

Vygotsky's socio-cultural theory of literacy

Scaffolding children to read and write at an early age

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ABSTRACT

In the article the concept of semiotic mediation, appropriation, internalization, Zone of Proximal Development (ZPD) and scaffolding in particular were reviewed to provide understanding of the process. Under the concept of semiotic mediation, the issue of how children learn through imitating adults was examined with inputs from second language acquisition theories. Vygotsky's concept of appropriation provides the springboard for a discussion on how children may appropriate the psychological tool of language through modeling and text meditation in the context of second language learning. It is hoped that the understanding of these concepts could lead to more insights in order to understand the various changes observable in children at early age as they nudge to achieve their potential in their literacy development. The information gathered in the paper may be used by parents or teachers in preschool as the foundation to help children acquire literacy skills at early age.

KEYWORDS

Socio-cultural theory, scaffolding, early literacy, literacy acquisition

This paper examines the contributions of Vygotsky's theories and concepts towards the multi-faceted opportunities for literacy acquisition of children at an early age. For this purpose Vygotsky's (1978, 1981) Socio-cultural theory and his concepts of semiotic mediation, appropriation, internalization, Zone of Proximal Development (ZPD) and scaffolding in particular are reviewed to provide an understanding of the process of literacy learning in a second

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language (L2) environment. Under the concept of semiotic mediation, the issue of how children learn through imitating adults is examined with inputs from second language acquisition theories. Vygotsky's concept of appropriation provides the springboard for a discussion on how children may appropriate the psychological tool of language through modeling and text mediation in the context of L2 learning. With this, the concept of internalization allows an understanding of how novice literacy learners internalize reading and writing activities based on both models of literacy acquisition processes.

This paper also examines Vygotsky's (1978) concept of ZPD that provides more insights for understanding the various changes observable in children at an early age as they struggle to achieve their potential in literacy development. In relation to that, an examination of the concept of scaffolding and its characteristics provides the much needed clue on the question of what adults could do to support children to achieve ZPD while in the process of learning. The information gathered in the paper can be used by parents or teachers in preschool as the foundation to help children to acquire both literacy skills at an early age.

SOCIO-CULTURAL THEORY

Before we can observe and describe the changes in young children's second language (L2) reading and writing development after scaffolding, we must first understand how children in general learn from social interaction. There are two prevailing socio-constructive theories that can provide us with such an understanding. The first, Piaget's (1985) socio-cognitive conflict theory argues that the cognitive conflict resulting from social exchange leads to higher levels of reasoning and learning. However, this theory of Piaget seems to apply mainly to social interaction among equal peers rather than between adult-child dyads (Palmer, Bresler, and Cooper 2001), which are in fact the focus of this paper.

To resolve this, there have been suggestions that development involving a transformation of perspective might best be achieved among peers; while the learning of a new skill like reading and writing can be attained with more skillful adults (Damon, 1984). But most of all, because Piaget's theory fails to describe how the process of resolving inter-individual conflicts may lead to the resolution of intra-individual imbalance (Doise and Mugny 1984), this paper looks into the second socio-constructive theory to provide for the framework needed to examine young children's L2 reading and writing development after adult's scaffolding.

In contrast to Piaget's theory, Vygotsky's (1978, 1981) socio-cultural approach is capable of providing a much more powerful theoretical framework to understand L2 literacy acquisition. To begin with, by stressing that, "the social dimension of consciousness is primary in time and fact. The individual dimension of consciousness is derivative and secondary" (Vygotsky 1978: 30, cited in Wertsch and Bivens 1992) this theory supports the importance of the social processes between adult and child for the latter's learning, including

learning to read and write in a L2 environment (Gupta 2006).

More specifically, Vygotsky's socio-cultural theory argues that "any function in the child's cultural development appears twice, or on two planes. First it appears on the social plane, and then on the psychological plane [...] Social relations or relations among people genetically underlie all high functions and their relationship" (Vygotsky 1981:163). This seems to suggest that the children at early age may learn and internalize higher psychological functions including L2 reading and writing from engaging in relations with others including adults.

