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MORE THAN JUST READING & LITERACY

Aims and Scope
The Journal of Reading and Literacy (JRL) is the official journal of the Society of Reading and Literacy, Singapore. This is a refereed journal with interests in reading and literacy issues in both mainstream (including adult education) and special education settings. The journal welcomes manuscripts of diverse and interdisciplinary themes in the aim of improving reading and literacy. Literacy is contextualized within a broad interpretation including traditional literacy, literacy standards, early and/or emergent literacy, comprehensive literacy, content area literacy, adolescent literacy, functional literacy, adult literacy, multimedia literacy, multicultural literacy, literacy and technology as well as any other interpretation that is of interest to the readers and the Editorial Board. Based on this broad conceptualization of literacy, assessment, measurement, evaluation, testing, programming, implementation, remediation, teaching and methodology are examined. The journal is particularly interested in papers investigating reading and literacy from the Southeast-Asian region, and how systems and practitioners are addressing literacy issues from their respective cultural and social backgrounds.

Guidelines for Submission to JRL

The JRL welcomes manuscript submissions at any time of the year on themes related to reading and literacy. Authors are completely responsible for the factual accuracy of their papers contributed to this journal. Neither the Editorial Board of JRL nor the Executive Committee of the Society for Reading and Literacy (SRL) accepts any responsibility for the assertions and opinions of contributing authors. Authors are also responsible for obtaining permission to quote lengthy excerpts from previously published papers.

All submissions should include a cover letter stating the name/s of the author/co-author(s), organisation/institution that the author/co-author(s) is/are currently associated with, e-mail address of the corresponding author, and the contact telephone number. Papers that have been sent to other journals will not be considered for publication. Please indicate whether the paper has been published or being considered for publication anywhere else, in whole or in part. All papers will be peer-reviewed and upon acceptance for publication, the author and/or co-authors will be notified.

The typescript should conform to the following guidelines:

1. Manuscripts should be submitted electronically with the words "Submission for JRL" in the subject line to the Society for Reading and Literacy.
2. Language: English only
3. Document: Microsoft Word
4. Font and font size: Times New Roman or Arial; 12 point
5. Page limit: None
6. Margin: 1" on all sides
7. Title of paper: Top of page, capitals, bold, centred
8. By-line(s) of author/co-author(s): centred under the title
9. Name of organisation/institution that the author/co-author is associated with: centred under the by-line(s)
10. Abstract of not more than 150 words should accompany each submission and should appear immediately after the by-line(s)/name(s) of organization or institution.
11. Length: 3000-6000 words
12. Format: All authors and/or co-authors are expected to follow the guidelines of the 5th edition of the Publication Manual of the American Psychological Association (APA, 2001).

13. All figures, diagrams, illustrations and tables should be integrated in the typescript.

14. All sources cited in the paper must also appear on the References page at the end of the manuscript.

15. Submission of papers should be forwarded by electronic mail to the Editor at secretariat@srl.org.sg.

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Message from the President of the Society for Reading and Literacy

Serene Wee

It gives us at SRL great pleasure to present the second publication of our Journal on Reading and Literacy. Our team of editors, headed by Dr Noel Chia Kok Kwee did us proud again in presenting well written, peer reviewed articles in the field of reading and literacy. Our in-house editor and Ex-Co Member, Ng Chiew Hong has also worked very hard on the journal before it is presented for publication. To one and all, editors and writers/contributors alike, I thank you for all the hard work you've put in to make this journal a professional read for all the practitioners in the field of reading, literacy and education.

In this second journal, you will find a good mix of articles covering special education, reading and literacy, bilingualism and the effects of parent-child bonding. With such a variety of articles, I am quite sure that there will be one or more that will be of interest to our members as well as practitioners in the field of education.

SRL is committed to sharing knowledge and expertise and with this view, I invite anyone interested in sharing their knowledge in the field of education to contact our editors. I am quite sure they are open to review your articles and where suitable, we would be happy to publish them in the next journal. Thank you once again to all those have contributed to the publication of our second educational journal.

A Brief Examination of a Probable Link between Specific Language Impairment and Developmental Dyslexia

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Abstract

Specific language impairment (SLI) is often confused with developmental dysphasia and dyslexia. It also consists of several subtypes that add to the complexity of the syndrome. Discuss and explain how all the traits of SLI put together constitute the syndrome and how they can help to distinguish it from other related anomalies such as dysphasia and dyslexia.

Defining Specific Language Impairment

Cohen (2002) has defined Specific Language Impairment (SLI) as a specific developmental language disorder affecting both expressive and receptive language skills with varying degree of severity, in the context of normal development. SLI is also known as developmental language disorder, language delay or developmental dysphasia among many other names.

Children with SLI by and large have difficulties with oral language that are clearly outside the typical range which becomes apparent in the preschool years. Children with SLI would face challenges in the areas of grammatical, syntactic, semantic and phonological development. These children may hence manifest difficulties in receptive and expressive abilities, notability in the use of short sentence in their discourse as they have problems producing and/or comprehending syntactically complex sentences. (Ervin, 2001; Muter & Likierman, 2008).

The issues children with SLI faced are not known to go away and would persist into adolescence and adulthood (Simpson & Rice, 2002) with the possibility of developing into a literacy disorder (Manzo & Manzo, 1993). The onset of the problem is usually at around three to four years of age (Ervin, 2001). Besides demonstrating speech delay and slow development of language, children with SLI have normal neurological, sensory-motor, intellectual, and social-emotional development - they do not have global developmental delay or autism. SLI is not a result of difficulties in the coordination of the oral-motor musculature (Cohen, 2002). It is also important to rule out hearing problems which include partial/temporary hearing loss associated with ear inflection as a cause of language difficulties.

[1] The author was working at the Learning Disabilities Centre at the time when she submitted this paper.

SLI is also known as a developmental oral language disorder whose primary symptoms include deficits in semantics, syntax and discourse in the presence of typical nonverbal cognitive abilities (Leonard, 1998; Tager-Flusberg & Cooper, 1999). However, children with SLI are a heterogeneous group. Each child has a different combination strength and weakness in terms their language ability, of which can change overtime.

According to Muter and Likierman (2008), there has been no formal identification of different categories or subtypes of SLI. Muter and Likierman (2008) have attempted to classify SLI through its impact on children by their strength and weakness, namely their receptive and expressive ability, their phonological processing ability, and their social communication ability, or through their degree of severity which is divided by into three categories: (1) late bloomers who eventually "outgrow" their SLI, (2) children who are hesitate in their speech, or (3) children who have severe language difficulties that persist into adulthood. Many have attempted to categories them in according to their receptive and expressive abilities (Chia & Poh, 2009; Tombin, Zhang, Buckwalter, & O'Brian, 2003) and others by their socialization ability as well (Paul, Looney, & Dahm, 1991). Leonard (1998) has pointed out that receptive abilities, expressive abilities and abilities to comprehend different aspects of language like syntax, morphology and phonology are common themes that many authors covered.

Looking at the different components of language; phonology, morphology and syntax is what make up the skeleton of language while semantics is the soul of language. Pragmatics would be a problem if one is not skilled in phonology, morphology and syntax which will affect learning of new words and sentence construction, which in turn would affect comprehension (semantics). Naturally, expression would be affected too. With limited receptive and expressive ability, the impact on socialization ability is foreseeable and depending on the severity, could hinder emotional development, resulting in behavioral issues if no intervention is done.

Developmental Dyslexia

Dyslexia or otherwise known as developmental reading disorder is characterized by deficits in the recognition of printed words despite adequate instruction and average cognitive abilities (Lyon, Shaywitz, & Shaywitz, 2003). Aaron (1989) defined developmental dyslexia as "a form of reading disorder found in individuals who have average or superior listening comprehension but whose reading performance is compromised by deficient phonological skills." Due to the deficit in phonological awareness, dyslexic, like children with SLI may (seemingly) also exhibit oral language difficulties.

Due to the similarities in phonological issues faces by children with SLI and dyslexic, it is important to note the difference between the two. While children with SLI and dyslexic shared similar difficulties in phonological processing and short-term verbal memory, the main area of concern children with SLI faced are in the areas of vocabulary and grammar while dyslexic main area of concern are with reading and spelling. Though dyslexic children suffer from deficient phonologic skills, the rest of

their language skills such as comprehension of semantics, syntax and discourse are intact. Using these strengths, dyslexics are able to deduce meaning of words they do not understand and successfully comprehend sentences/passages. Dyslexic children are also able to comprehend better when instructions are given verbally or when more time is given for them to read. Children with SLI however have weak comprehension ability whether through the auditory or the visual mode as beside weak phonological skills, they are also limited by their grasps on morphology, syntax and semantics of language. In areas of expression, dyslexic children are usually able to write better than to speak. Children with SLI, however, faces problem in both modality.

In short, the primary weakness of dyslexic is in their phonologic skills which result in poor reading and spelling while the key weakness of children with SLI are vocabulary and grammar in addition to their phonologic skills, leading to a general weakness in their language abilities. Hence, SLI may co-exist with dyslexia (Muther & Likierman, 2008) but SLI and dyslexia are two very different learning issues.

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The Mediational Style of Caregivers/Teachers on Nurturing Children to Become Continuous Learners in Literacy

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Abstract

This study was designed to examine the state of specific aspects of the mediational process in the traditional ways of language teaching in early childhood education. The researcher applied the Mediated Intervention for Sensitizing Caregivers/teachers (MISC) as a method for analyzing behaviors of children and caregivers/teachers in their existing interaction and teaching practices. The main framework of MISC includes elements of focusing, affecting, expanding, rewarding, and regulating, which was developed upon Feuerstein's (1988, 1991) notions of Mediated Learning Experience and rooted in Vygotsky's and his followers' theoretical ideas. MISC was introduced to Singapore by Professor Pnina Klein whose work has been supported by international organizations such as World Health Organization (WHO) and The United Nations International Children's Fund (UNICEF). MISC is acknowledged as not confining to cultural context and has been widely practiced in Israel, as well as in USA, Portugal, Ethiopia, Norway, Sweden and Indonesia. Videotape analyses of adult-child interaction in a local childcare center were conducted to identify criteria of significant incidence behaviors based on the elements of MISC. The compatible features of MISC were examined with the ongoing educational program and traditional ways of teaching. Findings add value to both pre-and in-service staff trainings applying a context free and cross subject content model. It stands a better chance of sustaining the long-term effects on caregivers'/teachers' behaviors in facilitating children's continuous learning , which indeed, is Singapore striving to produce developing learners to meet the demands of global community.

Research Background

Singapore is widely recognized education system for having produced high levels of achievement among its students (Kelly, Mullis, & Martin, 2000; Smith, Kelly, Mullis, I. V. S., & Martin, 2000; TIMSS, 2003, 2007). Rote learning and a hierarchical system have contributed to this excelling student performance, however these methods are now considered to be less suitable. The changing education frame is now driven by global imperatives which emphasize creativity and innovativeness. The Prime Minister Lee Hsien Loong (2004) has stressed that Singapore must continue to restructure and upgrade because of ferocious competition in such worldwide trends.

New school policies and pedagogy with a greater balance has been afforded to teaching approaches. Students have also been given greater empowerment to initiate their own learning and initiatives, which support learning outcomes for all students through a wide spectrum of learning activities. For example, the government's encouragement for teachers to promote student's thinking dispositions (i.e. "Teach Less; Learn More") mandates a new curriculum intervention, including the teaching of critical thinking, information technology skills, and national education (Koh, 2004).

As a result of these policy changes, teachers are increasingly becoming aware of the need to help mediate their students learn to adjust to the rapidly changing world. This world is mediated to children through the process of teachers matching what they intend to mediate with the children's responses. Through mediations, the world is transformed by a network of cultural transmissions into one in which things have meaning, importance, and relevance to future as well as past experiences.

Rationale for the Study

Child development is a process of change that they learn to master increasingly complex levels of movement, thinking, feeling and socialization. Development is a journey of discovery through the senses, in which the child takes in and thereby creates, establishes and confirms connections and paths in the brain. It is a multi-faceted and multi-dimensional process involving aspects of health, nutrition, hygiene, emotion and intellect. It is also a dynamic process. Along with the dynamic process of development, researchers have confirmed that young children learn most effectively when they are engaged in interaction rather than in merely receptive or passive activities (Bruner, 1999; Wood & Bennett, 1999). They are most likely to be strengthening their natural dispositions to learn when they are interacting with adults, peers, materials, and their surroundings in ways that help them make better and deeper sense of their own experience and environment. Interaction that arises in the course of such activities provides contexts for much social and cognitive learning.

Adult-child interactions are of central importance and that quality care of young children should consist of a mental diet including warmth, nurturance, and stability (Klein, 2006; Shonkoff & Phillips, 2000). In other words, infants and young children require adult mediation in order to develop the potential to benefit from new experiences. Among those adult caretakers, teachers' specific activities have been found that relate to their students' mental development concurrently and predictively (Klein, 1988, 1996; Tzuriel, 1996, 1999; Wachs, 1992). One approach that may be taken to the development of cognitive skills is the Mediated Learning Experience (MLE) approach (Feuerstein, Feuerstein, Falik, & Rand, 2002; Feuerstein, Klein, & Tannenbaum, 1991; Feuerstein, Rand, Hoffman, & Miller, 1980).

Based on Feuerstein's MLE, Klein (1988, 1991) developed the Mediational Intervention for Sensitizing Caregivers (MISC) model to promote a sound, facilitative caregiver-child relationship. The model has been widely used in early childhood studies. The applicability of this model has also been used as a research tool enriching the literature on human interaction in many research studies other than early childhood education (Lifshitz & Klein, 2007). This study is a follow-up as the MISC model presented in Singapore years ago for further exploration on its application in local schools.

Purpose

The main purpose of this study was to investigate the state of specific aspects of the mediational process in the traditional ways of language teaching in early childhood education. The Mediational Intervention for Sensitizing Caregivers/teachers (MISC) was applied as a method for analyzing behaviors of children and caregivers/teachers in their existing interaction and teaching practices. The compatible features of MISC were also examined with the ongoing educational program and traditional ways of teaching. The nature of this study was empirical and exploratory as the researcher of this study was invited by a local organization to collect preliminary data in its childcare center which contributes to in-service staff training program. However, follow-up studies may be conducted following the results of this study to further investigate long-term effects of identified mediational behaviors on their potential for children to learn from new experiences.

Theoretical Background

According to Feuerstein and colleagues, an individual's level of cognitive functioning is directly linked to the quality and quantity of Mediated Learning Experiences (MLE) he or she has received (Feuerstein et al., 1986). Mediated learning is the process by which a mediator organizes and interprets the world to a child. By formulating, choosing, focusing and generating feedback regarding experiences with the surroundings, the mediating adult creates the environmental milieu for the child to explore and to learn. When an individual gives meaning to events, helps children select relevant from irrelevant variables, assists in abstracting rules for regularly occurring phenomena, and generally attempts to develop children's abilities to think, that individual is engaged in mediate learning.

Vygotsky (1978) explores the mediated activity by emphasizing the role of the other individual as a mediator of meaning. An illustrative example of this is the development of indicatory gesticulation in the child. According to Vygotsky, gesture first appears as a natural attempt to grasp an object. The grasping movement is interpreted by an adult as a gesture; thus the human meaning of the natural act is supplied by the adult to the child. Accordingly, the address of the movement changes from that of the object to that of a human subject. Movement itself becomes transformed and reduced; it starts as a grasping attempt and becomes a real gesture. Later, such gestures are internalized and become children's inner commands to themselves. The meaning of one's own activity is thus formed by mediation through another individual (Kozulin & Presseisen, 1995).

The ultimate goal of medicated learning is to make the child sensitive to learning through direct exposure to stimuli and to develop in the child's cognitive prerequisites for such direct learning. Mediation assumes that instruction is more concerned with going beyond the information given, with connecting the present with both the past and the anticipation of the future, than with mastering specific bits of here-and-now data (Perkins & Salomon, 1988).

Based on Feuerstein's theory, Klein (1988, 1991) developed the Mediational Intervention for Sensitizing Caregivers (MISC) model to promote a sound, facilitative caregiver-child relationship. The MISC represents the developmental mediation approach, which is based on an integration of contributions from three major theoretical frameworks: (a) An eco-cultural

approach. This highlights caregivers' objectives of child rearing, long-term educational view of goals, ideal child, ideal parent etc. (b) A developmental approach. Growth and development are viewed as a dynamic process in which both child and adult are playing a major role affecting each other and the environment. (c) A mediational approach. Based on the theory of cognitive modifiability and Vygotsky's theory, several basic characteristics of adult behavior that are necessary to create experiences of mediated learning for young children are identified and empirically defined (Klein & Rye, 2004).

The essence of the MISC lies in the sensitization to and raising of consciousness regarding key issues in the relationship that try to raise adult's awareness on their own basic philosophy of child rearing/education, their perceptions of their children, children's emotional and cognitive needs, and the criteria of mediation in practice. Klein (2000) proposes five typical meditational behaviors of the MISC:

-- Focusing (intentionality and reciprocity): Acts aimed at directing towards focusing an individual's attention to something or someone;
-- Affecting (mediation of meaning): Behaviours that express excitement, appreciation or affect, in relation to the person in the interaction, objects or processes;
-- Expanding (transcendence): Verbally or nonverbally transcending the concrete immediate context of the interaction; attributing past and future needs to the present situation through comparison, clarification and explanation;
-- Rewarding (mediated feelings of competence): Mediating feelings of competence, identifying components of behaviour contributing to that success;
-- Regulating: Behaviours that model, demonstrate and/or verbally guide actions of specific requirements of a task, or to any other cognitive process required prior to overt action.

The components of mediational behavior may sometimes define variedly in different studies. For example, Frank, Stolarski and Scher (2006) used Lidz's (1991) rating system which consists of 11 components: Intentionality, Meaning, Joint Regard, Psychological Differentiation, Task Regulation, Praise and Encouragement, Contingent Responsivity, Affective Involvement, Transcendence, Challenge and Change. And in Lifshitz & Klein's (2007) study of paraprofessionals, they extended these parameters to another 10 sub-parameters, including regulating behavior and ordering behavior, to adapt to the environment of adolescents and adults with ID.

Applying the MISC model on family research, it was found that the factors of quality mediation predicted cognitive outcome measures up to four years of age better than did the children's own cognitive test scores in infancy, or other presage variables related to pregnancy and birth histories or to mothers' education (Klein, Weider, & Greenspan, 1987). Similar findings were also reported for a sample of very low birth weight infants (Klein, Raziel, Brish, & Birenbaum, 1987). Inter-correlations between mothers' mediational behaviors on children were significant over time in studies of low socio-economic status (SES) American (Klein, Weider, & Greenspan, 1987) and Israeli (Klein, 1988) mother-infant samples. In terms of parent-child mediated learning interaction, it has been found that the child's cognitive modifiability was predicted by MLE interactions in a structured but not in a free-play situation. Mediation for transcendence

(e.g., teaching rules and generalizations) appeared to be the strongest predictor of children's cognitive modifiability (Berhanu, 2006; Tzuriel, 1999; Tzuriel & Weiss, 1998).

The MISC model has also been used with populations of children with special needs including infants with Down's Syndrome (Klein & Arieli, 1997; Klein & Rosenthal, 1999), deaf children (Chiswanda, 1999), as well as on young gifted children (Klein, 1992). The model has also applied to explore the mediated learning experience among three generations (Isman & Tzuriel, 2008) as well as mediation between paraprofessionals and individuals with intellectual disability (Lifshitz & Klein, 2007).

Research Method

This study was based in a childcare centre in Singapore where the center catered to mainly low income families.The centre is sponsored by Yayasan MENDAKI, a Malay/Muslim organization. Yayasan MENDAKI is a self-help group dedicated to the empowerment of the disadvantaged through excellence in education. The organization was set up 24 years ago by Malay/Muslim Community leaders in partnership with the government. The researcher of this study was approached to help the center with staff professional development. Parents were informed and consent forms of participation were obtained.

The researcher spent a school term time establishing the relationship with the center staff and children followed by field notes taking and videotaping in the 2nd year. The researcher participated in the center's daily routine in observing teacher-children behaviors as they naturally occur in varied units of instruction. On-site observation was frequently interrupted and had to shift dates due to absence of teacher and center events. Intense communication and consultation were also needed due to different beliefs of staff. Teacher turning-over rate was usually high in local childcare centers while the study was carried out. Absence rate of children was also very high. The class was mixed with children from age 5 to 7. Because of those unexpected conditions as well as the cultural difference (the researcher is a Taiwanese), the researcher mainly focused on the meditational process of teachers applying the MISC model. Observation records and interpretation were triangulated with teachers.

There were 12 observations cross 6 months on the same teacher and group of children. The length of each unit ranged from 25 to 32 minutes, according to its pose in the natural field. Six observations were selected which the unit theme is related to literacy. In order to cross-check observation findings, two raters observed the videotapes together and discussed for consistent definition on each category. After the inter-rater agreement reached to the .90 level, the video was then rated independently for the presence or absence of each behavior according to the following rules:

-- The behaviors in each tape were mutually exclusive with no overlap among criteria.
-- The length of each event varied, depending on the specific behavior.
-- The interaction 'event' might contain one or more criteria.
-- The total frequency with which each mediation behavior occurred across all events in the videos was then calculated.

In line with Klein's (1992, 1996) definition of mediation of meaning, the five parameters of Focusing, Affecting, Expanding, Rewarding, Regulating serve as the main components in categories. Besides, another seven parameters were extended and developed as results of analyzing contents of the videotapes, including Behavior Management, Student Questioning, Student Responding, Teacher-student Interaction, Teacher Preparation, Teacher Other Activities, and Student Other Activities. After reviewing the videos along with the other observer, these 12 observation parameters are categorized into the following three types of parameters:

Teacher related parameters: (a) Behavior Management: Teacher re-directs student's behaviors, corrects seat arrangement; (b) Teacher Preparation: Teacher prepares teaching and learning materials; (c) Teacher Other Activities: Teacher responds to students' non-learning content related questions.

Student related parameters: (a) Student questioning: Student asks questions related to learning content; (b) Student responding: Student responds to teacher's content related activities; (c) Student Other Activities: Student's not related content behaviours.

Teacher-student interaction: (a) Student responds to any five of MISC main components presented by teachers; (b) Teacher responds to student's questions regarding learning content.

Findings

The occurrence of teacher and children's behaviour in the mediational process was tabulated in Table 1. It was obvious that teacher's focusing behaviour was observed more frequently than the other four major components in the interaction. Although the percentage of this behaviour varied from 8.93% to 29.09% due to different contents and activities in each unit, it was still the prime behaviour among the five major features in the MISC. For example: teacher initiated the question as "what is the day of today… children…all of you…?" and called out children's names. Such a mediational behaviour is in the preliminary level of MISC to prepare children for a variety of higher order perceptions and elaborations. This finding indicated that teacher's mediational style was more toward regulating children's behaviours as focusing children's attention to something or someone.

The other four components comprised of less than 10% in the meditational process. Expanding and Rewarding were found to be most predictive of cognitive performance of children in Kline's studies (Klein, 1996; 2006). In this study, however, these two components had not occurred frequently, which could prevent young children benefiting from effective learning experience. In sum, this whole picture may indicate that teacher was energized to act but had not been prepared to provide meaning sequences of mediation.

Teacher-student Interaction occurred most frequently, except in #5 and #3. This interaction mostly reflected children's responding to any five of MISC main components presented by the teacher and teacher's responding to student's questions regarding learning content. When considering the observation described above, the interactions were still devoid of teaching behaviours involving opportunities for choice making, encouraging with explanation, with almost no experiences of cognitive expanding, and also lack of affecting that express excitement,

appreciation or affect, which would play an important role in motivating for learning and for internalizing learning and remembering.

There were some other interesting phenomena observed in the field that may distort somewhat on reports described above. In session 3, Student Other Activities occurred highly frequent across these parameters and sessions. In that typical session, children behaved restlessness and roughhouse with each other, and less questioning behavior from the children. And teacher's higher managed behavior was also observed in that particular session, with less focusing behavior. The ecological variation happened in session 5 too. Teacher performs focusing behaviour most often. Corresponding with this phenomenon was students' less questioning and Teacher-student Interaction behaviours.

Table 1: Twelve Mediation Parameters (in percentage)

# of video date	#1 9/11	#2 9/17	#3 9/24	#4 9/25	#5 10/2	#6 10/9	Total
Focusing	13.04	11.73	8.93	14.07	29.09	25.37	16.96
Affecting	--	0.56	--	0.50	--	--	0.22
Expanding	2.97	7.26	--	7.04	6.06	4.48	4.92
Rewarding	2.90	1.12	5.36	3.02	3.03	3.73	3.17
Regulating	1.45	--	1.79	0.50	0.60	0.78	0.77
Behavior Management	15.94	11.17	17.86	8.04	12.12	10.45	12.14
Teacher Preparation	11.59	1.12	1.19	1.51	0.60	0.75	1.86
Teacher Other Activities	1.48	6.70	10.71	4.52	4.24	1.49	5.36
Teacher-student Interaction	20.29	29.05	16.07	23.62	13.33	25.37	21.44
Student Questioning	5.80	11.73	1.79	4.02	7.88	2.99	5.80
Student Responding	20.29	7.26	10.12	23.62	19.39	24.63	17.07
Student Other Activities	4.34	12.29	26.19	9.55	3.63	--	10.28

With regard to the interesting ecological phenomenon, correlations among the 12 behavior parameters indicated that Behavior Management, Teacher Other Activities, and Student Other Activities have highest correlations with each other (c.f., Table 2). Based on the result of statistical analysis, Student Other Activities and Teacher Other Activities have almost identical appearance in each session. The highly close relationship is also reflected in teacher's Behavior Management. It seems predictable as a vicious circle happened in the classroom.

