently comprehension gains, if any, were either difficult to evaluate or not detectable. When more substantial gains in oral reading rate are realized there may be concurrent comprehension gains. However, a study by Valleley and Shriver (2003) of grade nine students, found improved fluency with the repeated reading method but did not find clear evidence of comprehension gains, although their study was small. With increased age, comprehension gains may be more difficult to produce. Part of the difficulty in discerning Amy’s comprehension is how comprehension is assessed. Amy’s unique responses may not fall into the correct category but they may demonstrate understanding in other ways, for instance her response of “Sorry Val” to the spilled water.

Amy’s comprehension skills require additional attention, nevertheless it is recognized that her responses might not fit within predetermined guidelines for correct answers. The unique kind of comprehension difficulties experienced by students with autism may mean their oral reading fluency rates are not as highly correlated with comprehension as with students without autism, consequently, various strategies to facilitate comprehension should be attempted. Gray (1998) suggests typing questions on the computer to see if the child can respond more
easily, as she theorizes that people with autism have difficulty following both sides of a conversation as part of their social impairment; separating the person from the question sometimes helps. This strategy could be attempted for future comprehension questions with Amy.

How much Amy’s intellectual disability affects the ability to improve her reading skills is uncertain. Mayes and Calhoun (2003) noted the generalized increase of IQ with age in children with autism. The authors note the gap between verbal and non-verbal IQ lessens with age, which would be expected for Amy as well. It is imperative that educators persist in attempts to make progress rather than to accept some students as incapable. Amy’s formal assessment results are changeable and a formal reassessment will likely be done or should be done before entering high school. It is important to be aware of the following caveats regarding IQ:

(a) intelligence tests do not measure innate intelligence or capacity,
(b) IQs change,
(c) IQs are only estimates of ability,
(d) IQs reflect only a part of the spectrum of human abilities,
(e) IQs obtained from different tests may not be interchangeable, and
(f) a battery of tests cannot tell us everything we need to know about a child (Sattler, 1988, p.83).

Studies have shown positive results in the use of computer programmes to assist in the acquisition of reading and writing skills by students with autism. William, Wright, Callaghan, and Coughlan (2002) found that reading was facilitated through computer use owing to more time spent on reading therefore practising more words. Bosseler and Massaro (2003) found that the students with autism are able to learn new language skills through increased motivation because of their enjoyment of computer use. They are subsequently able to transfer those skills to the natural environment. Computer programmes for enhancing reading and writing skills such as Animated Reader (Basil & Reyes, 2003), which allows the student to manipulate scenes, create sentences, and receive aural feedback may prove beneficial to Amy. Because of Amy’s enjoyment of computer games, this type of programme may be an effective element to add to her literacy programme and provide a means of splitting up her work sessions. The ST has requested a computer with speech feedback capabilities for Amy, which may help her create sentences.

Although Amy’s independent writing has not yet increased appreciably, her enjoyment in typing her stories, reading her stories aloud to the class, and working with her peers facilitated by a SEA, has been gratifying. Schuler (2003) states
that deficits in communication and play in children with ASD can be partially explained owing to social isolation rather than incapacity. The author states that adult facilitated inclusion in peer play provides the natural antidote to many of the peculiarities of autistic communication, speech and language typically encountered. . . . invites the development of narrative thought, related event representation and script knowledge, providing a basis for the comprehension of spoken as well as written language (Schuler, 2003, pp.465-6).

Additional writing with peers is recommended, but perhaps the webbing approach has been conducive to producing single words rather than phrases and sentences. Other writing approaches could be utilized such as a sequence story frame to facilitate sequencing practice. A gradual, systematic reduction of the frames may assist Amy’s sentence creation. A method of CBM for written work (Espin, Shin, Deno, Skare, Robinson, & Benner, 2000) counts the number of correct words in a sentence sequence that a student writes within a set amount of time and charts the results. It would be interesting to see how Amy would respond to the approach. She might merely write single unconnected words initially, but with practise and modeling she may develop sentences as the guidelines suggest only counting words in appropriate sentence sequences.