SEMIOTIC MEDIATION

Before we can come up with the type of adult-children relations that allow us to observe changes in young children's L2 literacy development, we need to know exactly how the above social relations are mediated in reality. To start with, according to Sriagarji (personal communication), mediation should be seen more as "exchange and interchange" rather than as unidirectional "transmission" of socio-cultural patterns and knowledge by the society to the members (especially, new members like small children) through symbols like language. Many studies have found that learner's social and cultural milieus are closely link to language learning outcomes (Mohammad Lotfie 2007)

According to Wertsch and Stone (1985) such semiotic mediation, which connects the external and the internal, the social and the individual, is achieved through semiotic mechanisms, including psychological tools like "language; various systems of counting; mnemonic techniques; algebraic symbol systems; works of art; writing; schemes; diagrams; maps and mechanical drawing; all sorts of conventional signs". This means that while scaffolding for reading and writing, the adults' use of language signs and other tools, even others' actions – during their explanation, elaboration, and discussion with the children, would be of paramount importance and thus worthy of more rigorous treatment for the L2 literacy learners.

PSYCHOLOGICAL TOOLS

Just like our physical tools of hammer, knife, and chain saw could have effects on our external environment, psychological tools have the power to affect the internal function of our children (John-Steiner and Mahn 1996). Their importance lies in the fact that knowledge could never be internalized directly but must be internalized through them (John-Steiner and Mahn 1996). Though important, Leontiev (1981), however, warns that children cannot and need not reinvent the artifacts that have taken millennia to evolve in order to appropriate such objects into their own system of activity. The child has only come to an understanding that is adequate for using the culturally elaborated object in the novel life circumstances he encounters (as cited in Newman, Griffin, and Cole 1989:63).

This understanding is vital because it was in a way saying that young children could learn to read and write even if they had not fully mastered the

language, they just needed a basic understanding of it. The issue was perhaps more complex when it came to scaffolding children to read and write in an L2 environment. This was because there were two languages involved here – the children's mother tongue, as well as the L2 in which the reading and writing was to be done. In the English as a foreign language context like in certain rural areas in Malaysia, this L2 is often one which the children have limited access or exposure to. In these circumstances, the question is how often the adult-child interaction was mediated in the L2?

MEDIATION IN SECOND LANGUAGE ACQUISITION

If a child's native tongue is used to mediate the adult-child interaction during scaffolding for L2 reading and writing, s/he will be able to exploit his or her own "funds of knowledge" to achieve voice and identities in literacy more readily. However, because the activities are ultimately carried out in an L2, there is also a place for the L2 to be used to mediate the adult-child interaction. This is particularly difficult since this inter-psychological functioning in the L2 can lead to the intra-psychological learning of the L2 and this seldom happens in rural areas in Malaysia.

In this respect, useful insights can be obtained from theories on second language acquisition (SLA). In his hypothesis of comprehensible input, Krashen (1981) argues that for acquisition (or, in the context of his study, the adoption of the psychological tool of L2) to take place, the social interaction must consist of comprehensible input. This means that "if an acquirer is at stage or level i , then input he or she understands should contain $i + 1$ " (Krashen 1981:100). This should apply not only to the psychological tool of language but also to that of L2 reading and writing.

Besides the L2 used during scaffolding, the adults must also make sure that the L2 texts used should be one level immediately above the children's present developmental level for appropriation to occur. But, to know exactly how an adult's use of the psychological tools with the children may contribute to possible changes in the latter's literacy development, we need to examine how such semiotic mechanisms, together with other tools like pen, computer, and dictionary, give rise to the appropriation of knowledge through representational activities by the children. Due to this need the relationship between L2 reading and writing and Vygotsky's concept of appropriation will be examined next.