Table 2: Correlations among Mediated Parameters (selected)

	Behavior Management	Teacher Other Activities	Student Other Activities
Behavior Management	1	.931**	.877*
Teacher Other Activities	.931**	1	.963**
Student Other Activities	.877*	.963**	1

Discussion

In recent years, young children have increasingly been placed in the childcare center or kindergarten and provided with adequate educational programs for their cognitive and social-emotional development. Attention also pays on the quality of such arrangement as advanced theory of child development and intervention applied in the field. In the present study, the aim was to examine the relationship between the mediating behavior of caregivers and the responses of young children attending the childcare center. Mediation is conceptualized as a cluster of variables that reflected aspects of the climate in the classroom. The recording of teacher–students interactions in their natural context carries many advantages and analyses of teacher and children's behavior in the field disclose what is happening in the natural situation.

The findings of this study based on on-site and video-tapping observation would bring insight on teacher and teaching performance in terms of children's development and growth. The most notable results of this study reveal that teacher tends to mediate intentionality (i.e. focusing). It is obvious that the teacher makes great efforts focusing on learning content, but fail to notice the essence of mediation experience that go beyond the information given. Generally, the teacher uses the mediation of transcendence infrequently and rarely provides mediation of competence and reward, especially in the explicit verbal form of a direct reward. Even the low frequency of encouraging but without explanation fulfils only the superficial goals of the interaction and prevents children from learning the reason for their success (Klein, 1992). More emphasis is placed on the accomplishment of actual acts with little room for making errors. The mediation of regulation of behavior is done with a more commanding and direct manner. The overall picture of the mediational process in this classroom indicates that there is still a disparity between the mediational teaching style expressed and traditional way of teaching in schools.

Although Lidz (2003) takes a more flexible view of mediation in practice, she indicates that not all components of mediation need to be present in order to establish an interaction as a Mediated Learning Experience, and does not give precedence to specific components. And varying degrees of appearance of each component will be seen in various aspects of the setting. However, the lack of behaviors reflecting transcendence and rewarding in the current study poses a conceptual problem from the point of view of the Feuerstein framework of thought. It might be corresponded with what Klein (1986) has observed in different cultures. She identified two general forms of mediation: a western, analytic style and a traditional, holistic style. The later approach is typically used in the so-called traditional societies where most learning occurs

decontextualised, not explored beyond the immediate context. In other words, children experience direct learning strategies rather than mediated learning, of which might counteract with the western kind of school learning that requires experiences in analytic mediation.

When reflecting from the other side, a vivid picture appeared that children were energetic in responding with high percentage of occurrence. They were eager to respond and took some actions. But children also engaged in many other activities that were not directly related with learning content. Following students' noisy tumult and wriggling, teacher's management of children behaviours often appeared instantly. Hence, the high frequencies on Teacher-Student Interaction were mostly comprised of orders and instructions, being devoid of encouragement for an enjoyable and positive interaction. The infrequent occurrence of expanding, rewarding, and affecting provide a poor 'mental diet' for young children, and prevent them benefiting from any learning experience.

Findings revealed a certain amount of mediation happened in the classroom. However, the setting or situation may inhibit the elicitation of some other specific elements. For example, the components of expanding and affecting may require a longer observation time and tend to be elicited only in the typical activities. Although there appears different profile from what described in the literature, the MISC model has its validity and can serve as a tool for enriching awareness and modifying the ability of teacher daily activities.

Limitations & Implications

A number of limitations of the present study need to be further addressed. Firstly, this preliminary study used limited sample of interactions in one classroom. With ample data, the transactional nature of the teacher-student interchanges might be revealed conspicuously in the whole process. Thus, generalization should therefore be regarded with caution. Another limitation was that the objective of the study was to focus on the group setting and tap the overall classroom climate, individual variability within the group was not analyzed. Clearly, children's behavior varied across individuals and also situations. In the future study, it would be meaningful to include personal level of analysis for deeper understanding of changes and challenges in their learning experiences.

In conclusion, we suggest that the model of MISC has its applicability in family and education field. The model has its potential value in exploring the actual state of affairs in classroom. The continued investigation of mediation skill as a marker of the quality of the educational setting is a worthwhile endeavor. Further promising approaches might include intervention using experimental and control groups to evaluate the relative impact of teacher's different mediation strategies on children's cognitive development. Inclusion of multiple levels of variables, such as person, process and context variables ecologically will allow an examination of the bidirectional nature of the caregiver–child effects. Longitudinal studies investigating the effect of the MISC approach on the behavioral, cognitive and emotional skills of young children could also strengthen its argument.

Acknowledgements

Special thanks are extended to the teachers and children who participated in this study, and for the support provided and the involvement of MENDAKI organization, the principal of Junior Network childcare center. Clearly, it takes courage, confidence and belief in the value of inquiry-based investigations to invite researchers into the center and classroom to observe, to ask teachers to openly reflect on their practices and to seek the view of effectiveness of a new pedagogy. I greatly appreciate their willingness to share the soul of teaching. And it is hoped that this sharing will have a value impact on the beliefs and practices of teachers, and help shape the positive direction of early years education in Singapore.

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Reading Routes and the Neural Pathways

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Abstract

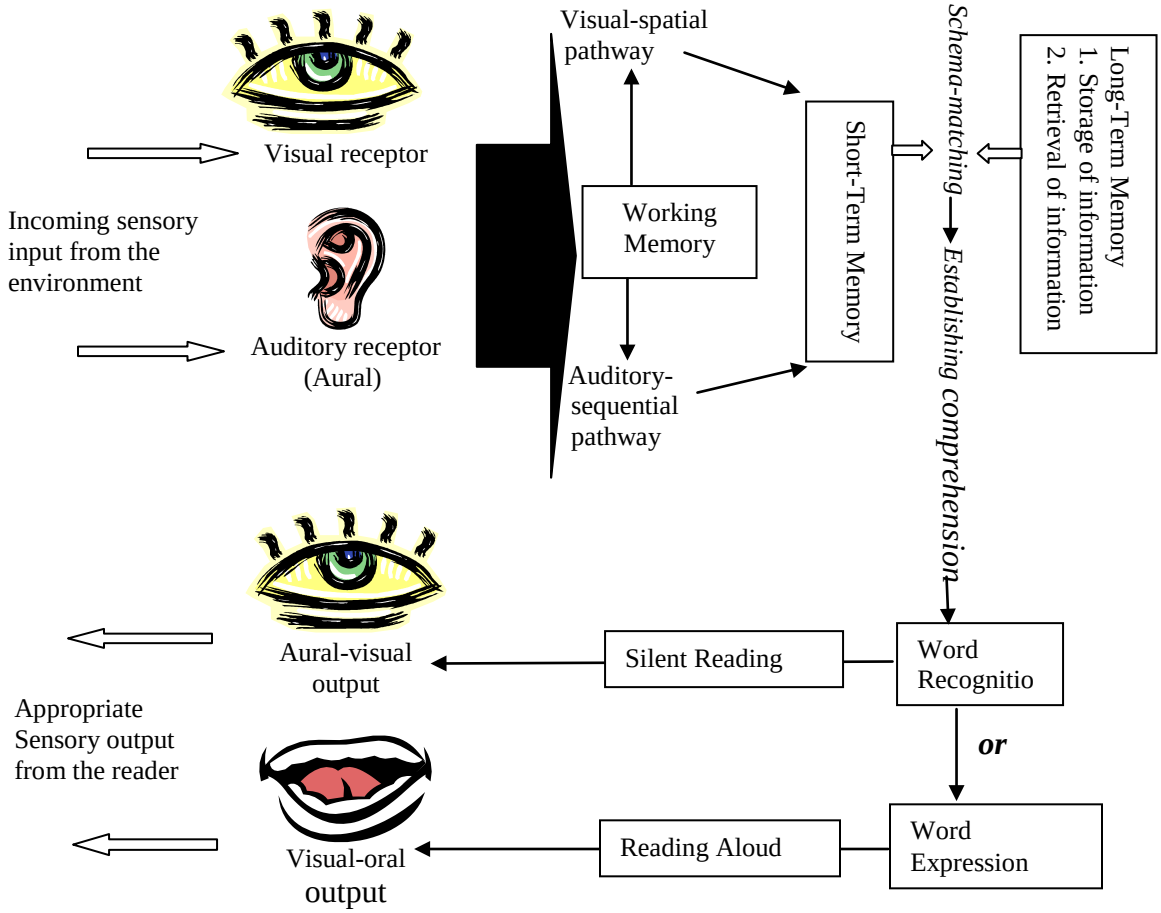
Reading as a process is best understood if we look at it in the context of its neural pathways that have been identified through several studies using the focal magnetic resonance imaging. In this paper, the author discusses the three neural pathways for reading: two slower, analytic ones (i.e., parieto-temporal and inferior frontal gyrus or Broca's area) used by beginning or novice readers, and an express route (i.e., occipito-temporal) used by experienced, skilled readers. He has also gone on to discuss what teachers should know about these three reading routes and what they can do to help children with problems in word recognition.

Introduction

Although both speaking and reading involve phonological processing, the former is natural; the latter is not. Studies (e.g., Kripke, 2004; Leung & Kao, 2001; Toppelberg & Shapiro, 2000) have shown that speech delay can impact on reading, resulting in specific language impairment (Chia & Poh, 2009) and specific learning difficulties such as dyslexia. According to the information processing model of reading (see Figure 1 on the next page), a reading text can come in the form of a visual (e.g., comics) or auditory (e.g., an audio-tape) format that provides sensory input to be engaged by a reader through either the visual (sight) / auditory (aural) receptor or both.

These sensory data are then taken up by the working memory (also known as the conscious state of mind) (Markova & Powell, 1992), separated into either visual-spatial or auditory-sequential information for processing before being transferred to the short-term memory (also known as the subconscious state of mind) (Markova & Powell, 1992), which in turn plays an important role in schema-matching the new information received from the reading text with the reader's prior knowledge and background experience retrieved from the long-term memory (also known as the unconscious state of mind) (Markova & Powell, 1992) to build a textual meaning in order to achieve comprehension of what is read, and lastly, to respond to the text by either reading silently or aloud. Answering correctly to comprehension questions is also a form of responding with appropriate sensory output (e.g., oral or written response).

Figure 1: Information Processing Model of Reading



Interrelated Sequential Sub-processes of Reading

In other words, there are five interrelated sequential sub-processes that take place within the reading process: (1) receiving incoming environmental sensory data (e.g., conversation and print as in speech and reading respectively); (2) decoding that takes place in the working/short-term memory; (3) building meaning through schema-matching between the sensory data received and prior knowledge/background experience; (4) establishing comprehension; and (5) responding with appropriate sensory output (e.g., silent reading and reading aloud). Each of these sequential processes will be briefly described below:

(1) Receiving environmental sensory data

The way a reader responds to environmental sensory data such as, audio-story tapes (e.g., *The Storyteller II*), e-journals, pop-up books and printed materials (e.g., books and periodicals) determines what information gets his/her attention and in what mode that best captures that attention. Hence, not all readers prepare to engage printed material. Others may prefer listening

to audio-tapes of motivational talks or sermons or audio-books of favourite classics such as *Black Beauty* and *The Treasure Island*.

According to Willis (2008), whichever mode a reader chooses to receive the incoming sensory input, only selected information passes through his/her lower brain filter known as reticular activating system (RAS) to enter his/her thinking brain. This is the attention-activation switching system of the brain stem, which is located at the lower back of the brain. It is the RAS that sets the mental state of arousal and vigilance for the brain. It also selectively alerts the brain to the environmental changes that impact its survival, i.e., sound, sight, taste, touch, and smell that may indicate danger or signal opportunities to find food for an example.

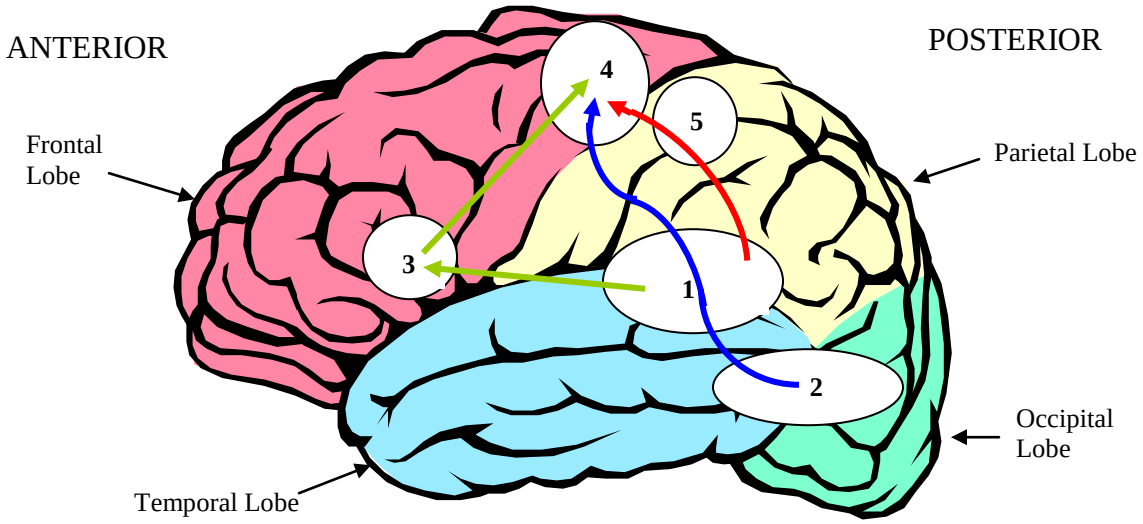
Messages from the RAS are transmitted to another important part of the brain called thalamus, which "sits on top of the brain stem and is shaped into two lobes" (Giles, 2002, p.25). It is the receiving point for all incoming sensory data (with the exception of smell), and its function is to act as a sort of relay station, transmitting neural messages to the appropriate parts of the cortex for further processing (Wolfe & Nevills, 2008). In the case of sound stimulus (e.g., listening to a narrative audio-tape), the aural sensory input is sent to the primary auditory cortex, which is located in the front of the temporal lobe of the brain. The thalamus and the primary auditory cortex appear to work in concert to determine if the incoming stimulus is language, music or random noise from the environment. Once the aural data have been identified as language, the neural message is transmitted to Wernicke's area.

(2) Decoding

Decoding is a cognitive process that involves word recognition (for known or familiar words) and/or word identification (for new or unknown words), and it can be further divided into two cognitive sub-processes (Chia, 2006): (a) aural-visual decoding for word recognition and silent reading; and (b) visual-oral decoding for word expression and reading aloud.

Findings from past and current brain research studies (e.g., Bloom, Nelson, & Lazerson, 2001; Dejerine, 1891; Shaywitz, 2003) have found that most of the reading part of the brain takes place in the back known as the posterior reading system, which is made up of two different pathways for reading words, one sitting somewhat higher in the brain than the other (see Figure 2). The higher one (indicated by a red arrow) is the parieto-temporal decoding route while the lower one (indicated by a blue arrow) is the occipito-temporal decoding route.

Figure 2: The Posterior Reading System



Key:
1 = Parietal-temporal area (for word analysis); 2 = Occipito-temporal area (instantaneous word recognition/identification); 3 = Broca's area (for articulation and word analysis); 4 = somato-motor cortex (motor activities); 5 = somato-sensory cortex (sensory activities)

The upper pathway is located primarily in the middle of the brain known as the parieto-temporal region, which covers the language cortex (including Wernicke's area), sensory association cortex and sensory cortex (Giles, 2002). The parietal lobe processes spatial information of the words in an advanced way, such as the creation of mental images of letters found in words and recognition or identification of words encountered during reading. The function of this first reading pathway – known as letter-sound association reading system – though slow and analytic, seems to be in the early stages of learning to read, i.e., segmenting a word into its phonemic constituents.

In contrast, the lower pathway runs closer to the bottom of the brain where two lobes of the brain – the occipital and the temporal – converge and referred to as the occipito-temporal area, which covers primary visual cortex, visual association cortex and language cortex (Giles, 2002). This is the word-form reading system that serves to react almost instantly to recognize the whole word as a pattern. These two subsystems have different roles in reading, and their functions make sense in the changing needs of the reader (see Figure 2).

According to Shaywitz (2003), there is a third reading pathway (indicated by a green arrow) that involves Broca's area (found in the frontal lobe of the brain) which also helps in slowly analyzing a word. According to Preen and Barker (1986), lesions in Broca's area could result in comprehension of printed text being severely impaired and hence, also affecting the reading process. Older children with dyslexia "show increased activities in frontal regions so that by adolescence they are demonstrating a pattern of over-activities in Broca's area, i.e., they are increasingly using these frontal regions for reading" (p.81). As a result, these children compensate their reading difficulty by sub-vocalization (i.e., 'mouth' word for word aloud) as

they read, a process that utilizes Broca's area which is responsible for articulating spoken words. This process of sub-vocalization allows these children to read, albeit more slowly than if the left posterior systems were working.

In other words, this is a response initiated by the brain as a kind of compensatory strategy to aid reading comprehension. "Sounds heard from reading aloud are received by the ears via auditory nerves to the primary auditory cortex for word analysis before directing the analyzed information to Wernicke's area to match its corresponding meaning. The word meanings from Wernicke's area are conveyed to Broca's area" (Chia, 1992, p.35).

As a reader with dyslexia tried to sound out words, the brain images through magnetic resonance imaging (MRI) show that posterior system on the left hemisphere of the brain is disrupted or not working; instead, the alternate secondary pathways (not a repair but a different route) to reading are used. In addition to greater reliance on Broca's area, other right hemispheric auxiliary systems for reading in the frontal lobe function to allow for accurate, albeit very slow, reading (Shaywitz, 2003).

Hence, there are three neural pathways for reading: "two slower, analytic ones (i.e., parieto-temporal and inferior frontal gyrus or Broca's area) used by beginning or novice readers, and an express route (i.e., occipito-temporal) used by experienced, skilled readers" (Shaywitz, 2003, p.79).

(3) Building meaning

Meanings of words are processed by the brain in Wernicke's area – the group of neurons located at the junction of the parietal and temporal lobes in the left hemisphere very near to the primary auditory cortex. Major language structures are located in this part of the brain (Restak, 2001).

Research studies (e.g., Carter, 1998; Penfield & Roberts, 1959; Wolfe & Nevills, 2008) suggest that Wernicke's area contains a mental lexicon that stores memories of the sounds that make up words. It uses this mental resource to assess if the incoming phonemic patterns are meaningful words or nonsensical non-words (Chia, 1992). People with brain damage to this particular area show no speech difficulty, but their spoken language makes no sense to anyone who listens to what they are talking. According to Carter (1998) and Wolfe and Nevills (2008), these people are also unable to monitor their own speech, do not seem to be conscious that they are substituting non-words for real ones, and that to a listener much of what they are saying is meaningless. In other words, spoken sentences are well formed syntactically but devoid of meaning (Fromkin et al., 1984). This is known as Wernicke's aphasia.

(4) Establishing comprehension

Comprehension, the essence of reading (Durkin, 1993), "is often taken to mean reading comprehension in the literacy literature unless restricted specifically or by inference from its context" (Harris & Hodges, 1995, p.38). According to Chia (1996), comprehension can be categorized into five levels beginning with literal, reorganizational, inferential, critical/evaluative, and appreciative. The first two levels of comprehension are often associated with reading the lines; the third one is reading between the lines; and the last two levels as reading beyond the lines.

Wernicke's area "plays a significant role in the conscious comprehension of spoken words by both the listener and the speaker" (Wolfe & Nevills, 2008, p.255). Comprehension of what we listen or read depends on the proper functioning of the Wernicke's area. People with Wernicke's aphasia display a severe difficulty in understanding what others are saying to them.

(5) Responding with appropriate sensory output

The last phase of the reading process is the reader's appropriate response to the reading stimulus. This can take place in form of either silent or oral reading. Reading aloud can serve as a form of comprehension monitoring – an act of "noting one's successes and failures in developing or attaining meaning, usually with reference to an emerging conception of the meaning of the text as a whole, and adjusting one's reading process accordingly" (Harris & Hodges, 1995, p.39).

Translating into Pedagogical Application

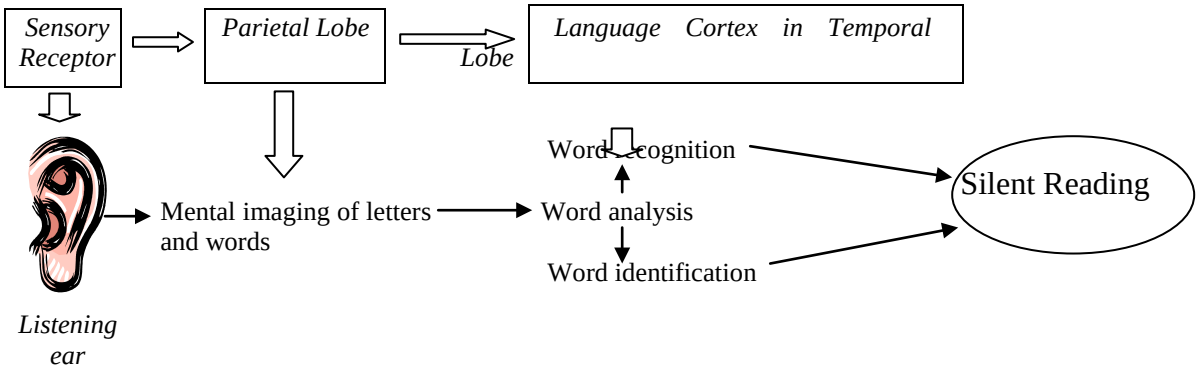
As mentioned earlier, there are three neural pathways for reading:

1. parieto-temporal decoding route;
2. frontal (Broca's area) decoding route; and
3. occipito-temporal decoding route.

The first two decoding routes offer a slower reading process that involves word analysis that is used mainly by beginning or novice readers. The third decoding route is an express reading process relied on by experienced, skilled readers. Teachers and allied educators should be concerned if their children are using the first two decoding routes in their reading. The question they need to ask now is how they can help these children.

Translating the theoretical knowledge of how the brain works in the reading process into pedagogical application is essential for teachers/allied educators if they are to understand how to use what they have learnt to teach word recognition. Let us first begin with the parieto-temporal decoding route, also known as the letter-sound association reading pathway (Shaywitz, 2003) (see Figure 3).

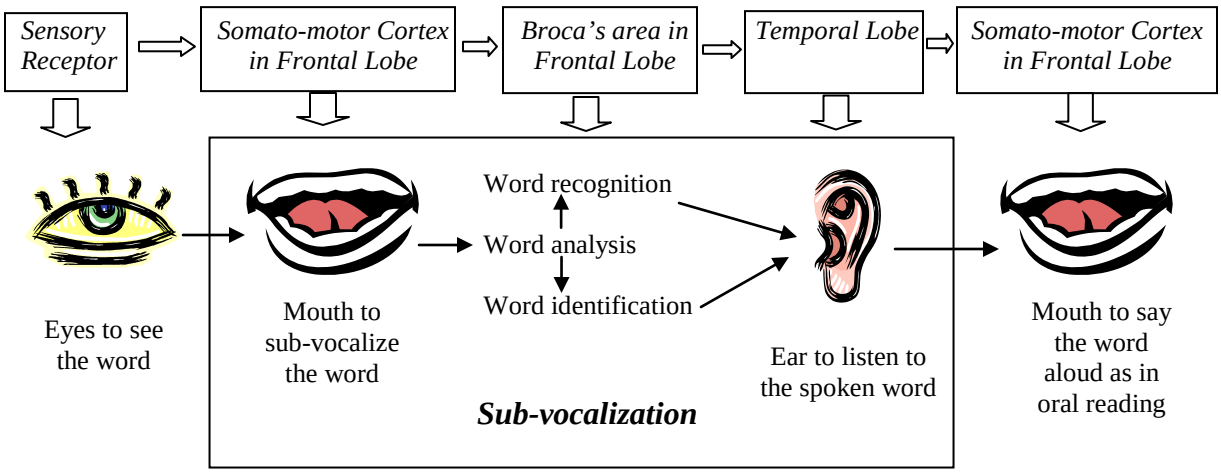
Figure 3: Parieto-temporal decoding route



In this slow, analytic route of reading, a word is first perceived by its configuration or shape and is then analyzed by breaking it down into its constituents in order to be recognized (for familiar words to be confirmed) or identified (for new/unfamiliar words to be learnt). Word recognition is best taught through onset-rime for this form of decoding. Onset is that part of a syllable preceding the syllable peak and is normally, the consonants preceding the vowel of a syllable, as ***b*** in ***bat***, ***st*** in ***stop***, and ***sch*** in ***school***. Rime consists of a vowel and any following consonants of a syllable, as ***-ool*** in ***pool***, and ***-ag*** in ***bag***.

The second slow, analytic route of reading is the frontal (Broca's area) decoding route (see Figure 4). The main difference between this second one and the earlier one is that the frontal decoding route involves sub-vocalization, which is a form of compensatory behavior to cope with some reading difficulty (as in a child with dyslexia). Like the parieto-temporal decoding route, the frontal decoding route also involves word analysis except that the reader sub-vocalizes first in an attempt to analyze the word in order to recognize it (for familiar words to be confirmed) or identify it (for new/unfamiliar words to be learnt). Listening to what he/she has sub-vocalized is a way to evaluate the aural feedback as a form of self-checking before the reader says the word aloud as in oral reading. Hence, the process is slow and tedious.