Shortly after the end of the 12 weeks Amy wrote another Barbie doll story. She was enthusiastic about the story and although her classmate and SEA had to prompt and encourage her to write sentences, she initiated a handshake, a ‘high five’, and a “Congratulations” for herself after each completed sentence. Only a few words were stilted on her oral reading of the story. Data could be gathered regarding the ratio of stilted words to fluently read passages in the oral reading of her stories.

Amy’s support time this year was much greater than previous students with ASD have had, owing to concerns about her behaviour. An intensive, quality programme, which is regarded as prerequisite to effect substantive change (Torgeson, Alexander, Wagner, Rashotte, Voeller, & Gross-Tsur, 2001), would not be possible without the amount of support and SEA time available this year.
Without the abundance of time to incorporate an intensive programme, it has to be questioned if the inclusive classroom, as it exists currently, is the most appropriate environment to effect substantial growth in literacy skills. One possible solution to the time limitations is to train more able students to run the timed readings and conduct repeated readings. The physical setting of the classroom or school also must be considered. For Amy’s programme, a table and chairs were placed in the hallway just outside the classroom door, as it was not possible for her to focus her attention within the classroom with its inherent distractions. The hallway too has its distractions.

Patton, Polloway, and Smith (2000) assert that social gains from inclusion are acknowledged, but question whether academic and life skills instruction are served most effectively if sufficient time and resources are not allotted to provide intensive, individualized, remedial instruction. Even so, it is imperative to attempt academic gains even if they are not realized; otherwise the education system may be negligent. However, a fine balance is required because without concomitant social gains, any academic gains may not be fully utilized once out of school. A more efficient system could possibly be devised to ensure structured, intensive, one on one instruction for larger parts of the day than exist currently, utilizing a combination of dedicated support teacher time and SEA time.

Whether Amy’s progress is attributable to the specific literacy programme, maturation, or other factors cannot ultimately be determined because of the lack of a control study. Nonetheless, it is important to be able to measure growth in order to be cognizant of whether what one is doing is effective or not. Moats (2000, para. 48) states, “In order to justify its love affair with whole language in the face of little or no evidence for its positive results, the field of reading education began to disavow scientific methodology and objective measurement.” Using CBM to chart reading is an effective method to objectively measure and track minute changes. Periodic informal reassessments are also valuable. Amy’s Individual Education Plan written last fall has the vague objectives to increase her reading and writing skills. But without specific data to compare, it would be difficult to determine if growth had occurred. Without specific objectives the urgency to effect change may not be present. The goals set for her may be no more than educated guesses, but a growth pattern may emerge. Ideally an explicit, structured programme would be in place for a student like Amy that could be carried forward from year to year, being revised when necessary, rather than having to be reinvented each year.

Even though empirical research has demonstrated the effectiveness of certain approaches such as CBM and direct instruction, one approach should not be
utilized to the exclusion of another approach that may produce positive results for an individual. The gradual progress of a student like Amy necessitates reliance on a wide-ranging design. Although much of Amy’s programme utilized a skills approach, constructivist whole language elements were also incorporated. The literacy programme designed for Amy utilized both approaches in a complementary way. Using Amy’s interests for her written work maintains motivation, a crucial element to keep a student like Amy interested and involved, and CBM with repeated readings offered a concrete way to measure progress. Johnson (2004, p.88) maintains “…the two approaches are compatible and, in fact, that a balanced instructional paradigm will ultimately provide comprehensive and effective instructional practices for struggling readers.” Educators need to employ strategies that research has proven to be effective yet maintain an openness to incorporate alternatives that might be effective. Allington (2002) warns of the dangers of relying on too narrow a curriculum for beginning readers. Despite Amy’s age and grade, she is a beginning reader.
REFERENCES