APPROPRIATION

Vygotsky's concept of appropriation, or the "adoption by an individual of one of the socially available psychological tools" (John-Steiner and Mahn 1996: 193), is able to inform us on how social processes, including those between adults and children, can give rise to individual cognitive processes – where Piaget's socio-cognitive conflict theory cannot – through two perspectives: modeling and text mediation (Wertsch and Bivens 1992).

The modeling perspective sees social functioning as providing a model

which is gradually taken over and internalized on the individual cognitive plane. The second interpretation meanwhile, uses a text mediational view to explain how social processes give rise to individual cognitive processes. The assumptions here are that social and individual cognitive functioning is fundamentally shaped by mediational means, such as forms of language; and that all participants in social functioning are actively engaged in shaping this function (Webb and Palincsar 1996).

MODELING IN L2 CONTEXTS

From the modeling perspective, the language that one uses to guide oneself reflects the language that one has experienced in interactions with others (Webb and Palincsar 1996). In the context of emergent literacy, this modeling perspective explains how children learn reading and writing in their L1 by constantly observing and representing the social reading and writing practice as engaged in by their adults in the community, using the available socially developed semiotic means. In their empirical test, Brown and Palincsar (1989) found that the performance of students who watched their teacher in think-aloud modeling of text comprehension strategies showed improvement, albeit not significantly.

In the context of L2 learning and teaching processes, this modeling perspective has given rise to teaching strategies that concentrate mainly on drilling the learners on the correct use of language. Such modeling is sometimes termed as explicit teaching or "telling" (Cazden 1993), involving teacher – or adult-led discussion of formal language forms and structures as in the grammar translation and audio-lingual method. In the writing classroom for example, this modeling is typically manifested through short-answer exercises while the teachers themselves seldom write or share their struggles in writing with their novices.

Even though such modeling through explicit teaching has been attacked by many for not preparing the learners for real and meaningful communication in the social sphere, it has enjoyed a revival recently. It is deemed to be especially needed by children who are not from the culture of power, which also include L2 learners as noted by Delpit:

There are codes or rules for participating in power [...]... The codes or rules I'm speaking of relate to linguistic forms, communicative strategies, and presentation of self; that is, ways of talking, ways of writing, ways of dressing and ways of interacting. (Delpit 1988: 283).

Because of this, Grabe and Kaplan (1996) argue that modeling in the social processes is necessary for reading and writing. They believed that the L2 formal structures, rhetorical knowledge, as well as the written discourse form must all be explicitly modeled for learners with inadequate knowledge of textual structuring. However, the challenge to the L2 adults is how to recontextualize such knowledge from isolated practice or component parts into the children's

communicative experience (Cazden 1993).

Perhaps the adult can model the language structuring in different genres to highlight different ways of making meaning and show how language serves meaningful communication (Grabe and Kaplan 1996). This temporary instructional detour to engage the learners' enquiry and discovery on the component features and cultural differences in language use has been termed as "revealing" by Cazden (1993). This pedagogic activity, which exists in the middle of the teaching continuum between explicit telling and immersing, typically involves adults' critical framing (Kern 2000). This seems to stress the importance of the adults in setting up conditions so as to problematize situations to facilitate appropriation.

TEXT MEDIATION IN L2 CONTEXTS

The text mediation view on how the adoption of the language as a psychological tool might lead to individual cognitive processes is supported by Biven's (1990) empirical study in which children made use of each other's ideas during discussion to restructure their own explanation in an experiment on the properties of water. In other words, other children's utterances became "thinking devices" for them to "reflect on and transform their own thought" (Webb and Palincsar 1996: 846). From this, we can gather that when scaffolding young EFL children's reading and writing, the adult must not only model the activities but must also verbalize their reasons for the decisions made in the process. Perhaps the children will internalize this inter-psychological verbalization into their intra-psychological sphere in their reading and writing the next time.