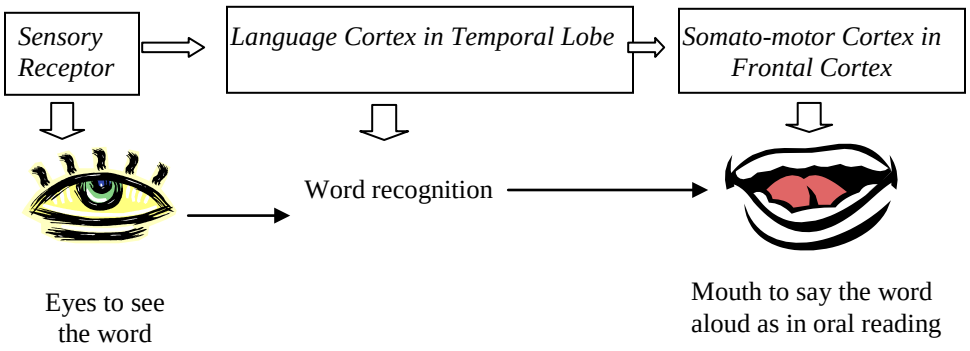
Figure 4: Frontal decoding route



In taking this route of reading, the reader has possessed some phonological awareness but his/her phonological knowledge is either inadequate or incomplete. The best approach to help such a reader in word recognition is to teach him/her synthetic phonics. Harris and Hodges (1995) have defined this form of phonics as "a part-to-whole phonics approach to reading instruction in which the student learns the sounds represented by letters and letter combinations, blends these sounds to pronounce words, and finally identifies which phonic generalization apply" (p.250). It is also known as inductive phonics (Chia, 2003). For more information about inductive or synthetic phonics, interested readers can refer to the book *Teaching Tips for teachers and Parents of Preschoolers and Primary School Children* edited by E.L. Low and N. Suzanne (2003) and published by the Society for Reading and Literacy.

Figure 5 below shows the occipito-temporal decoding route, which is also known as word-form reading system that serves to respond almost instantly to recognize the whole word as a pattern. This is the fluent reading pathway that an experienced, skilled reader will take. Children, who are already using this decoding route, are doing fine in their reading. There is nothing parents and teachers need to worry them about except to provide good literature with strong support and encouragement.

Figure 5: Occipito-temporal decoding route



Conclusion

In summary, this brief article aims to introduce findings from brain research to teachers, allied educators and parents to help them know and understand how the different parts of our brain work during each of the three different reading pathways and to suggest an appropriate approach to teach word recognition. It is important for me to mention here that the various diagrams (i.e., Figures 1, 2, 3, 4 and 5) that I have used to illustrate the functions of the three decoding routes should not be in any way be regarded as a realistic picture of any area (e.g., Broca's area and Wernicke's area) it is attempting to represent. In all the diagrams, boxes and pictures have been used, but they could equally well have been shown as circles or any other shapes. Their purpose is to provide an analogy, and the exact representation is a matter of convenience.

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Impact of Concrete Poetry on Children with Moderate Language Delay in terms of Their Acquisition of Word Recognition

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Abstract

Concrete poems consist of words whose letters act out their meanings. It comes in all kinds of shapes, sizes, colours, textures and even flavours. When fun is added to learning of new words, it makes lesson more interesting for children. From pedagogical perspective, it offers teachers a technique to stimulate their students to create their own concrete poems. Based on its positive impact on students' language learning, this paper explores how concrete poetry impacts on our children with moderate language delay in terms of acquisition of word recognitions. In this study, the author introduced concrete poetry to children with moderate language delay for acquisition of word recognition. A pretest-posttest quasi-experimental design was used to determine whether concrete poetry as an intervention strategy was effective in improving word recognitions for this group of children.

Introduction

There is no set age at which all children start talking and understanding words to convey meanings. Prior to this time most children make noises and test out sounds. When a child does not make sounds or start talking based on their usual developmental timetable, they may have difficult in acquiring their receptive language or expressive language or both. It is possible to have either receptive or expressive language delay or mixed receptive/expressive language delay.

Language delay refers to a child's failure to develop his language abilities based on the usual developmental timetable, and thus results in a delay in the development of the underlying knowledge of language. When a child needs to communicate something, he needs to convey his meaning by encoding the message into a set of words and sentence structures. This process constitutes language. According to Gargiulo and Kilgo (2004), language refers to "the use of symbols (letter sounds that are used in various combination to form words), syntax (rules that guide sentence structure), or grammar when communicating with one another" (p.319). It is commonly divided into receptive and expressive categories. A child with receptive language delay faces difficulty in understanding what is said to him (that is, understanding of spoken language), while a child with expressive language delay has difficulty in their use of words and sentences to communicate what he think, needs or want (that is, ability to express using language).

A word is made up of orthographic (letters), phonological (sounds) and semantic (meaning) elements (Chia, 1996b). Children with language delay may have difficulty in understanding or

using one of these parts (e.g. understanding meanings of words). Many language interventions have been developed to help such children to develop their ability to recognize words and use them.

Word recognition is defined as "the instance connection made between a word in print and its spoken equivalent" (Manzo, Manzo & Albee, 2004, p. 10). A child is said to be able to recognize a word when he is able to spell the word, or convert it to the spoken word once the printed word is provided. One word strategy that can help a child with difficulties in recognizing words is using concrete poetry. Further research is required to determine its effectiveness in improving children's word recognition. In this study the authors introduced concrete poetry as a strategy to teach word recognition to children with moderate language delay.

Definition of Concrete Poem

Concrete poem is defined as "a poem that forms a picture of the topic or follows the contours of a shape that is suggested by the topic" (Pravada, 2007, p.1). According to Chia (2006), it comes in variety of shapes, size, colours, texture and even flavour. For instance, colours are added into the concrete poem in Figure 1a and the end product is shown in Figure 1b. When fun is added to learning of new words, it makes lesson more interesting for children.

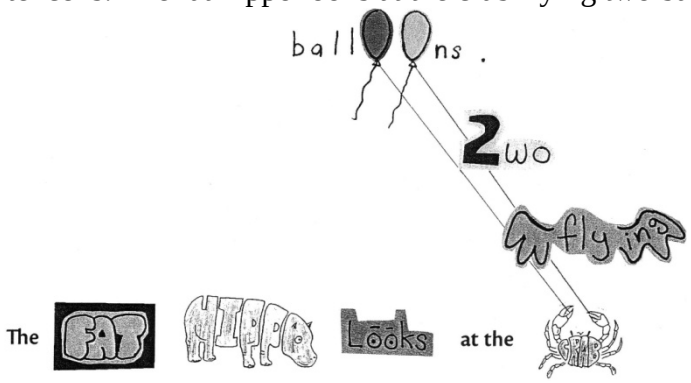
Figure 1a: An example of concrete poem in black and white (Chia, 1993)

Figure 1b: Adding colour to the concrete poem shown in Figure 1a

A concrete poem consists of a word or string of words (as in phrase, clause or sentence) Figure 2 is an example of a sentence in which concrete poems are used instead of printed words. When students are learning to write concrete poems from a list of words, the teaching strategy focuses more on orthographic (letters) and semantic (meaning) elements, and less on phonological (sounds) element. As children with language delay have slower language development according to developmental timetable, it allows them to focus on orthographic (letter) and semantic (meaning) elements of a word, thus enhancing their word recognition.

Figure 2: An example of concrete poem (Seow, 1997)

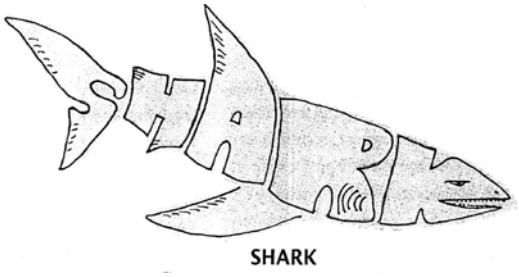
The sentence is: The fat hippo looks at the crab flying two balloons.



Concrete poetry provides teachers and students a stimulating and creative technique to improve word recognition. When writing the poems, teachers lead their students to take into consideration of visual appearance of individual letters, physical layout of the letters that made up the word and pictorial representation of a word. Figures 3(a) and 3(b) show a transformation of pictorial representation and word symbol into concrete poem. Hence, it suggests that concrete poetry as a teaching strategy may help children with language delay to make association between target words and their appropriate referents. A targeted word is drawn in a certain form that explains the thing it represents. Students are able to make sense of what they are reading as they learn to recognize words using concrete poetry. Thus it allows students to easily conceive and make sense of the words they read or see.

Figure 3a:
Outline of the picture of a shark (Chia, 2006)

Figure 3b:
Concrete poem (Chia, 2006)



Children with language delay may have difficulty in receiving the input of words and processing of words. Concrete poems provide them with a visual mapping of what they see, rather than of what they hear (auditory processing), and hence concrete poetry becomes a choice strategy to teach words recognition to such children. As letters in a word "act out" its meaning when concrete poetry is used, concrete poems allows the words to be expressed through the poems

(Chia, 1996a). For instance, concrete poems shown in Figure 4a are drawn as though the letters are "falling down". It can be static (i.e., stationery) or dynamic (i.e. in motion) (See Figures 4b and 4c). From pedagogical perspective, concrete poetry offers teacher a stimulating technique with which to improve words recognition via visual mapping by enhancing their memory of word shapes as they learn to read and write recognizable words. Of particular interest with children with moderate language delay, concrete poetry also serves to increase their awareness of the word meaning through the spaces and physical layout of the words; enhance memory of words shape; and, enhance awareness of words so as to recognize these words and use it to express what they want or think.

Figure 4a: An example of a word expressing its meaning through concrete poem (Chia, 1996a)

Figure 4b: An example of static poem (Chia, 1996a)

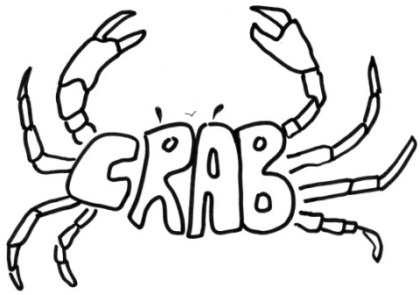
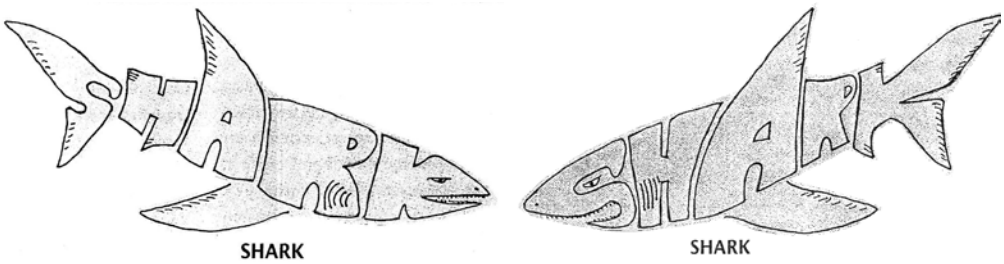


Figure 4c: An example of dynamic poem

Teachers and their students need to consider shape of each letter in a word, size of each letter in a word, and physical layout of all the letters in a word when writing concrete poems (Chia, 1996a).

This allows children to focus on visual appearance of letters in the word when writing concrete poems. This is beneficial to children with language delay as they do not need to worry about lines, rhyme, rhythms, title etc. With concentration only on the visual appearance of letters, writing concrete poem may stimulate them in thinking how the shapes, size and physical layout of letters can be used to create the concrete poems, and how these can influence the final form of concrete poems. For instance, the shapes, size and physical of letters of a word ("shark) changes when it is fit on different side of cut-out (See Figure 5).

Figure 5: An example of concrete poem written in different sides of the cut-out (Chia, 2006)



Concrete poetry allows meaning of word to be expressed through shapes, size and physical layout of its letters. Students can immediately understand the meaning of the words when they read each concrete poem or string of concrete poems as in a passage. This may enhance their understanding of the content in a storybook during story-reading, and subsequently improve their ability in comprehending.

Teachers and students can engage in their discussions so as to improve their word recognition, and enhance their understanding of words meanings. This is beneficial to children with language delay as teachers can provide them students with three parts of concrete poems in sequence (See Figure 6), and ask how effective the concrete poems are being used in convincing the message or ask their students to guess the messages or meanings that the poet intends to convey. This activity is based on the fact that visual forms of concrete poems provide self-explanatory meanings of words and passages when they are written in concrete poems. This suggests that stringing concrete poems together provides contextual meaning of a sentence (See Figure 2).

Teachers can cater the teaching strategy based on levels of difficulty and needs of their students when teaching children to create concrete poems using words and their appropriate referents (See Table 1). The level is influenced by the provision of words, forms, or both words and forms. In elementary level, words and forms are provided. This benefits students who are having difficulty in recognizing words or naming pictorial representations of the words, since concrete poetry allow students to easily identify the things or animals, and their names quickly and easily. As they become more familiar with concrete poetry, improve their word recognition and able to name more pictures, teachers can then proceed to next level of difficulty. Provision of forms is removed during the intermediate level, and finally at advanced level, provision of words is removed. This suggests that teachers can take into consideration of their students' ability and

progress before they decide on the type of resources (form, words, both form and word, or neither form nor word) to be provided. This may benefit children with moderate language delay as the teaching strategy can be catered to their developmental level rather than based on typical developmental timetable.

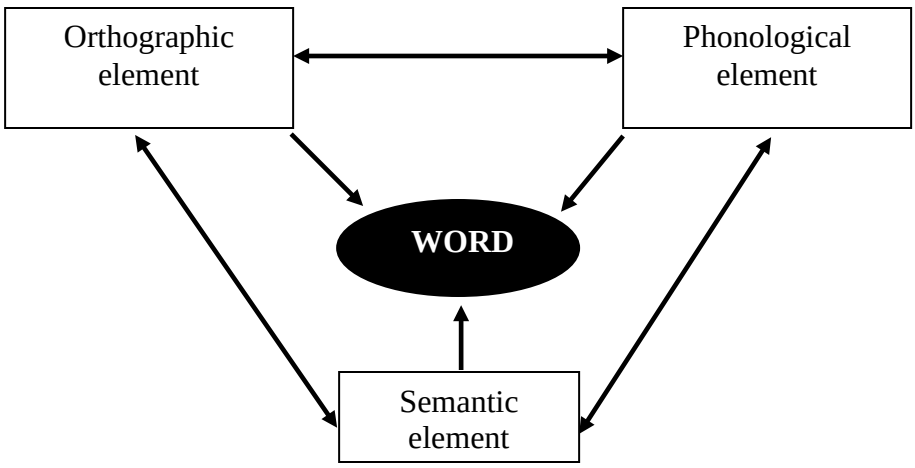
Table 1: Teaching strategy in each level of difficulty (Chia, 1996a)

Level of difficulty	Forms	Words
Elementary level	Provided	Provided
Intermediate level	Not provided	Provided
Advanced level	Not provided	Not provided

The basic aim of using concrete poetry to teach word recognition is to bring joy and fun to children when learning new words. Teachers use concrete poetry to teach word recognition by bring relevance and meaning to the students. This suggests that as students find the relevancy and purposefulness of learning new words, they are more likely to be motivated to engage in the activity. With fun involved, this creates interest and motivates students to express their creativity in their learning experience.

Concrete poetry provides another mean or teaching strategy for teachers to help children with language delay since it leads them to take into consideration of visual appearance of individual letters, physical layout of the letters that made up the word and pictorial representation of a word when they are writing concrete poems; and it provides flexibility as teaching strategy can be catered to different levels of difficulty and needs of their students. When students are learning to write concrete poems from a list of words, teachers guide them in fitting the words into the shape of things. They are working on both forms and words when writing concrete poem. Thus, according to Chia (1996b), the teaching strategy focuses more on orthographic (letters) and semantic (meaning) elements, and less on phonological (sounds) element (see Figure 6). As children with language delay develop their language slower, this suggests that it allows them to focus on orthographic (letter) and semantic (meaning) elements of a word, thus enhancing their word recognition. Hence, there is a need for strong advocacy to promote concrete poetry to improve word recognition of children with moderate language delay.

Figure 6: Three interactive elements of a word (Chia, 1996b)



Gaps in the literature

No research to date has been done on the impact of concrete poetry for children with moderate language delay. However, recent research studies (Chia, Wong & Gek, 2009; Chia, 2006) studied the effectiveness of concrete poetry as a strategy to teach reading comprehension to children with Aspreger Sydrome. These studies demonstrate the effectiveness of concrete poetry as a strategy to teach reading comprehension to children with Asperger Sydrome.

Research question

As already mentioned earlier, the main research question is whether concrete poetry has impact on children with moderate language delay in terms of acquisition of word recognition.

The Study

Aim

The aim of the research is to determine impacts of concrete poetry on children with moderate language delay in terms of acquisition of word recognition.

Design

A quasi-experimental design is used to compare comparison group with the treatment group in critical ways such as based on same service or same school cohort (Schutt, 2006). The proposed study uses quasi-experiment approach using single group pre- and post-tests, but without comparison group. It is considered most suitable because (1) as the common feature of the design is absence of comparison group, it allows all students to expose to the experimental treatment. It will be ethical that only treatment group is used in this design so as to allow all students to be provided with the treatment (using concrete poetry with the aim to improve their word recognition). (2) The pre- and post-tests are used to determine the efficacy of the treatment. The study uses fixed-sample panel design which consists of one pre-test and one post-test. Pre- and post-intervention baseline are determine during pre- and post-tests. Because the design requires an introduction and completion of treatment, the functional relationship between the concrete poetry as a treatment strategy and children's word recognition can be established and studied (Tawney & Gast, 1984).

In brief, three steps were taken when employing this design:

1. Baseline data were taken before and after treatment using concrete poetry was instituted.
2. The treatment using the concrete poetry was initiated for two weeks.
3. Data were taken on the same types of responses.

Subjects

Initially, there were 10 subjects in this study, consisting of 3 Chinese boys and 7 Malay boys. The subjects were attending government mainstream schools during the time when the study was conducted. All subjects were able to speak Bahasa Malaysia (Bahasa Buku).

Setting

Before the start of the treatment sessions, all nine subjects underwent a pretest baseline assessment (see Instrumentation). They attended a group treatment session using the concrete poetry conducted by the author over a period of 4 months. The treatment sessions were held daily from Monday to Friday, lasting 1.5 hour each time. The treatment first began on May 2008, and the last session ended on September 2008. After the treatment phrase was completed, a posttest baseline assessment was done to determine how the subjects had progressed in terms of their word recognition.

Instrumentation

An assessment tool was administered before and after treatment phrase. The standardized test used was Word Recognition & Phonic Skills Test-Revised (Carver & Moseley, 1994). It is used to provide examiner with information on a child's overall level of ability in word recognition, and a profile of strengths and weaknesses in word recognition, and it can also be used to take account of changes as word recognition develops. It was administered to determine the subjects' acquisition of word recognition.

Treatment

The primary aim of the treatment in this study was to improve the word recognition of the subjects. According to Chia (1991, 1993), concrete poetry could improve a child's word recognition by using three levels to teach them. The treatment was conducted in the following steps which cover level 1:

1. Shapes of objects were provided to subjects.
2. Subjects were asked to outline the shapes of objects on construction papers
3. Subjects were asked to cut the shapes out.
4. Teachers were writes the names of the objects on the cut-out lightly in pencil so that it can be easily erased.
5. Subjects were told or shown how to fix shape of each letter in the given word in the cut-out

In the intermediate level, the subjects were given interesting words to create their own original forms from these words. They were moved to advanced level to come up with their own words and create their own concrete poems.

Results and Discussion

The aim of this study is to find out if concrete poetry as a strategy has impact in improving the word recognition of children with moderate language delay. In this section, the results for the research question are presented.

A set of pre-test and post-test results were obtained from administration of Word Recognition & Phonic Skills Test-Revised (Carver & Moseley, 1994) before and after 4-months word recognition programme for the group of children with moderate language delay. Table 2 shows the pre-test and post-test results.

Table 2:
Pre-test and Post-test results

Subjects (Chinese & Malay)	Chronological Age	Word Recognition Age		Changes (months)
		Pretest (in months)	Posttest (in months)	
M1/M	5 years 10 months	<60	64	> +4
M2/M	5 years 9 months	60	63	+3
M3/C	6 years 3 months	<60	66	> +6
M4/M	6 years 1 months	<60	63	> +3
M5/M	5 years 7 months	<60	60	> 0
M6/C	5 years 6 months	<60	61	> +1
M7/M	5 years 8 months	60	62	+2
M8/C	6 years 2 months	60	66	+6
M9/M	6 years 4 months	<60	61	> +1
M10/M	5 years 5 months	60	60	0
Mean		60	62.6	2.6
Standard deviation		0	2.22	-

The overall mean word recognition ages for the ten subjects at pretest was 60 months (SD = 0); and at posttest was 62.6 months (SD = 2.22). An increase in the word recognition age from pretest to posttest suggests that there is an improvement of 2.6 months in the subject's mean word recognition ages. In order to investigate if there was an improvement between the pretest and posttest phases, individual subjects' word recognition ages were compared (see Table 2). The finding suggests that out of 10 subjects, word recognition age of 9 subjects showed an increase. Only one subject (M10) did not show difference in his pre-test and post-test result. However, their word recognition age at post-test was still below their chronological age.

Subjects M1, M3, M4, M5, M6 and M9 showed an improvement from their respective pre-test to post-test, but the exact number of months cannot be determined. Subject M2 showed an improvement by 3 months; subject M7 showed an improvement by 2 months; and subject M8 showed an improvement by 6 months. It is important to note that all subjects are males, and 9 subjects showed improvement in their results.

Conclusion

The findings of the study have clearly demonstrated the positive impact of concrete poetry to improve children with moderate language delay in their acquisition of word recognition. This study also shows that concrete poems provide a visual mean through which these children can use them as another sensory input to aid them in learning new words. The author advocates the

use of concrete poetry for such children. The subjects in this study have shown a great improvement within a short period of 4 months.

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Working with Bilingual Children with Special Needs: Issues on Language, Literacy, and Assessment

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Abstract

In United States in 2008, 21% of the student population spoke languages other than English at home, with limited proficiency in English (Aud et al, 2010). Bilingualism was widely observed in countries such as Singapore, a multi-cultural and multi-lingual nation (Singapore Department of Statistics, 2010). Of the 5 million residents, 25% were foreigners, adding to the cultural and linguistic melting pot of Singapore (Statistics Singapore, 2010). Taking into account the large number of children who speak two or more languages, who are English Language Learners (ELLs), and who are bilingual and from minority backgrounds, when screening for delays and special needs, professionals need to accurately assess and evaluate bilingual children and be aware of the essential issues involved in language, literacy, and assessment. Research has highlighted the problems of using assessment and instrument developed for the dominant language and culture to diagnose and assess bilingual children from minority backgrounds. The lack of linguistically and culturally fair assessment, procedures, well-trained professionals lead to the misidentification and overrepresentation of minority children in special education.

This paper describes the bilingual language and literacy development for children who were bilinguals in comparisons to monolinguals, as well as issues involved in language and assessment. This paper intends to discuss (a) why bilingual children from minority backgrounds are at risk of misplacement and misidentification, (b) what are the critical issues regarding language and intelligence assessment, and (c) how the interplay of language, culture, and disability influences the academic learning and social interactions of bilingual children with special needs. The paper also presents suggestions in ensuring that bilingual children from minority backgrounds are appropriately assessed and served in our education systems.

Introduction

Significance

A report on the condition of American schools (Aud et al, 2010) confirmed the increasing diversity in the U.S school population, with the Hispanics being the majority of the minority group. With increased diversity, schools saw the increase in enrollment of students whose first languages were not English. From 1979 to 2008, the number of school-age children (5-17 years old) who spoke other languages other than English at home, jumped from 9 to 21%. The report also revealed an increase of 3 to 6% in students who were not English proficient in the years 1979 to 2000. By 2008 however, the figure dropped to 5%.

Bilingualism is widely observed in countries such as Singapore, a multi-cultural and multi-lingual nation. The three major ethnicities were Chinese (74%), Malay (13%), and Indian (9.2%) (Singapore Department of Statistics, 2010). Of the 5 million residents, 25% were foreigners, adding to the cultural and linguistic melting pot of Singapore (Statistics Singapore, 2010). The official language in Singapore is English, which is used in places of business and as medium of instruction in schools. The home languages of Chinese, Malay, and Tamil are spoken as mother tongues, and are taught in the schools as subjects (Dixon, 2005).

When a large number of children entered school systems that used English as the language of instructions, they needed to manage the different language demands between the schools and the home settings. At the same time, school systems and educators faced the challenge of accommodating needs of bilingual children from minority backgrounds. Especially, professionals in Special Education faced complex challenges in serving bilingual children. One challenge was to assess children appropriately so that children who spoke different languages would not be misplaced under the categories of disabilities due to their limited English proficiency or cross-language influences. The other challenge was to provide interventions targeting children's learning challenges as well as challenges in language barriers and cultural differences. Not to mention that the interaction between those children's limited English proficiency and their disability made the situation further complex (Hanson, Gutierrez, Morgan, Brennan, & Zercher, 1997).

Due to the large foreign-born populations and the challenge professionals face in Special Education field, this paper is concerned with the language issues and the assessment issues when working with bilingual children with special needs. This paper intends to discuss (a) why bilingual children from minority backgrounds are at risk of misplacement and misidentification, (b) what are the critical issues regarding language and intelligence assessment, and (c) how the interplay of language, culture, and disability influences the academic learning and social interactions of bilingual children with special needs.

Bilingual Defined

Before further discussion took place, the term "bilingual" needed to be defined. While Romaine (1995) thought that individuals who alternately used two or more languages as "bilingual", other researchers defined bilingual with dichotomies such as simultaneous bilinguals versus successive bilinguals (Genesee, 1993; McLaughlin, 1984). In this paper, Romaine's definition is used as the definition of "bilingual". Also, the referent of "bilingual" children includes both successive bilinguals (who learn English as a second language, or English Language Learners) and simultaneous bilinguals (who learn English simultaneously as their home languages).

The Connection between Bilingualism and Special Education

Children from minority backgrounds were often over-represented in the special education classroom (Connor & Boskin, 2001;Ortiz, 1997). Moreover, it was reported that the most common diagnoses for special education enrollment were communication impairments and learning disabilities (Connor & Boskin, 2001). Issues in language and literacy were highly relevant in assessing and identifying students with special needs, as well as developing

interventions to promote their learning outcomes. The over-representation could be attributed to two factors: the consequences of bilingualism and the misidentification of bilingual children from minority backgrounds.

The Influence of Bilingualism on Cognitive Development

Researchers discussed the consequences of bilingualism from both subtractive views and additive views (Cook, 1997; Diaz & Klingler, 1991). Researchers with subtractive views proposed that bilingualism is a negative influence on cognitive development in children, whereas researchers with additive views proposed that bilingualism is a positive influence on cognitive development. The additive views found that bilingual children have cognitive advantages over monolingual children in terms of their performance in cognitive flexibility, metalinguistic awareness and the ability to distinguish similarities and differences (Ben-Zeev, 1972; Bialystok, 1999; Lambert & Tucker, 1972; Romaine, 1995). The subtractive views found that bilingual children have deficits in processing their second language, first language, and had smaller digit span in working memory and short term memory (Cook, 1997; Magiste, 1979; Harrington, 1992).

Magiste (1979) found that even bilinguals who achieved proficiency in both languages processe their first language (L1) and second language (L2) at a slower speed than monolinguals did on object naming tasks. Magiste concluded that the more languages one child acquired, the longer reaction time the child needed to process languages. In addition, researchers found that bilingual children had deficits in working memory and short-term memory. While Miller's (as cited in Daehler & Bukatko, 1985) "the magic number seven, plus or minus two" indicated that the short-term memory was able to deal with five to nine chunk of information at one time, other researchers referred to it as digit span (Brown & Hulme, 1992). Cook (as cited in Cook, 1997) reported her finding that bilinguals had shorter digit span in their second language (L2), thus bilingual children could only deal with small amount of information at one time in their second language. Harrington (1992) claimed that working memory was a constraint for second language (L2) development. Harrington found that working memory plays a more important role for L2 learners than it does in L1, because L2 learners tended to spend more time on the "bottom-up" process instead of top-down process. The smaller capability and the reliance of short-term memory and working memory restricted bilingual children's memory processing capabilities.

Those cognitive disadvantages researchers found in bilinguals overlapped the disadvantages professionals observed in children with disabilities, especially children with learning disability and language disorders. First, when professionals observed the slower speed of language processing in bilingual children, especially children with limited English proficiency, professionals might perceive the slower processing speed of both languages as an indication of a delay or a disability. Second, the smaller digit span in working memory observed in bilingual children could also be observed in children with specific language disorders (Fazio, 1999; Weismer, Evan, & Hesketh, 1999). Fazio (1999) and Weismer, Evan, and Hesketh (1999) found that children with specific language impairment demonstrate deficits in short-term memory and had poorer working memory capability than non-challenged peers. As those overlapped deficits observed in both bilingual children and children with disabilities, it was indeed difficult to distinguish if those deficits resulted from a typical phenomenon of acquiring two languages, or if those deficits indicated a disability.

The Influence of Bilingualism on Language and Literacy

Code switching is a phenomenon defined as "the alternate use of two or more languages in an extended stretch of discourse, where the switch takes place at sentence or clause boundaries." (Li, 2008, p.76). While bilingual children used code switching to support their language and literacy expression, their inter-change of two languages could be perceived of lack of language proficiency in either language, rather than a useful language strategy to convey meanings (Jacobson & Faltiz, 1990; Romaine, 1995; Zentella, 1982). Since research has shown that code switching is a typical bilingual phenomenon, if the code switching is perceived as the lack of language proficiency in either language, bilingual children may receive disadvantaged assessment results.

Bilingual children's literacy development has attracted much attention from researchers and scholars (Miller et al., 2006; Rubin & Carlan, 2005; Vagh, Pan, & Mancilla-Martinez, 2009). Research has revealed some variations in English literacy development, not only among monolinguals and bilinguals, but among bilingual children who speak different home languages. In a Singapore study, Liow and Poon (1998) recruited primary 3 students from a Singapore school who spoke English, Chinese, or Bahasa Indonesia at home. At the time of the study, the participants were enrolled in the same English class, eliminating the role of difference in teaching strategies. The test results suggested that language background did have an influence on phonological awareness, thus affecting reading and writing tests in English. The Bahasa Indonesia speakers scored the highest on the test, followed by English speakers, then Chinese speakers (Liow & Poon, 1998). Another study on Singapore children with different language backgrounds provided support to the hypothesis that variations in home language influence children's English literacy skills (reading and spelling) even though they received the same instruction in English (Liow & Lau, 2006). In other words, the linguistic nature of home languages influenced the phonological awareness and literacy development in English. For children whose home languages are more distinctively different than English, they might have more challenges in developing phonological awareness and literacy skills in English.

Rubin and Carlan (2005) investigated bilingual children's writing in order to understand their literacy development. The study has shown that the stages of writing development for English-Spanish bilingual children, in general, was similar to that of monolingual children (either of English or Spanish). However, they did discover some errors in letter-sound associations in reading and cross language influences that were commonly observed in bilingual children. Although some children had misunderstanding about the writing process (e.g., writing was about the correct spelling), the majority of bilingual children in their study perceived writing as a process to express their thoughts and convey meanings. To achieve this purpose, bilingual children were observed to use all the words, sounds, and spelling in both languages to convey meanings when they wrote. Thus children used code switching to convey ideas when they had a word they did not know in one language. In other words, code switching was not a sign of poor language or literacy development. Rather, code switching was a strategy bilingual children used in oral language and literacy to enrich their expression and communication. At the same time, the errors bilingual children made in letter-sound associations, reading, and code switching behaviours in writing might be perceived as a language deficit if the professionals did not understand bilingual language and literacy development.

Misidentification

Children from minority backgrounds might be misidentified and misplaced in a special education class due to their limited English proficiency and cross language influences. When acquiring a second language, children made syntactic, semantic, and articulation errors. If the professionals were not familiar with the process of second language acquisition, they might misidentify English Language Learners (ELLs) as children with learning disabilities (Ortiz, 1997; Ruiz, 1998) or language disorders (Carrasquillo & Bonilla, 1990). In their study on bilingual kindergartners receiving special education services, Connor and Boskins (2001) found that the teachers were unaware of second language acquisition process, and thus used inappropriate markers in observation of the students' language use. In this particular study, the teachers inappropriately used verb usage as indicator for language delay. Besides, Willig (as cited in Carrasquillo & Bonilla, 1990) argued that a few behaviours such as distractibility, lack of attention, poor comprehension, and inability to follow directions, "not necessarily meaning disability, but simply lack of understanding of English language" (p.73).

Ruiz (1998) studied children in a self-contained bilingual special education classroom serving Spanish speaking children with language learning disability. Ruiz found that children who were identified as language learning disability in the classroom could be divided into three profiles: (a) children with moderate to severe disabilities; (b) children with mild disabilities or of normal ability in conjunction with certain socioeducational factors; and (c) children with normal abilities (p.488). Ruiz concluded that bilingual children without disabilities were indeed found in the special education classroom due to their language issues.

The consequences of bilingualism on children's cognitive development, language, and literacy (as discussed earlier in the paper) made it challenging to differentiate between a typical bilingual phenomenon and an impairment/disability. Since bilingual children were found in special education classroom due to their limited English proficiency, appropriate assessment tools and procedures in assessing bilingual children are crucial.

Critical Issues on Assessment

Language Assessment

- **Language assessment procedures**

  Appropriate language assessments in children's both languages not only served the purpose of distinguishing a language difference from a disability, but revealed children's areas of needs in communication and placement. The traditional language assessments took English proficiency as the sole measure to determine a language disorder, and fortunately this trend has been changed (Ortiz, as cited in Jitendra & Rohena-Diaz, 1996). In addition to traditional standardized language assessments, researchers suggested a few language assessment models and principles for typical bilingual children (Jitendra & Rohena-Diaz, 1996; Ortiz, 1997), and for bilingual children with special needs (Payan, 1989). Payan (1989) presented systematic assessment procedures to consider children's language and cultural needs. Payan claimed that language assessment for bilingual children with special needs should include direct measures and indirect measures. Direct measures included objective assessment on children's linguistic performance and language proficiency conducted by professionals, whereas indirect measures were used to obtain information on language background and

language usage from parents or caregivers. Payan asserted, "indirect measures are valuable because they afford the opportunity of sampling the child's natural language in a variety of contexts" (p.131). Further, the assessment procedures in Payan's model were (a) the referral, (b) the parent interview, (c) assessing language proficiency, (d) determining language for assessment, (e) speech and language assessment in the child's first language, (f) English language assessment, and (g) summary and recommendation.

Payan's model was favorable when assessing bilingual children because it provided direct and indirect measurements, clear and precise questionnaires, and took into account important factors such as culture and language input.

- **Language proficiency**

  One purpose of language assessment was to assess children's language proficiency in both languages in order to determine educational placement and services required (Payan, 1989). Cummins' (1987) threshold theory, which represented bilingual language proficiency with a three-tier structure, provided professionals a clear reference to examine the language proficiency for bilingual children. According to Cummins' threshold theory, children with age appropriate proficiencies in both languages, who constituted the top tier, obtained cognitive advantages such as creativity and cognitive flexibility. Children with proficiency in the first language but not the second language, who constituted the middle tier, might not have cognitive disadvantages but not advantages either. Yet, they might able to transfer the skills and knowledge from their first language (L1) to their second language (L2) to facilitate their second language acquisition due to the interdependence relationship between L1 and L2 (Cummins, 1991; Cummins & Swain, 1986; Lambert & Tucker, 1972). However, children with limited proficiency in both languages, who constituted the bottom tier, would be very likely to have negative cognitive effects.

  In order to accurately determine a student's language proficiency, educators needed to apply cautious measures, assessments, and observations. Research has found that in schools in North Carolina, there was no standard procedure in determining English Language Learners' (ELL) language proficiency in their first language or English (Hardin, Roach-Scott, & Peisner-Feinberg, 2007). Observational data was heavily relied upon, and would be deemed inconsistent if observations were only done in limited settings. The assessment instruments used were also varied among schools. Only one third of the schools surveyed reported using appropriate instruments. Majority of the participating schools unfittingly utilized developmental screening tools to assess language proficiency. Therefore, there was a discrepancy between the area to be assessed and the intended use of the assessment tool (Hardin et al., 2007). In addition to the language facet of the assessment process, the cultural facet also came into play. Assessments needed to take cultural differences into account if our goal was to conduct fair assessment and obtain accurate outcomes. Moreover, there was a shortage of professionals trained in selecting and conducting the suitable assessments to ascertain language proficiency in bilingual/ELL children. Hardin and colleagues (2007) suggested that these professionals should be able to recognize the purposes of the screening, assessment, and language proficiency tests, and to apply them accordingly, while being aware of the linguistic and cultural concerns of the students.

Intelligence Testing

- **Test bias in intelligence tests**

  Cummins (1984) drew attention upon test bias from cultural perspectives. He claimed that "in many educational contexts, the danger of cultural and linguistic bias are often assumed to have been overcome when minority students have been exposed to the dominant language long enough to have acquired some degree of fluency in that language" (p.66). Indeed, test bias included a broader range of elements, such as the omission of minority students in test construction samples and cultural bias in test items (Connor & Boskin, 2001; Cummins, 1984; Valencia & Suzuki, 2001). Mercer (as cited in Cummins, 1984) asserted, "the testing controversy is fundamentally a confrontation between the ideology of politically dominant groups and the counter-ideology of rising minorities" (p.67). However, bias was not only a conceptual term, rather, a statistic notion that could be examined through empirical approaches (Valencia & Suzuki, 2001). Jensen (as cited in Valencia & Suzuki, 2001) claimed that the term bias "refers to the systematic under- or over-representation of a population parameter by a statistic based on samples drawn from the population" (p.115).

  Researchers argued that the traditional standardized tests represented values and ideology only from the dominant culture, and failed to represent the values and ideology from minority cultures. Cummins (1984) pointed out, "to the extent that their cultural learning experiences differ from those of the majority group, minority children have less opportunity to learn the test content than majority children" (p.78). Among many traditional standardized tests, WISC-R was criticized as being cultural biased. Ribeiro (as cited in Cummins, 1984), who came from the same back ground as his subjects, assessed low-income Portuguese-speaking children in Massachusetts using WISC-R. Although Ribeiro felt that WISC-R was a useful assessment tool as long as it could be interpreted appropriately, at the same time WISC-R displayed culturally biased items. For example, on item 12, "Why is it usually better to give money to a well-known charity than to a street beggar?" Ribeiro claimed that the correct answer for Portuguese children should be to give the money to the street beggar since well-organized charity were very rare in their culture and thus giving money to beggar would be more reasonable. Another example was, the Portuguese children tended to do slower in coding sub-test because they tried to mark the marks clearly legible due to the emphasis of order and clean work in their culture. Thus the scores in this sub-test might under-estimate what children could do if they otherwise did not pay extra efforts in making marks clearly. Also, even though the block design sub-test, a nonverbal test, was considered as being least culturally biased, Ribeiro argued that block design test was not as culture-fair to Portuguese children. Block toys were not frequently available to Portuguese children; thus Portuguese children had relatively very little experiences manipulating blocks in their daily compared to American children. Ribeiro's research provided good examples of how cultural differences influence minority children's performances in standardized test designed for the dominant American culture.

- **Culture-fair test**

  Due to the attention drawn to the test bias in intelligence testing, researchers tried to develop assessments that were free of cultural bias. Since then, culture-free and culture-fair assessments had been introduced to the field. According to Samuda (1998), culture-free test "represented an attempt to strip the individual of his or her culture veneer in order to reveal

and expose true and inherent abilities" (p.144). Since it was almost unlikely to strip all the cultural contents and elements out of the test because culture influenced individual's ideology and learning style in such a subtle manner, culture-fair test seemed to be more reasonable for the purpose of assessing children from culturally and linguistically diverse backgrounds. Culture-fair test was developed with the attempt to "keep cultural differences from permeating the tests by selecting only those experiences, knowledge, and skills common to different cultures" (Samuda, 1998, p. 144). According to Samuda, in culture-fair tests, directions were given in a clear and simple manner. Also, culture-fair test presented primarily the nonverbal tasks without requests of spoken or written language. However, culture-fair test still received criticism. Cummins (1984) criticized that since culture-fair tests assessed nonverbal reasoning skills, WISC-R performance sub-test could equally served the same purpose for children from minority backgrounds.

Samuda, Feuerstein, Kaufman, Lewis, and Sternberg (1998) suggested a few intelligence tests that were appropriate for assessing children from culturally and linguistically diverse backgrounds, such as Kaufman Assessment Battery for Children (K-ABC) and Feuerstein's Learning Potential Assessment Device. Kaufman Assessment Battery for Children (K-ABC) was especially recommended for assessing children with limited English proficiency since it separated the mental processing scores from achievement scores (Samuda et al., 1998). Also, K-ABC was proven to be more culture-fair than WISC-R (Cummins, 1984). However, Cummins asserted that K-ABC was not completely culture-fair for a few minority groups (e.g. Hispanic group), and thus professionals still needed to interpret the test results with caution.

Moreover, Valencia and Suzuki (2001) pointed out that the focus of test bias should be not only the test instrument itself, but also the test use. "Test bias research addresses only one aspect of test---the psychometric integrity of the instrument. How we use test results is the other half of the whole" (p.145). Indeed, even standardized tests with cultural biased items such as WISC-R could be an appropriate tool as long as the results were interpreted appropriately as Ribeiro asserted (as cited in Cummins, 1984). Professionals who carried out the assessments and interpreted the assessment results played a major role in the purpose of avoiding test bias. Therefore, the training and experiences of professionals in the assessment teams were very important.

ASHA (1996) reported that there were more than 84,000 American Speech-Language-Hearing Association (ASHA) certified speech-language pathologists and audiologists in the United States and throughout the world, but there were only less than 4,000 of them were from minority backgrounds. Moreover, "Less than 2,000 are bilingual and able to provide professional services (assessment and treatment) with native or near native fluency in both English and another language" (p.51). The lack of professionals who were able to speak various languages, and the lack of translators who are well-trained in education related fields, made it difficult to meet children's needs during the assessment processes. In Singapore context, speech therapists were mostly trained in English, or being brought in from overseas. It was very difficult to find speech therapists who were able to conduct therapy in home languages or both languages. In spite of these limitations, professionals could still provide bilingual children appropriate services as long as they have knowledge of children's

languages and cultures (ASHA, 1996). Appropriate training and experiences were essential for professionals who served bilingual children since training and experiences enabled professionals to distinguish a language/cultural difference from a disability.

The Interplay of Language, Culture, and Disability

Studies have shown that language, culture, and disabilities may interface and complicate factors involved in serving bilingual children with special needs. Rodriguez and Parmar (2001) compared the math performances of students with learning disabilities (LD) from minority backgrounds, students with learning disabilities from the dominant culture, and general education students. Rodriguez and Parmar found that the students with LD from the dominant culture used more strategies than that used by students with LD from minority backgrounds. Besides, when students with LD from minority backgrounds tried to use the given information, they sometimes only noticed part of the information and failed to attend to all the given information. Rodriguez and Parmar concluded that both LD groups performed lower than general education students. Yet, students with LD from the dominant culture still outperformed students with LD from minority backgrounds.

Hanson, Gutierrez, Morgan, Brennan, and Zercher (1997) conducted a qualitative research to investigate the interplay between language, culture, and disability with bilingual children with special needs in inclusion preschool classrooms. They found that although bilingual language issue was addressed from parents and discussed by professionals, no IEP goals were directed at this issue. Hardin and colleagues (2007) confirmed this situation in their study of teachers and administrators of ELL preschoolers. The findings revealed that IEP goals were mostly concerned about skills in the dominant culture. Since the preschool age was when children develop their cultural identities, it was recommended that IEP goals respect skills from both minority and dominant cultures. An example of such goal would be learning to count in both languages (Hardin et. al., 2007). They also found that culture and language seem to interact with issues of disability in children's placement options and opportunities for social interactions. In addition, language difference made it more challenging for children with disabilities to make friends with their classroom peers. Social interaction was deeply restrained by the language difference. Due to the language differences, parents with children with disabilities are unable to communicate with schools and parents of other children. The study further confirms the issue of lack of qualified translators and the lack of professionals from minority backgrounds.

Studies above demonstrated how the interplay of language, culture, and disability put children with special needs from monitory backgrounds in greater risk compared to children with special needs from the dominant culture.

Conclusion and Implications

This paper discusses the language development of bilingual children, and the importance of appropriate and fair assessment. For a child with limited proficiency in both languages, it is important for professionals to consider ways and interventions to promote both languages, and at the same time closely examine if a child's limited first language proficiency was due to a disability. For a child with limited proficiency in one language but with age appropriate

proficiency in the other, professionals should consider strategies to help the child to use the stronger language to gain content knowledge and to promote the proficiency in the weaker language. Regardless, it is crucial that proficiency in both languages should be assessed and taken into account for educational plans. When assessing bilingual children with special needs, services providers should take the interaction of language, culture, and disability all into considerations.

Echoing the earlier discussion on the lack of trained professionals who are competent in identifying and using appropriate assessments, the process of screening and assessing bilingual students' language proficiency can be improved with the presence of bilingual assessors who are proficient in the children's home languages. This calls for more staff development training that is in collaboration with the different service providers (Hardin et. al., 2007). The qualification and training of the translators are especially important, since an untrained translator might interfere with child to child interactions and increase the isolation of the bilingual child with special needs in inclusive settings. Also, the language and cultural concerns of children and parents from minority backgrounds should be addressed in IEP meetings as well as in IEP goals, and then interventions should be provided accordingly.

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The Effect of Parent-Child Bonding Relationship on Primary 1 Children's Behaviors

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Abstract

Parents assert the greatest impact on their children's learning attitude and behaviour at home and outside. Even the way a parent thinks about his or her child also affects parental behavior towards the child. This, in turn, affects the child's behavior. Hence, parents' thoughts about their children and themselves affect parent-child bonding relationship and the child's emotional-behavioural development with its associated problems. In this small group-based research study involving ten Primary 1 children (five male and five female), my aim was to ascertain the importance of positive parent-child bonding relationship and its impact on Primary 1 children's behaviors. The findings of this study suggest that these Primary 1 children perceived both their fathers and mothers very differently. On the other hand form the parents' perspective, the findings showed that both fathers and mothers held different expectations and perceptions about their Primary 1 sons and daughters.

Introduction

How a child behaves can be very much affected by his/her bonding relationship with one or both parents. It is also important to note that children respond very differently to their fathers and mothers. Personalities, philosophies and parenting styles are some of the factors that influence parent-child bonding relationship. A parent-child bonding relationship can occur between a parent and a child without deliberate knowledge, intent or conscious effort, and it is a development of love and trust between a parent and a child (Hager, 1999).

The term "attachment" can be easily confused with parent-child bonding. Strictly speaking, they do not mean the same thing though at times, literature regards them as synonymous (Bloomquist, 1996). When we talk about "attachment", we refer to a learned ability where emotional connections between a parent and a child are nurtured over time through mutual interaction, and this is based on trust (Aldridge, 2001). Attachment is the resultant feeling or need that a child has for one or both care-givers. His or her attachment behavior as demonstrated (e.g., crying, smiling and following the care-giver wherever he/she goes) is to elicit a response from an adult to feel close and loved or wanted (Perry, 2006).

However, how children respond to their parents can, in turn, be affected by the way their parents behave towards them. One of the major causes of breakdown in parent-child bonding relationship identified in research studies (e.g., Farrington, 1995; Loeber. 1990; Patterson et al., 1992) has to do with poor, ineffective, inconsistent, and indiscriminate child management

methods being employed by parents, often combined with unusually harsh but inconsistent disciplinary methods and poor monitoring of child activities. Hence, children with disruptive behavior can be the result of how they have been treated by their parents and/or vice versa.

In this small group-based study involving ten Primary 1 children (five male and five female) currently attending the Sunday school run by the Christian Children's Ministry, the aim was to find out the importance of positive parent-child bonding relationship and its impact on these ten Primary 1 children's behaviors. In turn, the study also aimed to find out about the perceptions of these Primary 1 children have had about their parents.

Literature Review

Parents have the greatest impact on their children's learning attitude and the way they behave outside home, especially in school and elsewhere (Aldridge, 2001). The way a parent thinks about his/her child or self affects that parent's behavior towards the child, which ultimately is likely to affect the child's behavior. Helpful thoughts are more likely to result in more positive parent-child interactions and positive child behavior, and hence, a stronger parent-child bonding relationship.

According to Bloomquist (1996), "parents' thoughts about their children and themselves affect parent-child bonding relationship and the child's development of emotional/behavioural problems" (p.42-43). This affects the way a parent goes about with his/her role as a parent, i.e., parenthood as well as parenting/childrearing style (Galinsky, 1987). For instance, parents who are prone to using harsh, punitive discipline often think their child is solely the cause of that child's misbehavior. They may not realize that their own parenting behavior or other factors may also contribute to the child's behavior problems. Moreover, these parents may also expect their child to do things that the child is developmentally unable to do. Expecting such behavior, when the child cannot do it, sets up negative parent-child interactions. "Parents who believe their child's behavior is out of the parental control have also been found to have children with behavior problems" (Bloomquist, 1996, p.43).

The importance of the role of the parent has been emphasized by Galinsky (1987), who firmly believes that the parental role provides an opportunity and challenge to continually develop new skills and capabilities. Galinsky (1987) has pointed out that the process of parental role development begins with the anticipation of the arrival of children and is continually adjusted according to the child's on-going developing needs. In her study on parenthood, Galinsky (1987) outlined six stages of how parenthood changes adults (see Table 1). Each stage represents ways in which parents (both father and mother) invest their emotional and intellectual energy on a particular childrearing task.

Table 1: Galinsky's (1987) Six Stages of Parent Development

No.	Stage of Parent Development	Brief Description
1	Image-making	This occurs during pregnancy/preparation for adoption, when adults prepare to become parents by considering what it means to be parents and contemplating the necessary changes in their lives to accommodate the arrival of a child/children (in the case of multiple births).
2	Nuturing	This begins at birth and continues to about 18-24 months. During this period, parents and infants become attached to each other and parents after their lives to support their roles as caregivers, balancing the needs of the baby/babies and their own needs. Setting necessary priorities is especially important at this stage.
3	Authority	This begins when children are around 2 and lasts until they are 4-5. During this stage, parents become rule-makers and enforcers as they learn to provide structure and order for their children within a loving environment.
4	Interpretive	This begins when children become preschoolers and continues through their adolescent years. During this stage, when children are becoming more independent and skilled, the role of parents is to serve as mediators between their children and other individuals in their children's ever-expanding social world.
5	Interdependent	This occurs when children reach adolescence. During this stage, parents after their relationships with their adolescent children to allow for shared power. During this stage of shared power, parents still maintain appropriate authority in relation to their adolescent children.
6	Departure	This stage of parent development begins as their children prepare to leave home. In this stage, parents contemplate not only their success as parents but how they might have behaved differently.

Parent-child bonding relationship occurs shortly after birth (Hager, 1999). In the 1960s and 1970s, many hospital delivery facilities were reorganized to take bonding more seriously. It was believed that the child bonded by close contact with both mother and father during the early hours after birth. It is, therefore, not surprising to note that most childless couples prefer to adopt children at early infancy phase because these children still have many opportunities to bond with

their new parents and learn to trust them (Hager, 1999). This is essential for a child if he or she is to adopt the family's lifestyle, values, and spiritual ideals.

However, Perry (2006) raised the concern that the parent-child bonding relationship appears to be more difficult with each generation. A century ago the family was a cohesive unit in which all members worked together for a common goal. Many families lived and worked together, say, on the farm or coal mine. Children were also more respectful to the elders and others who were in authority or older than them.

In the 21st century, close contact continues to diminish as divorce, single-parent homes, and longer working hours separate families from one another (Aldridge, 2001; Kemp et al, 2007; Perry, 2006). More children are spending less time at home and more time at childcare centre. Others will see less of their working parents and see more of their maids employed to look after them and household chores.

Kemp et al (2007) urged parents to work harder to spend more time with their children, teaching them their values and encouraging the children in their innate uniqueness. When parents fail to do so, they have also fail to know and understand their children such that there is an eventual breakdown in communication between parents and their children or vice versa resulting in an even bigger communication gap (Barkley, 1997).

In this study, I hypothesized that positive parent-child bonding relationship could help to promote better behavior in children. In other words, poor parent-child bonding relationship might produce children with problematic behaviors.

Research Questions

I assume that positive parent-child bonding relationship produces positive behavior in Primary 1 children (my target subjects) and this, in turn, helps these children to develop positive self-perception. A child with positive self-perception will develop into a better social being in the community where he lives and interacts with others and, at the same time, will learn better and excel in his/her academic performance (Bloomquist, 1996). The following assumptions form my research questions:

1. How did these Primary 1 children perceive their parents?
    a. How did these Primary 1 children perceive their fathers?
    b. How did these Primary 1 children perceive their mothers?
2. How did these Primary 1 children perceive their relationship with their parents?
    a. How did these Primary 1 children perceive their relationship with their fathers?
    b. How did these Primary 1 children perceive their relationship with their mothers?
3. How did the parents view their Primary 1 children in terms of their behavior at home and in various settings?

Methodology

Research Paradigm

This an investigative survey study involved ten children, who were selected randomly from a group of 17 Primary 1 children, currently attending the Sunday school run by the Christian

Children's Ministry. From these ten children, parental permission (see Appendix 1) was sought to have both the children and their parents in the survey.

The Parent-Child Relationship Survey (PCRS for short) (Fine & Schwebel, 1983) and the Disruptive Behavior Rating Scale-Parent Form (Barkley, 1997) were administered to parents of the participating subjects. Results from the two instruments were then be collected, compared and analyzed to learn and understand how children (categorized under two groups: boys and girls) perceived and behaved towards their father and mother, and also to find out how these parents perceived their children's behavior (again, categorized under two groups: boys and girls).

Two types of instruments used to collect the data are:

1. **Parent-Child Relationship Survey (PCRS)** (Fine & Schwebel, 1983)
   The PCRS (Fine & Schwebel, 1983) has been selected as the instrument to be administered in this survey study (see Appendix 2). The PCRS is a 24-item instrument designed to measure children's perceptions of their parent-child relationship. The instrument comes in two forms: one for assessing the child's relationship with the father (see Appendix 2A) and one for assessing the child's relationship with the mother (see Appendix 2B). Both forms are identical except that the words "father" and "mother" are interchangeable. The examiner will complete the questionnaire orally with each child individually. There are four subscales for the Father Scale: (1) positive affect; (2) father involvement; (3) communication; and (4) anger. There are also four subscales for the Mother Scale: (1) positive affect; (2) resentment/role confusion; (3) identification; and (4) communication.

   The PCRS has excellent internal consistency, with alphas for the father subscales that range from .89 to .94 with an overall alphas of .96, and alphas for the mother subscales that range from .61 (identification) to .94 with an overall alpha of .94. No data on stability were provided by the authors of the instrument.

2. **Disruptive Behavior Rating Scale (DBRS)** (Barkley, 1997)
   The DBRS (Barkley, 1997) consists of two forms: (1) the child's behavior observed by the parents at home; and (2) the child's behavioral problems manifested in different situations as observed by the parents (see Appendix 3A and 3B). The first form contains 26 items while the second contains 16 items. The DBRS is suitable for use with children aged five through 12 years old. The DBRS manual does not report on its reliability coefficient but cut-off scores are given to compare with the results provided by the participants who complete the forms.

Subjects

In this study, I had involved two sets of subjects. The first set of subjects consisted of the ten Primary 1 children (5 boys and 5 girls). The second set of subjects consisted of the children's parents.

In terms of age, all the parents are between early thirties and early forties. They have either one child or two children. All are working either in managerial position or are professionals in their fields of specialization (e.g., engineers, lawyers, teachers and doctors).

As mentioned earlier, ten Primary 1 children, whose parents I have had got the opportunity to meet at the Christian Children's Ministry Sunday School, where I have been serving as a volunteer Sunday school teacher, were randomly selected and voluntarily agreed to participate in this study. The subjects and their parents were briefed on the aim of this research study and they were told that anyone of them could withdraw from the participation at any point of time during the study.

Table 2: Subjects by code

Subject Code	***Gender Code***
C#01	M
C#02	M
C#03	M
C#04	M
C#05	M
C#06	F
C#07	F
C#08	F
C#09	F
C#10	F

Key:
M = Male
F = Female

Materials

The two instruments PCRS and DBRS were used in the survey study. In the first instrument (PCRS), I interviewed each child in order that I could complete the survey form per subject (see Appendixes 2A and 2B). The second instrument (DBRS) consists of two questionnaire forms (see Appendixes 3A and 3B) to be completed by both parents separately. They were not allowed to compare or discuss their choices of answers. The DBRS questionnaire forms for parents were collected back on the spot upon completion.

Procedure of the survey

The following procedure was followed:

1. Potential subjects were approached and permission was sought from the parents or guardians of these subjects if they were interested to participate in the research study.
2. Once written approval was obtained from the parents/guardians of these subjects, an official consent cover letter and DBRS form to obtain their official approval were issued.
3. Next, a suitable time and venue was arranged to meet up with each of these subjects together with their parents or guardians. Since all the subjects are attending the Christian Children's Ministry Sunday School, I met them in the church after their Sunday School, i.e., at 11.30am, for about 30 minutes, to complete the PCRS forms.
4. All data collected were kept with full confidential.
5. The data were analyzed and interpreted.
6. Findings were presented at the Sunday school staff meeting and the parents or guardians of the participating subjects were informed of the outcomes of the research study.

7. There was a Q&A session for both parents and voluntary staff of the Sunday school on issues pertaining to the study.

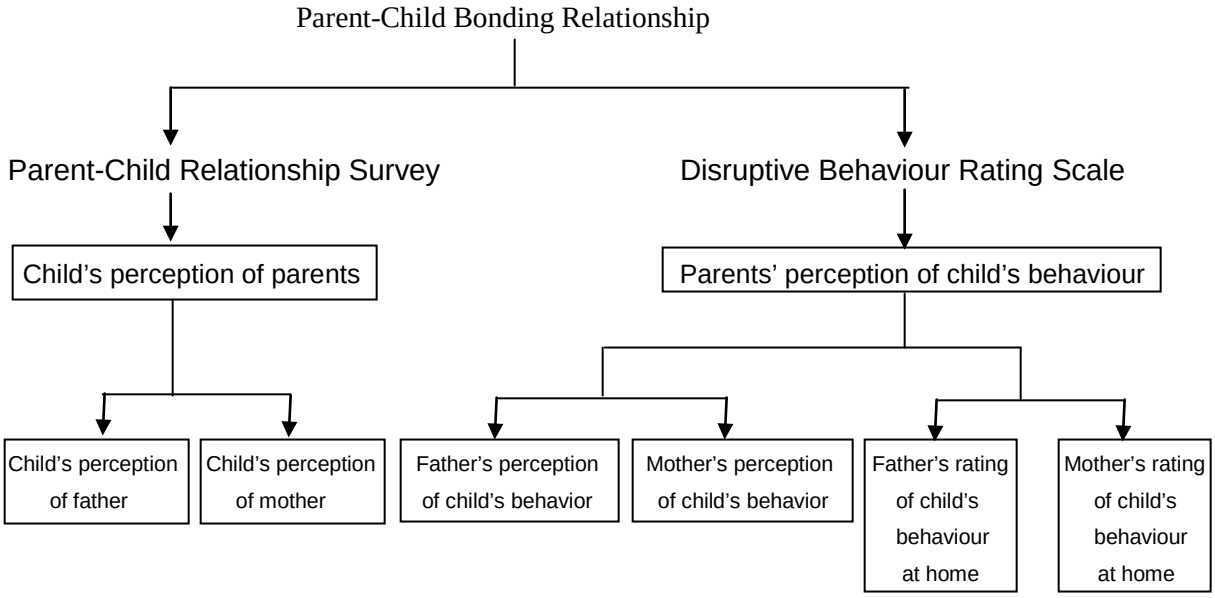
Analysis

The results collected from the administration of the two instruments were compiled and categorized into the following sections:

1. On Primary 1 boys:
    a. The child's perception of his father (based on PCRS: Father Scale)
    b. The child's perception of his mother (based on PCRS: Mother Scale)
2. On Primary 1 girls:
    a. The child's perception of her father (based on PCRS: Father Scale)
    b. The child's perception of her mother (based on PCRS: Mother Scale)
3. Comparison between boys' and girls' perceptions of their fathers and mothers.
4. On Primary 1 boys:
    a. Father's perception on his son's overall behaviour
    b. Father's rating of his son's behaviour at home
    c. Mother's perception on her son's overall behaviour
    d. Mother's rating of her son's behaviour at home
5. On Primary 1 girls:
    a. Father's perception on his daughter's overall behaviour
    b. Father's rating of his daughter's behaviour at home
    c. Mother's perception on her daughter's overall behaviour
    d. Mother's rating of her daughter's behaviour at home

The Diagram 1 below shows a summary of the data analysis procedure.

Diagram 1: Data Analysis Procedure



Ethical Considerations

In ensuring ethical considerations are strictly followed, the following steps have been taken before, during and after the study:

1. Potential participants were invited to attend an informal talk during which I shared with them the aim of my research study and what I hoped to achieve at the end of the study.
2. Parents were briefed on the procedure and how they would be involved in the study.
3. Names of the participating subjects would not be used or mentioned anywhere in the study as well as any forms used before, during and after the study. Only a subject code (i.e., C#__/__ where the first blank is a identification number and the second blank states the gender of the subject).
4. Parents were told they could pull their children out from the study as and when they felt uncomfortable about involving any further in the study.
5. An official letter and consent form were passed to the parents of the participating subjects.
6. Parents and their participating children could contact me as and when they needed to during the period of the study.
7. At the end of the study, I met up with all the parents and the participating children to share with them the results and findings of the study.
8. There was a Q&A session for parents and participating subjects to ask and clarify any other outstanding issues not addressed earlier or during the period of study.

Results and Discussion

In this investigative survey study, there are two main sets of data to be examined.

First Set of Data (based on PCRS)

The first set of data was based the administration of the PCRS. The PCRS could be easily scored by reverse-scoring negatively worded items (i.e., 9, 13 and 14) and then summing all the individual item scores and dividing by the number of items on that factor for the subscale (mean) score; the total score is the sum of the means of the subscales. The results from the PCRS have provided information on the subjects' relationship with their parents (fathers and mothers, separately).

On Primary 1 boys: Perception of relationship with father and mother

Table 3: Child's Perception of His Relationship with Father based on PCRS (for boys)

Subjects (by Code)	PCRS Subscales (Relationship with Father)								
	Positive Affect		Father Involvement		Communication		Anger		Total Score (Sum of the Subscale Means)
	Raw Score	Mean	Raw Score	Mean	Raw Score	Mean	Raw Score	Mean	
C#01/M	54	6	31	5,2	25	5.0	7	7	23.2
C#02/M	52	5.8	31	5.2	24	4.8	7	7	22.8
C#03/M	58	6.4	33	5.5	31	6.2	7	7	25.1
C#04/M	42	4.7	39	6.5	26	5.2	6	6	22.4
C#05/M	44	4.9	33	5.5	26	5.2	6	6	21.6
Mean Scores	50	5.6	31.4	5.6	26.4	5.3	6.6	6.6	23.1

- Positive Affect subscale: There are nine items on this subscale with a total score of 63 and a mean subscale score of 7. The results from Table 3 suggested that three subjects C#01/M, C#02/M and C#03/M had better positive affect in their relationship with father.
- Father Involvement subscale: There are six items on this subscale with a total score of 42 and a mean subscale score of 7. The results suggested that only subject C#04/M had a better father involvement in his relationship with father than the others.
- Communication subscale: There are five items on this subscale with a total score of 35 and a mean subscale score of 7. The results suggested that only subject C#03/M had better communication in his relationship with father than the others.
- Anger subscale: There is only one item on this subscale whose total score and mean subscale score are the same, i.e., 7. The results suggested that only two subjects C#04/M and C#05/M were angry with their fathers in their relationship with father. The other three were not angry with their fathers at all.

In summary, the overall mean subscale score (based on all the four subscales) is 23.1 for the five boys in terms of their perception of their relationship with father. The results showed that only two subjects C#01/M and C#03/M have demonstrated satisfactory relationship with their fathers.

Table 4: Child's Perception of His Relationship with Mother based on PCRS (for boys)

Subjects (by Code)	PCRS Subscales (Relationship with Mother)								
	Positive Affect		Resentment or Role Confusion		Identification		Communication		Total Score (Sum of the Subscale Means)
	Raw Score	Mean	Raw Score	Mean	Raw Score	Mean	Raw Score	Mean	
C#01/M	93	6.6	14	7	17	5.7	81	6.2	25.5
C#02/M	85	6.1	14	7	16	5.3	73	5.6	24.0
C#03/M	87	6.2	12	6	17	5.7	81	6.2	24.1
C#04/M	77	5.5	14	7	17	5.7	78	6.0	24.2
C#05/M	68	4.9	13	6.5	17	5.7	87	6.7	23.8
Mean Scores	82	5.9	13.4	6.7	16.8	5.6	80	6.1	24.3

- Positive Affect subscale: There are 14 items on this subscale with a total score of 98 and a mean subscale score of 7. The results from Table 4 suggested that three subjects C#01/M, C#02/M and C#03/M showed better positive affect in their relationship with mother.
- Resentment or Role Confusion subscale: There are two items on this subscale with a total score of 14 and a mean subscale score of 7. The results suggested that subjects C#01/M, C#02/M and C#04/M had no dislike of their mothers nor were they confused with the role of their mother in the family.
- Identification subscale: There are three items on this subscale with a total score of 21 and a mean subscale score of 7. The results suggested that all except subject C#02/M would choose to identify with their mothers, i.e., to live and be like their mother.

- Communication subscale: There are 13 items on this subscale with a total score of 91 and a mean subscale score of 7. The results suggested that subjects C#01/M, C#03/M and C#05/M had better communication in their relationship with mother than the other two.

In summary, the overall mean subscale score (based on all the four subscales) is 24.3 for the five boys in terms of their perception of their relationship with mother. The results showed that only one subject C#01/M has demonstrated satisfactory relationship with his mother.

On the Primary 1 girls: Perception of relationship with father and mother

Table 5: Child's Perception of His Relationship with Father based on PCRS (for girls)

Subjects (by Code)	PCRS Subscales (Relationship with Father)								
	Positive Affect		Father Involvement		Communication		Anger		Total Score (Sum of the Subscale Means)
	Raw Score	Mean	Raw Score	Mean	Raw Score	Mean	Raw Score	Mean	
C#06/F	53	5.9	31	5.2	30	6.0	7	7	24.1
C#07/F	43	4.8	30	5.0	21	4.2	6	6	20.0
C#08/F	38	4.2	29	4.8	22	4.4	6	6	19.4
C#09/F	56	6.2	31	5.2	24	4.8	7	7	23.2
C#10/F	49	5.4	28	4.7	24	4.8	7	7	21.9
Mean Scores	47.8	5.3	29.8	5.0	24.2	4.8	6.6	6.6	21.7

- Positive Affect subscale: The results from Table 3 suggested that three subjects C#06/F, C#09/F and C#10/F had better positive affect in their relationship with father.
- Father Involvement subscale: The results suggested that subjects C#06/F, C#07/F and C#09/F had a better father involvement in their relationship with father.
- Communication subscale: The results suggested that subjects C#06/F, C#09/F and C#10/F had better communication in their relationship with father.
- Anger subscale: The results suggested that only two subjects C#07/F and C#08/F were angry with their fathers in their relationship with father. A further probe revealed that the two girls felt that their fathers were either too strict or fierce. The other three were not angry with their fathers at all.

In summary, the overall mean subscale score (based on all the four subscales) is 21.7 for the five girls in terms of their perception of their relationship with father. The results showed that three subjects C#06/F, C#09/F and C#10/F have demonstrated satisfactory relationship with their fathers.

Table 6: Child's Perception of His Relationship with Mother based on PCRS (for girls)

Subjects (by Code)	PCRS Subscales (Relationship with Mother)								
	Positive Affect		Resentment or Role Confusion		Identification		Communication		Total Score (Sum of the Subscale Means)
	Raw Score	Mean	Raw Score	Mean	Raw Score	Mean	Raw Score	Mean	
C#06/F	84	6.0	12	6.0	13	4.3	77	5.9	22.2
C#07/F	87	6.2	12	6.0	16	5.3	80	6.2	23.7
C#08/F	83	5.9	11	5.5	16	5.3	78	6.0	22.7
C#09/F	89	6.4	10	5.0	19	6.3	78	6.0	23.7
C#10/F	86	6.1	12	6.0	16	5.3	81	6.2	23.6
Mean Scores	85.8	6.1	11.4	5.7	16	5.3	78.8	6.1	23.2

- Positive Affect subscale: The results from Table 6 suggested that only three subjects C#07/F, C#09/F and C#10/F showed better positive affect in their relationship with mother.
- Resentment or Role Confusion subscale: The results suggested that subjects C#06/F, C#07/F and C#10/F had no dislike of their mothers nor were they confused with the role of their mother in the family.
- Identification subscale: The results suggested that all except subject C#06/F had chosen to identify with their mothers, i.e., to live and be like their mother.
- Communication subscale: The results suggested that subjects C#07/F and C#10/F had better communication in their relationship with mother than the other three.

In summary, the overall mean subscale score (based on all the four subscales) is 23.2 for the five girls in terms of their perception of their relationship with mother. The results showed that subjects C#07/F, C#09/F and C#10/F have demonstrated satisfactory relationship with their mothers.

The results above, in turn, are compared with another set of results obtained from the administration of the DBRS.

Second Set of Data (based on DBRS)

The second set of data is based on the administration of the DBRS. The first form of DBRS provides findings on each child's behavior in terms of his/her inattention, hyperactivity-impulsivity, defiance, and conduct towards others (including animals and properties other than people). The second form provides findings on the child's in terms of the number of problems based on home-settings as noted by his/her parents and the degree of severity.

On Primary 1 boys: Parents' perception of their children's behaviour

Table 7: Father's Perception of the Child's Behavior (for boys)

Subjects (by Codes)	Subscales (based on DBRS)			
	Inattention		Hyperactivity-Impulsivity	
	Raw Score	Cut-off Score	Raw Score	Cut-off Score
C#01/M	6	15	5	17
C#02/M	9	15	10.5	17
C#03/M	11	15	12	17
C#04/M	7	15	6	17
C#05/M	7	15	8	17
Mean Scores	8		8.3	

** Raw score that is above the cut-off score is a call for concern*

Table 8: Mother's Perception of the Child's Behavior (for boys)

Subjects (by Codes)	Subscales (based on DBRS)			
	Inattention		Hyperactivity-Impulsivity	
	Raw Score	Cut-off Score	Raw Score	Cut-off Score
C#01/M	7	15	8	17
C#02/M	12	15	14	17
C#03/M	14	15	16	17
C#04/M	9	15	9	17
C#05/M	9	15	9	17
Mean Scores	10.2		11.2	

** Raw score that is above the cut-off score is a call for concern*

The results shown in Tables 7 and 8 suggested that all the five boys did not display inattention and/or hyperactive-impulsive characteristics typical of children with disruptive behavioural disorders (Chia, Ng, & Kuan, 2009). When comparing the ratings done by fathers and mothers, the findings showed that fathers rated inattention and hyperactivity-impulsivity of their boys lower than mothers. One probable reason is that in most instances, fathers go to work in the morning and return home after work in the evening. They might not have seen how their children (especially boys) behave at home when they are not around. As for the mothers involved in this study, most of them are home-makers or are working part-time (or working from home) and hence, they spend more time with their children and know their children's behaviours better than the fathers.

Table 9: Father's Rating of the Child's Behaviour at Home (for boys)

Subjects (by Codes)	Subscales (based on child's behaviour at home)			
	Number of Problems		Mean of Severity of the Problems	
	Raw Score	Cut-off Score	Raw Score	Cut-off Score
C#01/M	6	9.1	1.0	4.1
C#02/M	6	9.1	2.3	4.1
C#03/M	1	9.1	4.0	4.1
C#04/M	5	9.1	2.8	4.1
C#05/M	7	9.1	2.5	4.1
Mean Score	7.4		2.52	

** Raw score that is above the cut-off score is a call for concern*

Table 10: Mother's Rating of the Child's Behaviour at Home (for boys)

Subjects (by Codes)	Subscales (based on child's behaviour at home)			
	Number of Problems		Mean of Severity of the Problems	
	Raw Score	Cut-off Score	Raw Score	Cut-off Score
C#01/M	8	9.1	2.1	4.1
C#02/M	10	9.1	1.4	4.1
C#03/M	4	9.1	6.0	4.1
C#04/M	7	9.1	2.0	4.1
C#05/M	6	9.1	2.0	4.1
Mean Score	7		2.7	

** Raw score that is above the cut-off score is a call for concern*

From Tables 9 and 10, the results showed that none of the children except the subject C#03/M (according to his mother's rating) displayed severe behavioural problems. However, using only the parent forms of the DBRS is not sufficient to determine if a child has disruptive behavioural disorder. There are also the teacher forms to be completed, but these have not been used as they are not required in this study.

In summary, according to the ratings done by their fathers and mothers, all the five boys did not have any severe behavioural disorder although they might give their parents many behavioural problems to deal with.

On Primary 1 girls: Parents' perception of their children's behaviour

Table 11: Father's Perception of the Child's Behavior (for girls)

Subjects (by Codes)	Subscales (based on DBRS)			
	Inattention		Hyperactivity-Impulsivity	
	Raw Score	Cut-off Score	Raw Score	Cut-off Score
C#06/F	3	12	2	13
C#07/F	7	12	8	13
C#08/F	8	12	11	13
C#09/F	3	12	1	13
C#10/F	6	12	5	13
Mean Scores	5.4		5.4	

** Raw score that is above the cut-off score is a call for concern*

Table 12: Mother's Perception of the Child's Behavior (for girls)

Subjects (by Codes)	Subscales (based on DBRS)			
	Inattention		Hyperactivity-Impulsivity	
	Raw Score	Cut-off Score	Raw Score	Cut-off Score
C#06/F	7	12	9	13
C#07/F	9	12	9	13
C#08/F	9	12	9	13
C#09/F	8	12	5	13
C#10/F	5	12	7	13
Mean Scores	7.6		7.8	

** Raw score that is above the cut-off score is a call for concern*

From Tables 11 and 12, results suggested that none of the girls had displayed inattention and/or hyperactive-impulsive characteristics typical of children with disruptive behavioural disorders (Chia, Ng, & Kuan, 2009). When comparing the ratings done by fathers and mothers, the findings showed that fathers rated inattention and hyperactivity-impulsivity of their girls even lower than those of their boys. In both cases, for boys and girls, mothers rated inattention and hyperactivity-impulsivity of their girls higher than what fathers had rated. However, the rating scores for girls done by mothers were still lower than those of the boys. One probable reason is that boys are often seen as more naughty, mischievous and active than girls. Hence, it is not surprising the rating scores on girls' disruptive behaviours are often lower.

Table 13: Father's Rating of the Child's Behaviour at Home (for girls)

Subjects (by Codes)	Subscales (based on child's behaviour at home)			
	Number of Problems		Mean of Severity of the Problems	
	Raw Score	Cut-off Score	Raw Score	Cut-off Score
C#06/F	3	8.7	1.7	3.9
C#07/F	5	8.7	1.9	3.9
C#08/F	5	8.7	2.4	3.9
C#09/F	0	8.7	0	3.9
C#10/F	4	8.7	1.3	3.9
Mean Score	3.4		1.46	

** Raw score that is above the cut-off score is a call for concern*

Table 14: Mother's Rating of the Child's Behaviour at Home (for girls)

Subjects (by Codes)	Subscales (based on child's behaviour at home)			
	Number of Problems		Mean of Severity of the Problems	
	Raw Score	Cut-off Score	Raw Score	Cut-off Score
C#01/M	4	8.7	2.5	3.9
C#02/M	7	8.7	2.6	3.9
C#03/M	7	8.7	2.9	3.9
C#04/M	0	8.7	0	3.9
C#05/M	5	8.7	2.4	3.9
Mean Score	4.6		2.08	

** Raw score that is above the cut-off score is a call for concern*

From Tables 13 and 14, none of the five girls showed severe behavioural challenges at home. In fact, the ratings of fathers and mothers on these subscales on their girls' severe behavioural problems at home were also lower than those on the boys. In fact, the prevalence of behavioural challenges in girls is far lower than in boys. In other words, there are more boys with behavioural difficulties than girls (Chia, Ng, & Kuan, 2009).

In summary, none of the ten subjects in this study demonstrated any signs and symptoms of behavioural challenges. Although the findings of this study suggested that boys in this study might display more behavioural issues in terms of mischief and misbehavior than girls, they were still quite manageable by their parents.

Conclusion

Parents also determine most of their child's learning situations. Parents also influence what language or dialect the child speaks, where the child lives, how the child will be educated, how the child will behave, and what place of worship or religious institution that the child will attend, if any. The list can go on. For this reason, Kemp et al (2007) argued the importance of parent-child bonding relationship that is crucial for the child's learning attitude and his/her well-being as a social being in the community where he/she lives and interacts. In this study, the community includes the child's home and the church where he/she and the family worship.

The results of this study showed that all these participating parents are still in their interpretive stage of parent development. This stage of parent development begins when children become preschoolers and continues through their adolescent years (Galinsky, 1987). As can be seen in the results gathered, during this early stage, the ten primary 1 children are growing to become more independent and skilled. According to Erikson (1959), it is also during this period of middle and late childhood (7-12 years of age) that a child is more enthusiastic than ever. He/She directs his/her efforts towards mastering knowledge and intellectual skills. The danger at this phase occurs when the child feels incompetent and/or unproductive. Without a good parent-child bonding relationship, the child who feels incompetent and/or unproductive might choose not to ask help from his/her parents. If this attitude is left unchecked, the child would soon develop into one with behavioural challenges. Hence, the role of parents is to serve as mediators between their children and themselves as well as other individuals in their children's ever-expanding social world (Galinsky, 1987).

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Summary of Data Interpretation

I have summarized the results and findings of this study as follows:

1. The ten Primary 1 children's perception of their father and their relationship with their father:
    a. The male subjects (mean subscale score of 5.6 on Positive Affect subscale) have a slightly higher positive affect shown to their fathers than the female subjects (mean subscale score of 5.3 on Positive Affect subscale).
    b. The male subjects (mean subscale score of 5.3 on Communication subscale) have a slightly better communication with their fathers than the female subjects (mean subscale score of 4.8 on Communication subscale).
2. The ten Primary 1 children's perception of their mother and their relationship with their mother:
    a. The female subjects (mean subscale score of 6.1 on Positive Affect subscale) have a slightly higher positive affect shown to their mothers than the male subjects (mean subscale score of 5.9 on Positive Affect subscale).
    b. Both male and female subjects demonstrated the same degree of comfort when in their communication with their mothers (i.e., mean subscale score of 6.1 for both genders on Communication subscale).
3. When comparing the subjects' relationships with both their parents, all ten subjects showed higher positive affect for their mothers than their fathers. This result agrees with the findings of other studies (see Brotherson, Yamamoto, & Acock, 2003; Seligman & Darling, 1999; Smith, 1995).
4. In terms of father involvement with sons (male subjects) and/or daughters (female subjects), the male subjects perceived more father involvement with them (mean subscale score of 5.6 on Father Involvement subscale) than the female subjects (mean subscale score of 5.0 on Father Involvement subscale).
5. In terms of resentment and/or role confusion of mother as perceived by the ten subjects, the male subjects (mean subscale score of 6.7 on Resentment/Role Confusion subscale) rather than the female subjects (mean subscale score of 5.7) showed less resentment towards or dislike of their mothers. There is also a surprising finding that shows the male subjects identified more (like to be like their mother) (mean subscale score of 5.6) with their mothers than the female subjects (mean subscale score of 5.3 on Identification subscale).

6. In terms of the ten subjects' expression of anger towards their father, both male and female subjects showed the same mean subscale score of 6.6. A further probe into this subscale through informal interview with the subjects revealed that most of them felt that their fathers were rather firm, strict and sometimes fierce, less approachable than mothers. This result agrees with findings of other studies (see Brotherson, Yamamoto, & Acock, 2003).
7. Both fathers and mothers did not see their children as having significant inattention and/or hyperactivity-impulsivity problems.
    a. Fathers' perception of their sons' behavioural problems in terms of inattention and/or hyperactivity-impulsivity is lower than mothers'.
    b. Fathers' perception of their daughters' behavioural problems in terms of inattention and/or hyperactivity-impulsivity is lower than mothers'.
    c. Fathers perceived that boys showed more behavioural problems (e.g., mischief and misbehavior) than girls. Similar finding is also noted of the mothers.
8. Both fathers and mothers of these Primary 1 children rating and perception of their children's behaviour at home:
    a. Fathers perceived that boys gave more behavioural problems at home than mothers. This result agrees with the findings of other studies (see Barkley, 1997).
    b. While both parents rated girls' behavioural problems at home as very low, fathers perceived that girls gave less behavioural problems at home than mothers.
    c. In terms of severity of problems, mothers perceived the behavioural problems of boys at home as more serious than what fathers perceived.

    The results agree with findings of other studies (see Gill, 1997; Greenwald, 2001; Smith, 1995).

Implications

The findings of this study suggest that there are some slight differences between fathers and mothers in the way they treat their sons and daughters. Firstly, both fathers and mothers perceived boys as giving more behavioural problems at home and more serious problems than girls (Hager, 1999; McCarthy, 2008). All ten subjects found their communication with their mothers was better than with their fathers. Moreover, all the subjects showed better positive affect for their mothers than their fathers.

Implications for teachers, especially if they are always in touch with parents, is that in most instances, mothers know their children better than fathers and are often the primary caregivers. Mothers are the most important people in children's lives and whom they turn to for help, advice, etc.

Should a further study be carried out in future, it would be interesting to find out how fathers and mothers go about teaching their children to read and write.

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Appendix 1: An Official Consent

Date:

Dear Parent(s)

Research on "The Effect of Parent-Child Bonding Relationship on Primary 1 Children's Behaviors"

This is to inform you that your child/ward is one of the 10 children selected to participate in this survey study whose purpose is to find out the effect of parent-child bonding relationship on a child's behavior.

This study will require your child to complete one questionnaire, i.e., the Parent-Child Relationship Survey (Fine & Schwebel, 1983) with me orally on _____ at 11:30am, after their Sunday School; and you to complete the other questionnaire, i.e., the Disruptive Behavior Rating Scale-Parent Form (Barkley, 1997).

You can be assured that this study will certainly benefit you and your child in the following ways: (1) to understand how your child perceive you as a parent (father/mother); (2) to provide you a better understanding how your bonding relationship with your child can be worked on and improved further; and (3) to enhance your child's self perception to become a better social being in the community as well as a confidential learner in class.

Please be assured that your child's name and your name will not be used, the raw data will only be seen by myself, and the tutor, and will not be identifiable in any way in the report. A copy of the final report will be given to you upon completion of the study.

However, you have the choice to make whether or not to participate in this study. Should you for one reason or other choose not to participate, please be assured that your child will not be prejudiced in any way while attending the Sunday School. Your child and you are free to participate/not participate without penalty and that the information your child and you give in the study will not impact on how I work with your child on 2nd and 3rd weeks October.

Any questions concerning the research can be directed to Ms Angie Ng, on handphone 97473452.

If you are agreeable to let your child/ward participate in the study, please sign the consent form below, detach and return it together with the completed questionnaire, i.e., the Disruptive Behavior Rating Scale-Parent Form, in the sealed envelope provided for confidentiality to be collected by me on _____, Sunday.

Thank you for your kind permission and cooperation.

Yours sincerely

_____
Ms Angie Ng

✂_____

CONSENT FORM

I do / do not consent to participate in the study described above.

Signed: _____ Research Student: _____

Date: _____ Date: _____

Appendix 2A: Parent-Child Relationship Survey (PCRS)

Father Scale

Instruction: Please tick accordingly to complete the following items about your father.

No.	Items	1	2	3	4	5	6	7
1.	How much time do you feel you spend with your father? (1 = never, 7 = a lot)							
2.	How well do you feel you have been able to build a good relationship with your father? (1 = very poor, 7 = very good)							
3.	How much do you trust your father? (1 = never, 7 = a lot)							
4.	How confident are you that your father would not make fun of you if you were to talk about a problem? (1 = never, 7 = always)							
5.	How confident are you that your father would help you when you have a problem? (1 = never, 7 = always)							
6.	How close do you feel to your father? (1 = very far apart, 7 = very close)							
7.	How comfortable would you be asking your father for an advice about a problem you have with your classmate(s)? (1 = never, 7 = always)							
8.	How comfortable would you be talking to your father about a problem in class/kindergarten? (1 = never, 7 = always)							
9.	How confused are you about your father's exact role is to have in your life? (1 = never, 7 = always)							
10.	How well do you feel you understand your father's feelings, thoughts, and behavior? (1 = never, 7 = always)							
11.	How easily do you accept the weaknesses in your father? (1 = never, 7 = always)							

No.	Items *(… continued from the previous page)*	1	2	3	4	5	6	7
12.	How much do you think of your father as an adult with a life of his own or think more of him only as your father? (1 = think of as only a father, 7 = see as adult with life of his own)							
13.	How often do you get angry at your father? (1 = never, 7 = always)							
14.	In general, how much do you dislike your father? (1 = never, 7 = a lot)							
15.	How approachable is your father when you go to him for something? (1 = never, 7 = always)							
16.	How well does your father understand your needs, feelings, and behavior? (1 = never, 7 = always)							
17.	How well does your father listen to you? (1 = never, 7 = always)							
18.	How much do you care for your father? (1 = never, 7 = a lot)							
19.	When you are away from home, how much do you typically miss your father? (1 = never, 7 = a lot)							
20.	How much do you respect your father? (1 = never, 7 = a lot)							
21.	How much do you value your father's opinion? (1 = never, 7 = a lot)							
22.	How much do you admire your father? (1 = never, 7 = a lot)							
23.	How much would you like to be like your father? (1 = never, 7 = a lot)							
24.	How much would you choose to live like your father? (1 = never, 7 = a lot)							

Appendix 2B: Parent-Child Relationship Survey (PCRS)

Mother Scale

Instruction: Please tick accordingly to complete the following items about your mother.

No.	Items	1	2	3	4	5	6	7
1.	How much time do you feel you spend with your mother? (1 = never, 7 = a lot)							
2.	How well do you feel you have been able to build a good relationship with your mother? (1 = very poor, 7 = very good)							
3.	How much do you trust your mother? (1 = never, 7 = a lot)							
4.	How confident are you that your mother would not make fun of you if you were to talk about a problem? (1 = never, 7 = always)							
5.	How confident are you that your mother would help you when you have a problem? (1 = never, 7 = always)							
6.	How close do you feel to your mother? (1 = very far apart, 7 = very close)							
7.	How comfortable would you be asking your mother for an advice about a problem you have with your classmate(s)? (1 = never, 7 = always)							
8.	How comfortable would you be talking to your mother about a problem in class/kindergarten? (1 = never, 7 = always)							
9.	How confused are you about your mother's exact role is to have in your life? (1 = never, 7 = always)							
10.	How well do you feel you understand your mother's feelings, thoughts, and behavior? (1 = never, 7 = always)							
11.	How easily do you accept the weaknesses in your mother? (1 = never, 7 = always)							
12.	How much do you think of your mother as an adult with a life of her own or think more of her only as your mother? (1 = think of as only a mother, 7 = see as adult with life of her own)							

No.	Items *(… continued from the previous page)*	1	2	3	4	5	6	7
13.	How often do you get angry at your mother? (1 = never, 7 = always)							
14.	In general, how much do you dislike your mother? (1 = never, 7 = a lot)							
15.	How approachable is your mother when you go to him for something? (1 = never, 7 = always)							
16.	How well does your mother understand your needs, feelings, and behavior? (1 = never, 7 = always)							
17.	How well does your mother listen to you? (1 = never, 7 = always)							
18.	How much do you care for your mother? (1 = never, 7 = a lot)							
19.	When you are away from home, how much do you typically miss your mother? (1 = never, 7 = a lot)							
20.	How much do you respect your mother? (1 = never, 7 = a lot)							
21.	How much do you value your mother's opinion? (1 = never, 7 = a lot)							
22.	How much do you admire your mother? (1 = never, 7 = a lot)							
23.	How much would you like to be like your mother? (1 = never, 7 = a lot)							
24.	How much would you choose to live like your mother? (1 = never, 7 = a lot)							

Appendix 3A: Disruptive Behavior Rating Scale (DBRS)

Form completed by: Father Mother Other: _____

(Circle one of them only)

Date: _____

Section 1:

Instructions: Tick the box under the appropriate number that best describes your child's behavior at home over the past six months.

No.	Items	Never/Rarely	Sometimes	Often	Very often
		0	1	2	3
1.	Fails to give close attention to details or makes careless mistakes in schoolwork				
2.	Has difficulty sustaining attention in tasks or play activities				
3.	Does not seem to listen when spoken to directly				
4.	Does not follow through on instructions and fails to finish work				
5.	Has difficulty organizing tasks and activities				
6.	Avoids tasks (e.g., schoolwork, homework) that require mental effort				
7.	Loses things necessary for tasks or activities				
8.	Is easily distracted				
9.	Is forgetful in daily activities				
10.	Fidgets with hands or feet or squirms in seat				
11.	Leaves seat in classroom or in other situations in which remaining seated is expected				
12.	Runs about or climbs excessively in situations in which it is appropriate				
13.	Has difficulty playing or engaging in leisure activities quietly				
14.	Is "on the go" or acts as if "driven by a motor"				
15.	Talks excessively				
16.	Blurts out answers before questions have been completed				

No.	Items	Never/Rarely	Sometimes	Often	Very often
		0	1	2	3
17.	Has difficulty awaiting turn				
18.	Interrupts or intrudes on others				
19.	Loses temper				
20.	Argues with adults				
21.	Blames others for his/her mistakes or misbehavior				
22.	Is touchy or easily annoyed by others				
23.	Is angry and resentful				
24.	Is spiteful or vindictive				

Section 2:

Instructions: Please tick in the appropriate box to indicate whether your child has done any of these activities in the past 12 months:

No.	Items	No	Yes
1.	Often bullied, threatened, or intimidated others		
2.	Often initiated physical fights		
3.	Used an object (e.g., a bat, brick, broken bottle, knife, etc.) that can cause serious physical harm to others		
4.	Has been physically cruel to people		
5.	Has been physically cruel to animals		
6.	Has stolen while confronting a victim (e.g., mugging, purse snatching, extortion, etc.)		
7.	Has forced someone into sexual activity		
8.	Has deliberately engaged in fire setting with the intention of causing serious damage		
9.	Has deliberately destroyed others' property (other than by fire setting)		
10.	Has broken into someone else's house, building, car, etc.		
11.	Often lies to obtain goods or favours or to avoid obligations (i.e., "cons" others)		
12.	Has stolen items of nontrivial value without confronting a victim (e.g., shoplifting, but without breaking and entering; forgery)		
13.	Often stays out at night despite parental prohibitions. If so, at what age did this begins? _____		
14.	Has run away from home overnight at least twice while living in parent's home, foster care, or group home.		
15.	Is often truant from school. If so, at what age did he/she begin doing this? _____		

Appendix 3B: Disruptive Behavior Rating Scale (DBRS)

Home Situations Questionnaire

Form completed by: Father Mother Other: _____

(Circle one of them only)

Date: _____

Instructions: Does your child present any problems with compliance to instructions, commands, or rules for you in any of these situations? If so, please circle the word Yes and then circle a number beside that situation that describes how severe the problem is for you. If your child is not a problem in a situation, circle No and go on to the next situation on the form.

Situations	Yes	No	*If yes, how severe?* Mild								Severe
			1	2	3	4	5	6	7	8	9
While playing alone	Yes	No	1	2	3	4	5	6	7	8	9
While playing with other children	Yes	No	1	2	3	4	5	6	7	8	9
At mealtimes	Yes	No	1	2	3	4	5	6	7	8	9
Getting dressed	Yes	No	1	2	3	4	5	6	7	8	9
Washing and bathing	Yes	No	1	2	3	4	5	6	7	8	9
While you are on the telephone	Yes	No	1	2	3	4	5	6	7	8	9
While watching TV	Yes	No	1	2	3	4	5	6	7	8	9
When visitors are in your home	Yes	No	1	2	3	4	5	6	7	8	9
When you are visiting someone's home	Yes	No	1	2	3	4	5	6	7	8	9
In public places (e.g., restaurants, stores, church, etc.)	Yes	No	1	2	3	4	5	6	7	8	9
When father is home	Yes	No	1	2	3	4	5	6	7	8	9
When asked to do chores	Yes	No	1	2	3	4	5	6	7	8	9
When asked to do homework	Yes	No	1	2	3	4	5	6	7	8	9
At bedtime	Yes	No	1	2	3	4	5	6	7	8	9
While in the car	Yes	No	1	2	3	4	5	6	7	8	9
When with a babysitter/caregiver	Yes	No	1	2	3	4	5	6	7	8	9
Total number of problem settings: _____								Mean severity score: _____			

Understanding the Complexities of Hyperlexia and its Subtypes

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Abstract

This is a very short article which on hyperlexia which first appeared on the LSES Web Blog (March 23, 2007). It discusses about the subtypes of hyperlexia and its comorbidity with other disorders such as autistic disorder (also known as Kanner syndrome), Asperger syndrome and nonverbal learning disorder.

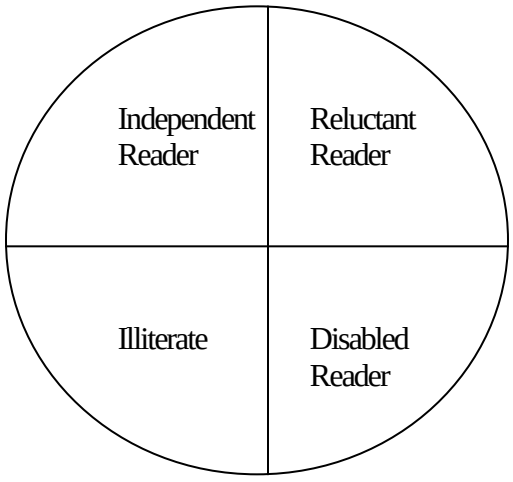
Introduction

Originally, hyperlexia was not meant to denote a form of reading disability but some savant ability (Aaron, 1989). However, today, hyperlexia is often considered as a form of reading disorder manifested by an unexpected superior ability to read fluently but an equally unexpected deficit in reading or listening comprehension (Chia, 1995). It is often categorized as a subtype of dyslexia, also known as direct dyslexia (Tyre & Young, 1994). In order to differentiate between the two conditions, i.e., dyslexia and hyperlexia, it is important for us first, to look at the profile of a reader, and second, the process of reading/listening comprehension.

Profiles of Reader

Chia (1998) has outlined 4 different profiles of reader, namely: (1) the independent reader; (2) the reluctant (sometimes also known as struggling or unmotivated) reader; (3) the disabled reader; and (4) the illiterate (see Figure 1). It is the third category that I am interested and shall focus on it in this article.

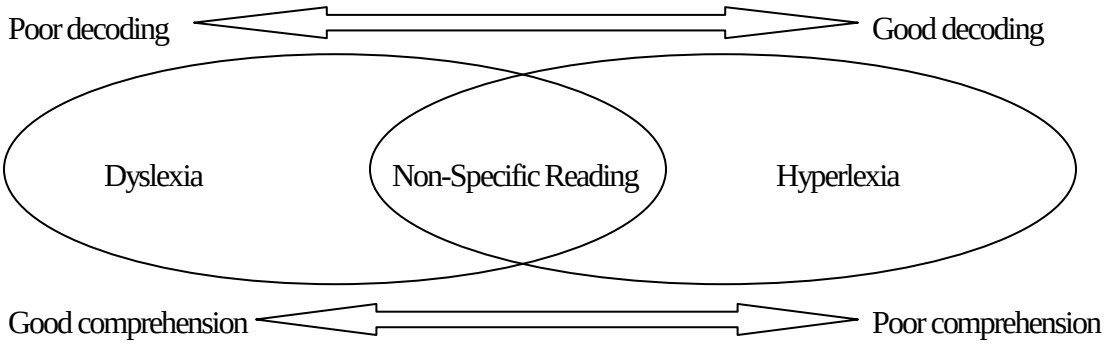
Figure 1: Four Profiles of Reader



Continuum Model of Reading Disabilities

According to Aaron (1989) and Chia (1998, 2000), disabled readers can be subdivided into three other sub-categories: (1) dyslexic, (2) hyperlexic, and (3) the non-specific reading disabled. Hyperlexia is seen as falling in one extreme end of a continuum of reading disabilities, while dyslexia is on the other extreme end. In between the continuum are the various reading-related anomalies (see Figure 2).

Figure 2: Continuum Model of Reading Disabilities



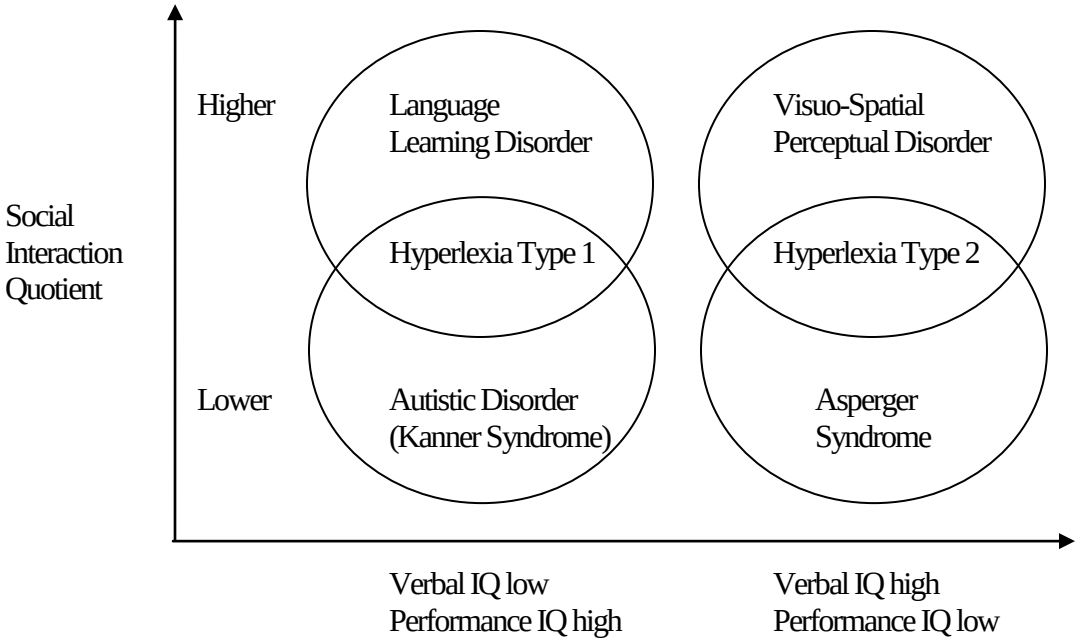
As already mentioned earlier, hyperlexia is a developmental disorder characterized by a good ability to decode and read words way ahead what would be expected of a child at his/her chronological age but a significant lack of comprehension in what has been read as well as understanding verbal language (i.e., listening comprehension). Generally, hyperlexic readers often display the following symptoms: (1) need to re-read text a few times and often remember only a few details, rather than the "whole"; (2) written language is often unorganized and non-specific; (3) has difficulty socializing and interacting appropriately with others; and (4) has difficulty following conversation and tends to repeat questions (echolalic) and often known to be poor listener.

Process of Listening/Reading Comprehension

Comprehension is a process involving the ability to encode or decode letters and sounds into meaningful words, connecting meanings in context and interrelated sentences to form an overall cohesive and coherent text. Prior acquired knowledge and experience are also essential in assisting establishment of meaningful reading. Comprehension is thus an interactive process that goes beyond mere reading. Hyperlexic readers are unable to make these connections although they have good phonological and orthographic ability and rote memory. Hyperlexic readers not only have reading comprehension difficulties, but also lacking in critical thinking skills (Chia, 2007), following directions, following conversational speech and difficulty expressing ideas in an orderly manner.

In view of these problems, hyperlexia has been seen as an overlap between autistic disorder (also known as Kanner Syndrome) and language learning disorder forming what is known as Hyperlexia Type 1, and between visual-spatial perceptual disorder and Asperger Syndrome forming what is known as Hyperlexia Type 2 (Richman, 1997) (see Figure 3).

Figure 3:
Richman's Model of Hyperlexia Subtypes



However, Chia (2003) has subcategorized hyperlexia further into Hyperlexia Subtype 1A (with Language Learning Disorder) and 1B (with Autistic Disorder), and Hyperlexia Subtypes 2A (with Visuo-Spatial Perceptual Disorder) and 2B (with Asperger Syndrome). He added that there is yet a third type, Hyperlexia Type 3 which can be subdivided into Hyperlexia Subtype 3A (Direct Dyslexia) and Hyperlexia Subtype 3B (Non-verbal Learning Disorder, also known as Reversed Dyslexia).

In diagnosing children suspected of having hyperlexia, it is important to assess such children in the context of suspected pervasive developmental disorder (including autism spectrum disorder and non-autistic disorders such as Rett's Syndrome). It is also important to take into consideration of semantic-pragmatic disorder (SPD for short, and sometimes known as high-functioning autism disorder or HFAD for short, although experts are still divided about the condition) which coincides with autism spectrum disorder (i.e., early infantile autism) forming what Chia (2007) named as the possibility of existence of Hyperlexia Type 1.ii which can be subdivided into Hyperlexia Subtype 1.i.A (i.e., Hyperlexic-Language Learning Disroder), Hyperlexia Subtype 1.i.B (i.e., Hyperlexia with autism spectrum disorder) and Hyperlexia Subtype 1.ii.A (i.e., Hyperlexia with semantic-pragmatic disorder or SPD).

Finally, in planning treatment for children diagnosed with hyperlexia, it is thus important to be precise with the diagnosis in order to select appropriate intervention strategies to work with such children.

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Integrating Self-determination Instruction for Youth with Reading/Learning Disabilities

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Abstract

Self-determination has been recognized as the very important manifestation to high-quality learning and prediction of the positive post-school outcomes and successful school completion. The increased focus on self-determination is particularly evident in the field of working with individuals with disabilities. This paper looks more closely into the components of self-determination and provides advice on integrating these components in educational programs to help further our students' positive future.

Introduction

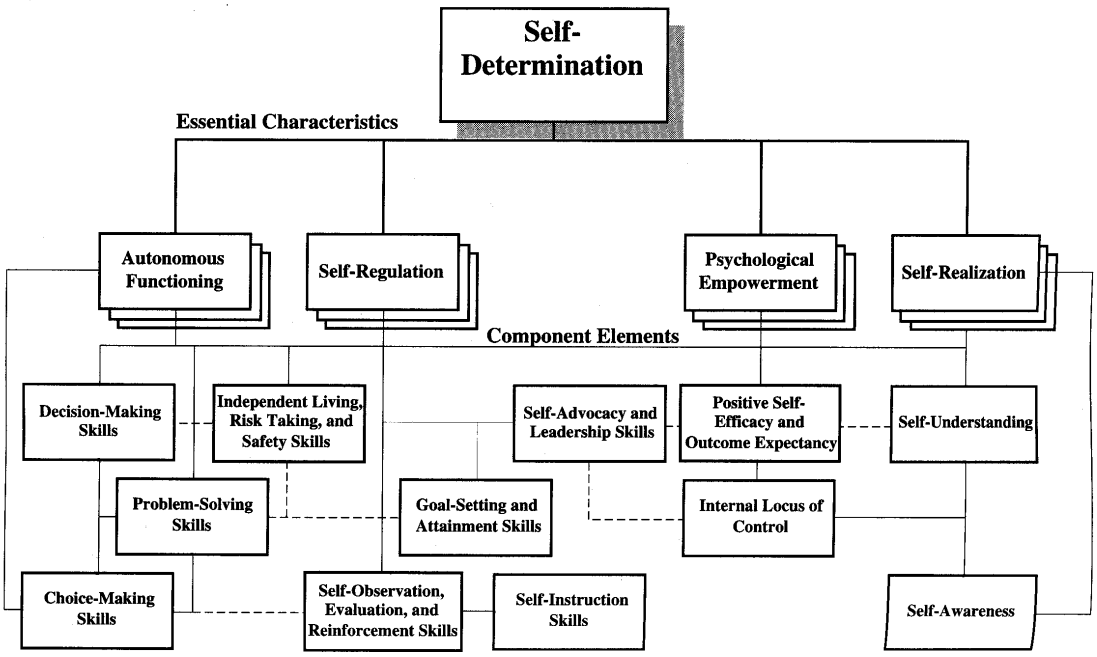
The construct of self-determination has been recognized as the very important manifestation to high-quality learning as well as enhancement of personal growth and adjustment (Deci, Vallerand, Pelletier, & Ryan, 1991; Eisenman, 2007; Vallerand, Fortier, & Guay, 1997; Wehmeyer, Agran, & Hughes, 1998; Zimmerman, 2002). The increased focus on self-determination is particularly evident in the field of working with individuals with disabilities. Empirical studies have identified that individual's levels of self-determination predicted the positive post-school outcomes and successful school completion. Attributes that distinguish those successful from unsuccessful are related to skills and knowledge of self-determination, including self-awareness, proactivity, perseverance, emotional stability, goal setting and use of support systems (Benz, Yovanoff, & Doren, 1997; Raskind, Goldberg, Higgins, & Herman, 1999; Wehmeyer & Schwartz, 1997; Wehymeyer & Palmer, 2003). It is important to look more closely into the components of self-determination and integrate these components in educational programs to help further our students' positive future.

Definition of Self-determination

Wehmeyer (1996) described self-determination as an educational outcome (skills and knowledge learned through a relevant curriculum) and defined it as "acting as the primary casual agent in one's life and making choices and decisions regarding one's quality of life free from undue external influence or interference" (p. 24). Within this definitional framework, self-determined behavior refers to actions that are identified by four essential characteristics based on the function (purposes) of the behavior: 1) the person acted autonomously: acting according to one's preferences, free of undue external influence; 2) the behavior(s) are self-regulated: engaging in self-management, goal setting and attainment, and problem solving; 3) the person initiated and

responded to the event(s) in a psychologically empowered manner: acting on the belief that one can exert control over areas important to him or her, that he or she possesses the skills necessary to exert control, and that exercising those skills will result in desired outcome; and 4) the person acted in a self-realizing manner: acting one's accurate knowledge of one's strength and limitation. Figure 1 illustrates the relationship among these four essential characteristics.

Figure 1. Essential characteristics of self-determination and their component elements. (——— = direct relationship; ---------- = indirect relationship.) (Cited from Wehmeyer, Agran, & Hughes, 1998, p. 8).



The importance of self-determination has been emphasized in the literature.

However, many students with special needs have encountered difficulties developing these important skills and attitudes. In a review of literature, Biller (1985) found students with disabilities often:

- exhibit an external locus of control;
- exhibit low self-esteem;
- exhibit poor planning and goal setting skills;
- participate least in extracurricular activities;
- have difficulty in gathering information for decision making;
- are weak in career decidedness at the time of graduation; and
- have a weak reality orientation regarding their strengths and limitations and the relationship of that self-knowledge to career choice.

Adolescents with disabilities often are less able to make career decisions and less prepared for adult responsibilities due to these characteristics. Students with disabilities have a lack of incidental learning skills and need substantial support to help them become active and self-regulated learners (Mercer, Jordan, & Miller, 1996), so they need to learn such skills related to career development and self-determination on an informal basis. Learned helplessness and self-deprecation make them unable to advocate their own needs, wants, and desires and present barriers to become self-determined adults. Wehmeyer and Schwartz (1997) examined the impact of student self-determination status on the postsecondary outcomes of 80 youth with mild mental retardation or a learning disability and found that self-determined students achieved higher. The data suggested a consistent trend in which self-determined youth had more positive outcomes than their peers with lower self-determination scores. Schools should provide students with disabilities opportunities to learn and apply these skills, and also help them to internalize these concepts and finally change their attitude. If the educational process has not adequately prepared students with special learning needs to become self-sufficient citizens, students with special learning needs will not be able to become self-determined young people. Martin, Marshall, Maxson, and Jerman (1993) put it this way:

If students floated in life jackets for 12 years, would they be expected to swim if the jackets were suddenly jerked away? Probably not. The situation is similar for students receiving special education services. All too often these students are not taught how to self-manage their own lives before they are thrust into the cold water of post-school reality. (p. 4)

Elaborating on this metaphor, the Chinese proverb applies here: Teach them how to fish rather than just feed them fish. Schools need to prepare students for post-school reality and facilitate the successful transition process. In practice, students and their family don't make transition decisions in the transition process; however, professionals involved in the process make the decisions. The whole transition environment doesn't support and develop self-determination interdependently (Alberto, Taber, Brozovic, & Elliot, 1997). In many instances, students are not being invited to attend transition planning meetings, and they are not taught how to participate (Alberto, Taber, Brozovic, & Elliot, 1997). Schools may think that promoting self-determination means merely that a student serves as a chairperson in a planning meeting in which a student is invited to constitute a self-determination program. However, this is not what self-determination defined as an educational outcome truly means. According to self-determination theory (Deci, Vallerand, Pelletier, & Ryan, 1991), researchers have drawn attention to the role of students' perceived competence and self-determined motivation as influences on their educational behaviors and outcomes.

Self-determination and School Motivation

There has factors been found relate to various educational determinants and consequences, including intrinsic and extrinsic motivation and amotivation. These motivation factors have been empirically validated and explained by self-determination theory. However, self-determination theory would not have interpreted the dynamics among these factors without its social context. Research has revealed that the social context in education can have an important influence on

motivation (Ames, 1992). Teachers are a very important part of the school social context. A teacher supporting students' autonomy implies allowing students to make certain decisions about their learning. Such a practice increases students' self-determined motivation in which students develop high levels of intrinsic motivation and identification but low levels of amotivation and external regulation (Deci, Vallerand, Pelletier, & Ryan, 1991). In other words, students are empowered in self-regulating their learning behaviors and have the ownership of their learning. Therefore, the impact of social context (teacher as an example) on students' intrinsic motivation is mediated by perceptions of both competencies (reading achievement as an example) and autonomy (self-determination).

In order to be most effective, a system-wide approach is necessary to promote self-determination for students with disabilities. Research literature (Bandura, 1986; Gleason, 1997; Vygotsky, 1986) suggests that students learn when acting with the adult's guidance or from what is modeled by the educators. When teachers intentionally promote self-determination development, they can help students accumulate protective motivational architecture, which not only prevents them becoming the odds of dropout statistics but also further strengthens their engagement in school. Research has pointed out the key for students to succeed academically is how teachers effectively engage students in the schooling process (Eisenman, 2007) and students' fundamental self-determination skills (Fowler, Konrad, Walker, Test, & Wood, 2007; Konrad, Trela, & Test, 2006).

It is important to recognize that engaging students not only meant in subject content but also in negotiating meaningful relationships within a student self. Teachers can take a proactive stance to teach students the self-determination skills they need for succeeding academically, creating meaningful relationships and managing the school environment in ways that enhances the fitting of students into school (Christenson, Sinclair, Lehr, & Godber, 2001) and their post-school outcomes. The emphasis on self-determination includes the development of curricula and instructional strategies, which emerged as students with learning disabilities, families and related service providers examined how to best to help achieve students' goals (school and post-school related).

Self-determination and Students With Reading/Learning Disabilities

Students with reading/learning disabilities face many unique barriers to becoming self-determined. Neurologically, reading/learning disabilities hinder students to have difficulties in learning to read and write, as well their underlying cognitive deficits such as poor working memory, organizational and planning skills, mental flexibility, task initiation, sequencing and disadvantages in other aspects (Ramus, Rosen, Dakin, Day, Castellote, White, & Frith, 2003; Snow, 1992). Psychologically, students with reading/learning disabilities often experience significant emotional problems and have been found to affect mental health, self-esteem, and social relationships in addition to their learning difficulties (Koay, 2009; Scott, Scherman, & Phillips, 2003; Wright-Strawderman, C., & Watson, B. L., 1992).

As discussed in the very beginning of this article, essential characteristics and demanded skills linked to self-determination are those presenting challenges for students with reading/learning disabilities. For example, the inabilities to plan, initiate behavior, and respond flexibly to situations. Moreover, the inappropriate or ineffective socialization skills are issues as

well because positive relationships are fundamental to self-determination and the ability to make effective choices (Ryan & Deci, 2000). The need for self-determination skills is no doubt and especially so for youth in the transition stage to post-school lives among literature (e.g., Field, Sarver, & Shaw, 2004; Wehmeyer, & Schwartz, 1997). Successful transitions to postsecondary education settings are often dependent on students' abilities to express their needs for supports and accommodations. In comparison to K-12 education settings, postsecondary settings require a higher level of organizational skills, independence and initiatives. Students can benefit from the curriculum that integrates self-determination skills while they are still in school regarding their academic performance and transition preparation.

Integration of Self-determination and Reading Instruction

Konrad, Walker, Fowler, Test, and Wood (2008) reviewed literature in the efforts of promoting self-determination and academic skill development. The following list provides general strategies of integrating self-determination component skills (p.59):

Choice Making

- Give students a choice between academic assignments or a choice of the order in which to complete assignments.

Decision Making

- Teach students to decode situations and make decisions regarding actions needed to improve behaviors that support academic performance. For example, asking for assistance, completing an assignment.

Problem Solving

- Teach skills that support academics (e.g., following directions, contributing to class) and augment academic performance (e.g., problem-solving methods in science, organization of materials in English) through the *Self-Determined Learning Model of Instruction*. Teach students to identify a goal, plan steps needed to achieve the goal, move through a series of problem-solving steps to make progress, and evaluate progress and make adjustments to the goal or plan.

Goal Setting

- Teach students to write their goals and objectives in paragraph format using the self-regulated strategy-development model.
- Instruct students to set goals for amount or quality of work. For example, problems completed, pages read.
- Use student-signed contracts to encourage students to meet academic goals.

Self-Awareness

- Improve long-term assignment completion by teaching students to identify strengths and needs, plan steps, monitor progress, and evaluate quality.

Self-Recruiting/Self-Advocacy

- Teach students to recruit teacher assistance.

Self-Regulation/Self-Management

- Teach students to reinforce themselves with self-praise or recruit reinforcement for demonstration of a target behavior. For example, on-task performance, completion of assignments.
- Teach student to plan and self-monitoring story writing with a story-elements checklist.
- Teach students to self-record through check marks or graphing the completion of a target behavior. For example, employing self-recruitment, achieving accuracy of academic task.
- Teach students to evaluate the quality of their responses.
- Teach students to self-instruct through the steps of academic tasks.
- Teach students to self-monitor progress on goals.
- Teach students to identify the task for completion, recruit assistance as needed, plan steps to complete the task, and self-check accuracy and progress.

In order to effectively incorporate these essential elements of self-determination, research effort has put in to compile existing self-determination curricula. Literature circles as a tool has been recognized in reading instruction for this purpose (Blum, Lipsett, & Yocom, 2002; Anderson, & Corbett, 2008). The most effective reading instruction for students struggling with reading difficulties that teachers can provide is one-on-one based. However, it is rarely practical and not cost effective. In accommodating the range of student diversity, teachers must create a learning environment for reading that encourages all students to develop a variety of reading strategies and self-determination skills. Self-determination skills will enhance students' engagement level and help in developing their metacognition of how the strategies work and understand why.

A literature circle can take place with as few as two students or with the whole class (Daniels, 2002). It is important to note that the circle size does not interfere with each individual's opportunities to express the interpretation of texts and respond to the contributions of others. Although socialization is not the primary focus of literature circles, the dynamic nature does provide the positive relationships among students and enhance their school motivation. Four guidelines are proposed by Daniels (2002) and have been further elaborated by Anderson and Corbett (2008) as the follows:

- Students select their own reading material and are grouped according to this choice, with different groups reading different books or the same selection.
- Groups meet on a regular basis to discuss the reading, with students assuming assorted task roles.
- Teachers are facilitators, not instructors.
- Circle activity is aligned with curriculum standards and systematically assessed.

Teacher/student Roles in Self-determination Skills Related Instruction

Integrated self-determination instruction requires a paradigm shift in the relationships between teachers and students. Promoting self-determination challenges the traditional view of a teacher's role from being an expert to a facilitator. The role of the facilitator is to encourage and facilitate the learning process. The teacher acts as facilitator of reading-processing and problem-probing techniques in the classroom instruction such as literature circles. The teacher is generally not the

provider of knowledge but the facilitator of scaffolds defined as conversations and interactions. Self-determined learning experience values a way of knowing as important as the content knowledge resulting from training and study. The students learn to become an active user of self-monitoring strategies to regulate their understanding of readings. The students also learn to take on the role of the reciprocal respondent by consistently providing information regarding why and what they are doing with the readings.

Summary

In this paper the author provided a brief overview of the research on self-determination and explained its impact on students' school motivation and post-school outcomes. The evidence is particularly so in the studies concerning students with reading/learning disabilities. In the delineation the author stressed the importance of integrating self-determination in the academic curriculum and teacher's role in promoting self-determination skills and knowledge. In the integrated self-determination curriculum, teacher functions as a facilitator and assessor of student learning in an interactive, reciprocal dialogue with the student.

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Which Plan of Reading Instruction is Best? A Suggestion from a Professor Emeritus

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Abstract

This is a short article contributed by Dr Marlow Ediger, Professor Emeritus at the Truman State University. It delves briefly on what is the most appropriate plan of reading instruction in order to meet poor readers' needs and to help train and/or equip them to become better, if not, fluent readers.

At the Beginning …

Which is the very best plan of reading instruction? There are a plethora of plans available to assist pupils to achieve more optimally. A major problem is to match the reading plan with the learner. Pupils need to accept and benefit from the chosen procedure. One size does not fit all; this expression has been used numerous times in referring to *No Child Left Behind* (NCLB) and is applicable to choosing a reading program for children. The question arises, "Which plan assists pupils to best become fluent readers?"

Different Philosophies of Reading Instruction

Each recommended plan of teaching and learning has selected key beliefs. The beliefs must translate into effective programs of teaching reading. Pupils need assistance to become good readers in decoding as well as in comprehension. The chosen plan of reading needs to harmonize with the possessed learning style (Ediger 2005).

Individualized reading stresses the pupil selecting which sequential library books to complete. Selections are based on learner interests with teacher/pupil conferences generally held after each completed book in reading. The selection of library books must be broad in genre and reading levels.

What are the advantages of individualized reading?

(1) Decision making is being emphasized by pupils. Decision making is highly salient in school and in society.
(2) To own the curriculum, pupils do better if choices are permitted in terms of what to read.
(3) Teachers must have a good knowledge of children's library books in order to stress quality in conferences with pupils. Pupils are to indicate decoding and comprehension skills.
(4) Time on task is important since pupils enjoy considerable freedom in choices made.

Disadvantages include the following:
(1) Selected pupils are not ready to choose a library book to read nor in settling down to read.
(2) There are pupils who are hierarchical and want the teacher to make the choices.
(3) Certain teachers find it difficult in being adequately knowledgeable about children's literature in order to carry out quality discussions of children's literature in conference settings with pupils.
(4) Self discipline is difficult for the pupil in monitoring his/her own reading.

To every action, there is a somewhat equal reaction in choosing a plan of reading instruction. There are advantages and disadvantages for each. The plan adopted, in whole or in part, must meet personal needs of the individual and encourage interest in reading. Too frequently with drill and practice, interest is minimized. Much criticism has been aimed at mandated testing due to much repetitive teaching of possible skills on that test.

Basal readers have been popular over the years in teaching reading. The accompanying manual lists suggested objectives for pupil achievement, learning activities to achieve objectives, and evaluation procedures to achieve progress. The teacher may be creative in using the basal by considering it as a handbook, from which choices may be made in terms, for example, of learning activities (See Fountas & Pinnell 1999).

For the teacher, there are suggestions for teaching in the Manual. This provides a richer repertoire in curriculum development, as well as in reading instruction. The pros in using basal readers also include the following:
(1) Beginning teachers, in particular, have security in teaching reading with the utilization of a carefully chosen basal and the accompanying Manual.
(2) They are written and developed by specialists in the teaching of reading.

There are always disadvantages for any plan of teaching:
(1) Basal readers have not met the needs of selected pupils when providing for individual differences.
(2) It becomes very formal and artificial when teachers become dependent on the Manual. Authentic teaching is then lacking.

Reading teachers must adapt instruction to individual learner needs, not what a manual may say or what other reading programs advocate. The focal point is the pupil and his/her need to become proficient in reading. When being a good reader, the pupil is able to read subject matter in the natural sciences, the social sciences, the arts, as well as content in mathematics and the other academic disciplines. The pupil needs to make sequential progress with good teaching. A developmental program of instruction is then in evidence with room for the zone of proximal development (ZPD). The ZPD emphasizes where a pupil is presently in achievement with the reading teacher stressing a higher, possible achievable objective. That gap may be filled with quality learning activities.

An issue in reading instruction pertains to a strong program of phonics for young school aged children versus a whole language approach. Phonics instruction is of value when integrated with meaning in comprehension. There are consistent phonic understandings when relating specific graphemes and phonemes. Many times, the reader identifies an unknown word through recognizing an initial consonant and utilizing context clues. Additional means of phonic word recognition include the following:

- Dividing an unknown into syllables; and
- Dividing an unknown into shorter words (See Callow, 2008).

A Big Book Approach in reading instruction might well emphasize a whole language approach in teaching reading. Thus, five to six pupils are seated around a large, interesting library book. The contents need to be clearly visible to those involved. A computer with a large screen may also be used. The teacher stimulates interest in reading by discussing the related illustrations with pupils. This is followed by the reading teacher pointing to each word read aloud, as pupils follow along carefully. The teacher needs to observe if each pupil is looking at sequential words intensively. The read aloud continues with pupils joining in. The activity may be repeated as often as desired.

Reading teachers bring in phonic learning with asking questions such as the following:

- Which words, for example, did we read which rhyme with "man?"
- Which word(s) begin with the letter "d" as in dog?" (Lower case "d" and "dog' are printed on the board (Ediger 2003).

Phonic approaches should be taught based on individual pupil need. If a pupil knows selected phonic learning, he/she must not be "taught" these same learning again. When supervising university student teachers, the writer noticed that lesson plans incorporated phonics even though these had been mastered by selected pupils. Ensuing reading objectives should be new and challenging. A workable strategy needs to be utilized to assist pupils to attain relevant learning. Diversity of purposeful experiences must be provided for remedial and developmental teaching.

Achieving measurably stated objectives versus open ended goals has drawn much attention in reading instruction. Presently, measurably stated objectives is receiving emphasis. *No Child Left Behind* (NCLB) has emphasized testing to challenge and motivate learners to work harder. NCLB is being revised and, no doubt, will stress nationwide testing. Test results are precise and provide a number such as a percentile, or grade equivalent. This provides data for failing or promoting a pupil in moving on to the next grade level. There are a plethora of difficulties involved in having pupils take a single standardized test to notice achievement, progress, and promotional purposes (See Campbell, 2007). These include the following:

- Generally, multiple choice test items are used and pupils are to choose the "correct" response whereby the response may not be that clear cut
- Higher levels of cognition are minimized since "correctness," as defined by test writers, is being stressed in choosing the right answer.
- Thinking outside the box is definitely discouraged. Thus, creative and critical thinking, as well as problem are greatly minimized.
- Test writers, unknown to teachers and pupils, come from areas removed from the local school.

This would not square with constructivism, a psychology of learning, or that the teacher needs to know pupils well and their individual capabilities to teach reading effectively.

The vast numbers of tests are machine scored and thus uniformity is emphasized in time limits for test taking, the same test items for each grade level of pupils taking the test, and the same norms for evaluating each pupil's score on the test.

Standardized tests attempt to have "sameness" in all its contents and methods of test taking, but the major difference is that pupils differ from each other in myriad ways. Education should not standardize pupils, but be modified to provide for different interests, and abilities of learners. Pupils progress at diverse rates of speed and have different goals in life. When looking at all the listed occupations of workers in a nation, individuals truly have many choices and decisions to make. These should be made on the basis of the learner's talents and what he/she can do well with involved purposes. High school students must be assisted to make personal choices based on what is perceived salient by the student. Forcing the student to make occupational and vocational choices is to be frowned upon. Dogmatic advice also is abhorrent. Student need to be respected and valued for their own sake. Rudeness and intimidation have no roles to play in teaching, learning, and guidance services. Students are human beings with feelings, values, and attitudes. Attitudes need to be accepting of others, respectful, and polite (Bottoms 2008).

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Media Literacy in a World Gone Flat: A 5-step Primer for Educators to make sense of the age of the World Wide Web & Social Media

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Abstract

With an Internet penetration rate of 97% for the 7-14 and 14-25 age groups, it has become necessary for Singaporean educators to be media literate with the convergent nature of the Internet. This paper proposes a 5-step model to enable a student to be informed and discerning in a screen-based society where images, sound and motion cross-pollinate with the traditional idea of text.

Introduction

These are interesting and challenging times to be an educator. The advent of the Internet and the World Wide Web (henceforth known as the Web) has meant that literacy has gone beyond the printed word, and that text has gone beyond the bindings of a book. The convergent properties of the Internet and the Web have seen the emergence of a screen-based society where images, sound and motion cross-pollinate as text in a medium that goes against the grain of traditional top-down media. This has led to a broadening of the concept of literacy, necessary to deal with new ways of communication as we transform the way we 'read' and 'write' (Kist, 2010). This primer seeks to provide a simple 5-step model for educators to help make sense of this new epoch in communication where computer-mediated communication (CMC) takes centre stage using the World Wide Web as a medium. This model is based on my personal experience tutoring media and communication in an Australian University in 2010.

Singapore is today one of the most connected cities in the world (Singh, 2008). The pervasiveness of Internet use in Singaporean homes provides evidence as such (Figure 1). In terms of frequency of use, 40% of the age group 7-14 uses the Internet at least once a day. This figure rises up to 82% for the age group 15-24 (IDA, 2009). The purpose of use is clear – 'to communicate' ranks first by a long mile in both age groups, at 45% and 82% respectively. The reality that 97% of the 7-14 and 15-24 age groups (Figure 2) use the Internet provides a glimpse that the Internet has become a significant tool for communication, and beyond.

Figure 1 – Household Access to the Internet at Home, 2005-2009. Source – IDA

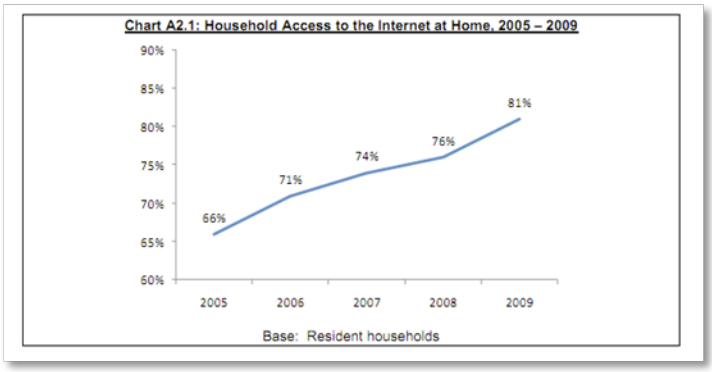
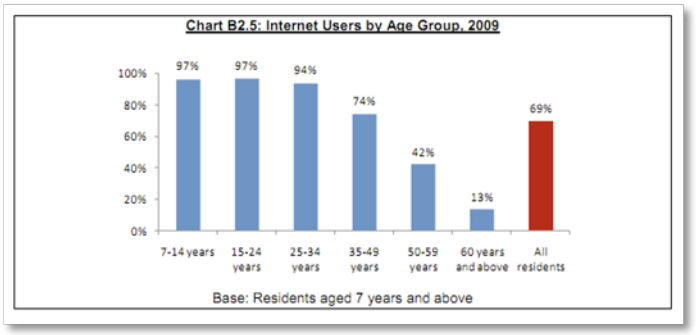


Figure 2: Internet Users by Age Group, 2009. Source – IDA



Since time immemorial, the desire to get messages across time and space has been the catalyst of much human social and technological evolution. Starting from chesty grunts to cave paintings, we now witness an epoch of digital and wireless technology where time and space is no longer a barrier to getting our points across, intentional or otherwise. For our students, it means they now have the means to communicate with far less restrictions than we did growing up, with a far more wide-ranging reach. Consequently, there are far more implications. The way we communicate has indeed changed, and so has the means we use to facilitate communication. As Internet usage becomes inseparable from our daily activities, the more chances corporate or political media have to shape the thinking of our youths – unless they are taught how to discern against that manipulation.

Media Literacy

The key defense to this manipulation is quite simply – media literacy. Most of us will think we are fairly media literate. We might be able to quickly name the actors in the latest blockbusters, wax lyrical about the sophisticated plots in TV dramas, know the names of many a television show, film, book, song title, even memorize Web URLs. We may even be masters at the growing number of immersive games couched on the premise of a second life, or the extension of our physical identity through virtual worlds. But all that is only the tip of the iceberg.

Richardson (2009) contends that this is a challenging time for educators because whilst the world is changing around educators, the system has been slow to react. He followed this contention by asserting that student realities in term of communication and learning methods differ significantly from what educators went through. He added, 'By and large, they are 'out there' using a variety of technologies that they are told they can't use when they come to school' (p.5).

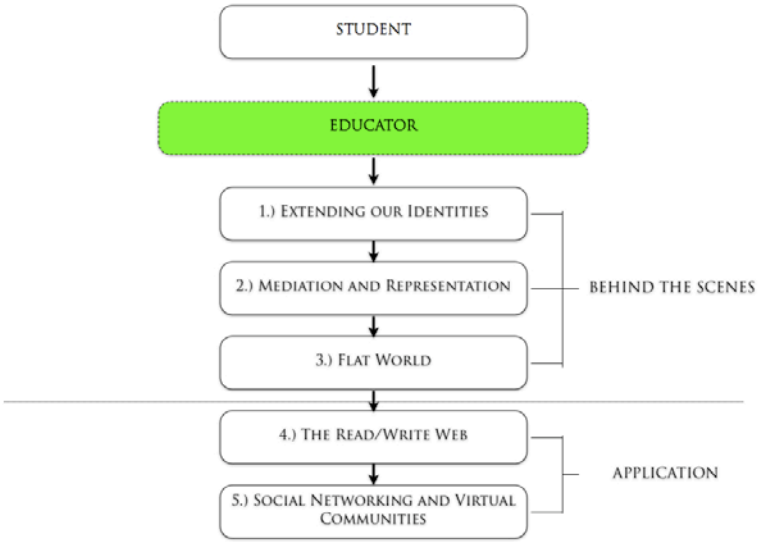
To compound the challenge, youths are getting started on technology and new media at a very young age, and this has been brewing for at least a decade, according to Oppenhemier (2003). He noted that parents have been sympathetic to this view for the consequence of having their children fall behind was too much to bear.

> 'As evidence, the hottest selling toys in 2002 were high-tech gizmos to give young children a leg up - talking books and robots, beeping alphabet boards, and the many other computerized products that the industry calls 'electronic learning aids'… 'The irony is that in today's world, computer access is becoming ubiquitous, while access to tools and other materials needed to build physical things has become extinct in the schools.' (Oppenheimer, 2003, p. 197).

With such wheels set in motion, media literacy has to be an important part in the education of any youth. Media literacy first developed from two distinct theoretical views: inoculation theory and cultural studies theory. Christ & Potter (1998) suggest that one camp sees it as a form of empowerment for individuals to learn and to control the effects of media on themselves. The other camp sees the agenda of media literacy as agency to transform society through activism, motivated by a desire to democratize institutions. Beyond possessing a level of media literacy to find jobs, some practitioners believe the overarching goal of media literacy is to educate students in a manner broad enough to participate in an increasingly complex society.

As a means of navigating this complex society, the following basic 5-step media literacy model is proposed (see Figure 3). This is a limited model, as it does not address adequately paradigms such as old versus new media, the myth that the Internet and the World Wide Web is one and the same, or even the democratizing potential of the Internet. It should however, be adequate as a baseline to keep a budding Internet user informed and discerning enough to avoid being manipulated.

Figure 3: 5-Step Media Literacy Model



1. Extending our Identities

The first step involves letting the student understand that physical and online identities can be two separate entities and that using the Internet is not simply an extension of the physical self. As a perspective, Baron (2004) suggested that the development of identity comes in part through interaction with their culture and others in it. As that interaction changes, the identity it fosters changes correspondingly. He poses a pertinent question here - 'what kinds of identities people can build when new communication technologies infinitely extend their senses - sight, speech, and hearing' (pp. 325)?

With the convergent nature of the Internet, sight, speech and hearing cross-pollinate to create a form of text that requires additional training to 'read' and 'write' for.

Thelwall (2009, pp. 59) provides an excellent case in point - public messages (comments or wall postings) exchanged by social network site members, are a 'new type of text-based communication'. These messages are unusual in that they are public. They are either world-visible or visible to all of a member's friends and can be permanently associated the identity of the poster. The equivalent of such communication in the physical realm is usually heard and forgotten, and less and seldom permanently associated with the identity of the message sender.

Chomsky (2002) in his book 'On Nature and Language' (p.1) also posed a salient question on this. He quoted Galileo - that 'the use of finite means to express an unlimited array of thoughts' was one of the joys of mastering new ways to communicate. Fast forward to the twenty-first century - with the pervasiveness of new, and social media phenomenon such as Facebook, Twitter and MySpace and the sometimes inane and inconsequential banter that come along with comments and wall posts, casual observers might just think the reverse – that we now have infinite means to express a limited array of thoughts.

2. Mediation and Representation

The second step involves letting the student know that media is ultimately a secondary resource without the benefit of the primacy of first-hand experience. The media show us what the world is like; they make sense of the world for us. We rely on a whole range of images to make sense of the world. Kist (2010) suggests that visual literacy skills have to be included to prepare students for this new kind of 'reading'. Using the World Wide Web requires understanding that mediation is the most common source of information online. Mediation involves the relaying of second-hand (or third party) versions of events and conditions that we cannot directly observe for ourselves; therefore the process of mediation = the media stand between us and the world or reality.

With media literally meaning 'middle', the media's role is to provide occasions, links, channels, arenas and platforms for ideas and information to circulate. By way of the media, meanings are formed through (supposedly) neutrally informing us of an issue or event, through negotiation, to attempts of manipulation and control. McLuhan (1964) sums it up most pertinently by stating that the media was developing in such a way that the medium has become the message itself.

On the question of representation, students need to understand that meaning is not universal. The maker of an image creates 'particular relations between viewers and the 'world' they depict' according to Jewitt, (2006, pp.44). It is further argued that viewers are 'placed' in a particular viewing position to the subject matter being represented. Viewers may not necessarily accept the viewing position offered as they bring their own interests and experiences to an image in a process of negotiation.

Pertinently, Jewitt also posits that through 'the semiotic resource of 'distance' images shape the people's relationship with the representation of people, places and things.' He reasons that in everyday interaction, 'cultural norms of social relationships influence the distance that people keep from each other. To see people close up - every detail of their face - is to see them in a way that is usually reserved for people that are very intimate with each other. '

3. Flat World

Third is the acknowledgement that the Web offers a different paradigm to conventional communication models. The Web is arguably a world gone flat as communication shifts from a top-down model to a sideways model; and it demonstrates the democratizing potential of new media. Whilst that is conventional thinking, its flatness has its downsides as well and needs to be closely examined. Stories on the Web may appear to be true, widely accepted to the point it becomes heresy to suggest otherwise (Davies, 2008), even if it is false and distorted. Due to its 'flat' properties, information can be disseminated quickly and widely. A case in point was the Millennium Bug in the year 2000. Widely regarded and largely exaggerated as a threat to the status quo, corporations and governments spent immense fortunes to protect themselves against a 'bug' that turned out to be mostly benign.

> Millennium Eve turned out to be a terrifying night for journalists. It was in itself a stunning example of a failure in truth telling by the global media. Whatever the truth was about the possible threat to computers that night, the world's journalists clearly had gone a long way beyond it… The millennium bug was one example of a

> systemic weakness that has overwhelmed communications media, leaving governments all over the planet and their billions of citizens embarking on a new era in which they continue to pour time and energy and money into frantic activity which frequently proves to be built out of untruth. (Davies, 2008, pp. 12)

4. The Read/Write Web

Fourth, unlike TV and broadcast media where the audience are simply passive receivers of information, the World Wide Web was designed to be a Read/Write Web under founder Tim Berners-Lee's original concept in 1989. Online, media consumption can be transformed into an active and critical process. The original vision of being able to read and write to the Web was slow. For the most part, the ability to create content on the Web was nowhere as easy as consuming it, and even those who could create did so with little means for easy collaboration. (Richardson, 2009, p.1) This changed as early as 2003 when Internet publishing was made easier with a flurry of WYSIWYG (What you see is what you get) programs that removed the need for content publishers to have programming skills to build websites.

> A 2003 survey by Pew Internet & American Life Project found more than 53 million American adults or 44% of adult Internet users had used the Internet to publish their thoughts, respond to others, post pictires, share files, and otherwise contribute to the explosion of content available online (Lenhart, Fallows & Corrigan, 2004 as cited in Richardson, 2009, p.2)

5. Social Networking and Virtual Communities

Putting it altogether, the educator needs to have the student informed that online identities are extensions but not necessarily reflections of physical identities. Beyond that, the recognition that the media is essentially 'second-hand information' is also critical to comprehend the flat-world nature of the Web, that not all we read on the Web is the gospel truth. Media literacy is critical because of this very nature of the web – it is not a passive medium, but an active one that requires engagement and discernment.

To sum it up, Muthu (2005) states that the culture of using electronic media is pervasive. Ubiquitous and integrated into 'contemporary technology-mediated environments' (pp.213), the tools available on the Internet and the Web can do a lot of good. They provide ballast to worldwide social discourse, often providing connections between geographically distanced youths to share and co-construct knowledge.

This however, also raises room for concern. Central to this is how students and youths are now able to build vast social networks using tools such as Facebook, MySpace and Twitter with often little or no guidance from adults. They use much more complex and flexible information in the digital format with little instruction on how it differs from the paper, even real world. These virtual communities are also often not homogenous – featuring different online environments and demographics. A study by Boyd (2007) revealed that Facebook originated from the education sector and seemed to have more educated users than the predominantly high-school group that uses MySpace. The Internet and the Web may be flat in nature, but it does not mean the end of status and power.

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Illustrations

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Retrospective Insights on Teaching Literacy by Parents to their child with Autism

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Abstract

Parents of children with autism spectrum disorders (ASD) are confronted and confounded by the multiple and varied types of evidenced-based interventions as well as complementary therapies (Goin-Kochel, Mackintosh & Myers, 2009) which they have to select, adopt and invest resources to support their child. Many claimed efficacy of through publications in peer-reviewed and non peer reviewed research literature on condition that the principles and devices of intervention are faithfully followed through. However, most if not all, did not include the holistic perspective of considering the need of the caregiver parent sense of coherence (Antonovsky, 1987; Mccubbin, Thompson, Thompson & Fromer, 1998) and perceived self-efficacy (Bandura, 1997) to reinforce and maintain the benefits of whatever interventions that has been adopted by the various organizations. The current paper provides retrospective insights by the researcher parent who has children with ASD on tacit learning, supported by research literature that may empower parents to be effective mediators of their child's learning of literacy that is sustainable and permanent.

Introduction

Generally parents of children with ASD are stressed (Tobing & Glenwick, 2006; Montes, & Halterman, 2007; Zaidman-Zait, et al., 2010) by their child's inappropriate behavior (Osborne, & Reed, 2009; Phetrasuwan, & Miles, 2009). A common characteristic of children with ASD are their obsession and demands to work with objects or activities that are of their interest repeatedly for extended periods of time or reacting from inordinate fears of known and unknown causes in the environment (Chia, Kee & Shaifudin, 2010; Kee & Loh, 2009, Mesibov, Shea & Kopler, 2004). Many are worn out and perplexed by their child's behavior that they desperately seek help and solutions from whomever and whatever that promises instant cure/help from their challenging circumstances (Shaw, 2008). Some are challenged with depletion of their savings and resources (Goin-Kochel, Mackintosh & Myers, 2009). Children with autism spectrum disorder (ASD) are often observed to be left alone to play with objects of their obsession or interest for extended periods of time at home. Parents could gainfully use those times to develop their literacy, which is essential for schooling and functioning in mainstream society (Mcguinness, 1997). The author researcher will examine retrospectively as parent of children with ASD of insights on what works that are supported by peer-reviewed research literature, to support parents teaching literacy to their child with ASD.

Sense of Coherence

Many parents may be so stressed and worn out by their child with ASD inappropriate behavior that they could not see themselves endowed with energy and perceived self-efficacy to teach literacy and other skills as with parents with typically developing children. Aaron Antonovsky (1987), a medical sociologist, was curious as to why some people, in spite of very trying, stressful and overwhelming circumstances (e.g. holocaust, women's menopause, death of spouse) still emerge mentally strong and functions well in society. He considers this a salutogenesis question. His thesis from his research findings arrived at the common denominator that all had strong sense of coherence (SOC). Antonovsky defines SOC as:

> "a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement" (Antonovsky, 1987, p. 19).

His salutogenesis question addressed by SOC has been studied and published in 33 languages in 32 countries in at least 458 peer-reviewed journal papers (Eriksson & Lindstrom, 2005) over the past 30 years (Hittner & Swickert, 2010; Honkinen, et al., 2009; Eriksson & Linstrom, 2007; Klepp, Mastekaasa, Sorenson, Sandanger & Kleiner, 2007). Mak, Ho and Law (2007) found mothers of children with autism in Hong Kong with strong sense of coherence to perceive lower stress than their counterparts even when their children have more severe autistic symptoms.

Essentially, Antonovsky advocates development towards good mental health qualities of comprehensibility, manageability and meaningfulness. The meaning and implications are unpacked through retrospective insights for teaching literacy.

How should parents comprehend ASD? (Comprehensibility component of SOC)

ASD is neurodevelopmental disorder (Chia, 2008; Shea, & Schopler, 2004). This implies that ASD affects normal development of the nervous system of the body. This normally leads to "unusual, repetitive, or severely limited activities and interest" (Pierangelo & Giuliani, 2007), such that they fail to develop joint attention needed for social communication (Rocha, Schreibman, & Stahmer, 2007). Parents can compensate or circumvent the impacted nervous capability by providing opportunities through scaffolding and engaging their child in modes of learning where there is no impairment to promote similar development seen in typical children. For example, most children with ASD are good visual learners, whereas typical children are taught mainly using auditory modality. Parents can make use of principles and techniques involved in Picture Exchange Communication System (PECS) (Bondy & Frost, 2002) to initiate the development of communication, necessary for development of literacy. My second and third sons who were initially non-verbal when they were below four years of age, developed some speech and literacy from using PECS. PECS, an evidence-based and mainstream approach (Yoder & Stone, 2006), bridges the learning of communication from visual pictures to verbal

language and literacy for my children. Children with ASD do not have impairments in understanding physical causality (Baron-Cohen, Frith & Leslie, 1986). They can therefore understand cause and effect constructs, such as appreciating that pressing buttons of lifts causes lift doors to open or playing video games (Kee, 2010).

Our understanding of cultural artifacts such as language is learnt by association of "hearing those noises as they accompany actual situations in life" (Hayakawa & Hayakawa, 1990, p. 36). "The map is not the territory" (Hayakawa & Hayakawa, 1990, p. 19).The acquisition of language usage is constructed through multiple sociocultural interactions of parents, teachers, peers and the community in defining the type of learning interaction occurring between subjects and their environment (Kozulin, 2002). These interactions are lacking in children with autism and needs to be facilitated for learning of language. (Kee, in-press). Parents thus need to be persistent and continually make explicit the diction and meaning of words through their interactions with the child. The child with ASD is expected with repeated exposure and familiarity of hearing those words and associating it with the experience, comprehend the meaning and usage, for development of literacy.

How to manage challenging behaviors? (Managing component of SOC)

Inappropriate behaviors of children with ASD may perhaps be explained by sensory integration challenges faced by majority of children with ASD. Sensory integration is a process of making sense of all the sensations we experience (tactile, vestibular, proprioception, visual, auditory, gustatory and olfactory (Myles, Cook, Miller, Rinner & Robbins, 2000). When children receive and process inaccurate or unreliable sensory input, their ability to create appropriate responses is disrupted (Dunn, 1991). This results in sensory integration dysfunction (SID), where four possible behavioral responses/self-regulation responses of registration, seeking, sensitivity and avoiding are possible (Dunn, 2007). Tomcheck and Dunn (2007) found that 95 percent of children with autism age 3 to 6 (n=281) have sensory integration problems (see Table 1). Ben-Sasson, et al., (2009) conducted a meta-analysis of sensory modulation symptoms in individuals with ASD and found in 14 studies significant high differences between ASD and typical groups. Others reported 45-95% of children with autism have sensory integration dysfunction (Baranek, 2002; Baranek, Boyd, Poe, David, & Watson, 2007; Ben-Sasson, et al., 2009; Tomcheck & Dunn, 2007; Winnie, Jessica, & Louann, 2002;) which may interfere with performance in many broader developmental and functional domains, generating frustration with explication as behavioral problems. Moreover, parents who are stressed may further cause behavior problems in their children to worsen (Osborne, & Reed, 2009).

Managing challenging behaviors due to SID requires understanding the sensory profile of their child and to adopt practices for successful participation in everyday life by using sensory processing knowledge (Dunn, 2007). The basic principle is to help the child to move from neurological high or low threshold to optimal level for learning and participating in life through appropriate intervention strategies (Dunn, 2006).

Table 1: Comparing SID among children with ASD

Source	Age Group	Size of Sample	Percentage detected
Tomcheck & Dunn, 2007	3-6 years old	N=281 (with ASD)	95% Tactile (79.4%) Taste/Smell (68.0%) Movement (44.1%) Under/Seeks Sensation(93.6%) Auditory Filtering (92.2%) Low Energy/weak (42.0%) Visual/Auditory sensitivity (69.1%)
Lane, Young, Baker & Angley, 2010	3-10 years old		87% (Overall) Tactile (66.6%) Taste/Smell (61.2%) Movement (33.4%) Under/Seeks Sensation(85.2%) Auditory Filtering (92.6%) Low Energy/weak (61.1%) Visual/Auditory sensitivity (57.4%)

A good understanding of the "Culture of Autism" (Mesibov, Shea & Schopler, 2004) will certainly promote a conducive and positive learning environment and possibly avert challenging behaviors. The child with ASD needs a structured environment where predictability and familiarity with a "Work System" is involved as in the TEACCH(Treatment and Education of Autistic and Communication Handicapped Children) (Mesibov, Shea & Schopler, 2004).

Development of literacy thereafter should involve comprehension of the six milestones and applying the Floor-Time approach as proposed by Greenspan and Weider (1998). They have produced three sets of DVDs to explain and coach parents on how to do the intervention.

How to find meaning?
(Meaningful component of SOC)

Perhaps, meaning in caregiving of children with ASD would arise through seeing positive results that are sustainable and permanent, making a significant and positive difference for the child's well-being. It starts by being an effective mediator of the child's learning (Kee, in-press). "Right Belief" in believing that one is able to make a positive difference is critical (Feuerstein, 2010). Garland and Howard (2009) found evidences from many neuroscience studies that the adult brain can continue to form novel neural connections and grow new neurons in response to learning or training even into old age (Draganski et al., 2004). Neuroplasticity research suggests that challenging learning experiences lead to brain development analogous to muscle tissue development. The findings imply that children with autism who are provided with appropriate experiences may develop abilities in their strength that may compensate for their weaknesses. For example, if they naturally lack the ability to read facial expressions, intensive teaching and

training to read facial experiences will help them develop the ability over time as the neural connections develops.

We can learn and continue to learn throughout our lifetime. Neurogenesis can even occur through the act of imagining playing the piano (Pascual-Leone, Amedi, Fregni, & Merabet, 2005). The anterior insula in autism is under-connected and under-examined. It is involved in interoceptive affective and empathic processes, and emerging evidence suggest it is part of a "salience network" integrating external sensory stimuli with internal states (Uddin & Menon, 2009). As mediators, we should look for opportunities and persist to stimulate the child's development in whatever areas the child may be lacking through modes of learning or intelligences that are of their strength. Willis (2007) has even proposed brain-based teaching strategies for improving students' memory, learning, and test-taking success.

Professor Reuven Feuerstein (Feuerstein, et al., 2006) proposes Structured Cognitive Modifiabity (SCM) where the human being is the outcome of triple ontogeny of biological, sociocultural and Mediated Learning Experience(MLE). The human mediator modifies both the biological and the sociocultural elements of experience and existence through good understanding of MLE.

What understanding of intelligence would be useful and constructive for parents with autism to adopt in view of neuroplasticity? I will use Feuerstein, Feuerstein, and Falik (2010, p.7) definition of intelligence as the ability to think adaptively in response to changes in our environment. This definition allows parents/caregivers to improve the child's intelligence by working on educating the child to think adaptively, with whatever tools, strategies and resources needed and using whatever time that may be needed to fulfill the goals. It is a more functional appropriate definition of intelligence depicting state rather than trait (Feuerstein, et al., 2006, p.74), implicating modifiability rather than stability. This allows all parents to have real hope, especially when Feuerstein's holistic approaches are practices that are validated from many academics worldwide over the years (White & Dinos, 2010; Anton, 2009; Isman & Tzuriel, 2008; Weitz, 2008; Caffrey, Fuchs & Fuchs, 2008; Skuy, 2002; Schur, et al., 2002) and even by Singapore academics (Tan & Seng, 2008; Tan & Seng, 2005; Seng, Pou, & Tan, 2003) and professionals, for mainstream and non-mainstream students. There are certainly also researchers who do not subscribe to Feuerstein approaches (Frisky & Baden, 1992; Frisby, 1993; Gresham, 1986; Reynolds, 1986). Nevertheless, it remains a learning journey and a marathon.

Asian parents generally send their children for tuition if they can afford or coach them personally, to improve their child's "intelligence". Asians commonly believe that children in good classes or in good schools are smarter or more intelligent than their counterparts who are not. This implies that Asian parents generally do not believe that intelligence is fixed but modifiable. Perhaps, as a result, Asians are generally doing better in examinations then their western counterparts (Yamamoto & Holloway, 2010). Parents of children with ASD should adopt "Right Belief" for development of meaning.

Ability to manage challenging behaviors, comprehend ASD and find meaning as caregivers will lead to perceived self-efficacy of parents which "refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments."(Bandura, 1997, p.3)

Conclusion

Personally, I have witnessed positive and permanent improvement in my three teenage children who have ASD to different degrees through the understanding and appropriate application of the evidence-based practices by my wife, myself and the "Grace of God". Literacy can be taught to children with autism. Simply put, the three-pronged approach of *Ready Educator* (Comprehensibility and Meaning component in SOC), *Ready Child* (Manageability in SOC)and *Ready Environment* (Manageability in SOC) (Kee & Loh, 2009) empowers parents with SOC and perceived self-efficacy to effectively mediate learning of literacy .

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