For appropriation to take place through text mediation, perhaps both the adult and children should engage actively in genuine communicative situations through book discussion. Because of its focus on meaning and communicative purpose, this is not unlike the "whole language" movement (Grabe and Kaplan 1996) in the mother tongue literacy context and the "communicative language teaching" (CLT) movement (Johnson 1982) in the L2 context. In the literacy classroom, Cazden (1993) associated this with the process reading and writing movement (Raines 1991; Zamel 1987). The aim in this type of upside down approach is invariably to immerse the learners in the richest and most authentic communicative inter-psychological processes so as to foster intra-psychological learning. Eventually, we hope that the appropriation of psychological tools during such book discussion activity may lead to the children's internalization of knowledge.

INTERNATIONALIZATION

Internationalization refers to the transformation of communicative language into inner speech and further into verbal thinking (Vygotsky 1986: Chapter 7). It is conceived of as a presentational activity, a process that occurs simultaneously in social practice and in the human mind. To this, however, Leontiev warns that, "the process of internationalization is not the *transferral*

of an external activity to a pre-existing internal 'plane of consciousness': it is the process in which this plane is formed" (as cited in Wertsch and Stone 1985: 163).

This means that while claiming that the specific structures and processes of intra-psychological functioning can be traced to their genetic precursors on the inter-psychological plane, Vygotsky (1981) was far from advocating that higher mental functions are merely direct copies of socially organized processes. Rather, to him, "(i) internalization transforms the process itself and changes its structure and functions" (Vygotsky 1981: 163).

This understanding is vital because ultimately, our interest is to see if the children will be able to read and write beyond the structure and functions used during the adult-child social processes. We hope they will come up with their own voice and identity as they experience changes in their L2 reading and writing development. To this end, this paper first examines how the skills of reading and writing are internalized by a L2 beginner and the transformative processes s/he has to go through to become an expert or skilled reader and writer.

INTERNATIONALIZATION OF READING AND WRITING PROCESSES

To understand how children internalize literacy skills, we need insights from the theories of reading and writing processes. Based on protocol analysis, Flower and Hayes' (1981) cognitive model of composing argues that there exists a single reading and writing process for all readers and writers (Grabe and Kaplan 1996). To them, both the child and expert readers and writers go through the same three major components in their reading and writing process – the composing processor, the task environment, and the reader's and writer's long-term memory.

All the same, to give meaning to text and to generate the written text, all these readers and writers must go through the three same operational processes – planning, translating, and reviewing – within the composing processor; under the monitor's control. Finally, in their actual generating of meaning and composing of text, these readers and writers' ideas in planning will be translated into language on page, before being reviewed and revised. In the process, as novice readers and writers become more and more efficient at this; reading and writing are internalized and they will soon become expert readers and writers.

One of the biggest problems, however, with this theory is that by assuming that all readers and writers use the same one single reading and writing process, it cannot account for the different processing preferences or strategies employed by different persons on the same task. It cannot, for example, answer the question why many secondary school students never seem to develop more mature reading and composing skills in spite of much practice and long educational experience. Flower and Hayes' model (1980), was also attacked by Clark and Ivanic (1997) for not representing sufficiently the juggling between the various identities of a reader or writer during the

reading and writing processes.

Bereiter and Scardamalia's (1987) two-process theory which considers different processing models at different developmental stages of reading and writing is able to explain why and how skilled and less-skilled readers and writers may give meaning and compose text differently. To them, as reading and writing are internalized, the expert reader and writer, when faced with complex prose is capable of using an additional set of strategic processes (Grabe and Kaplan 1996) which allows him/her to transform information. The strategic process is captured in their knowledge-transforming model.

Based on this model, it can be argued that for readers and writers to internalize the knowledge-transforming process, they must be able to analyze and solve problems through conscious resolution in either the content problem space or the rhetorical problem space. To be able to solve problems in the rhetorical problem space, the readers and writers must know the discourse conventions of the target genre. Because Bereiter and Scardamalia never mentioned it, we wonder if this socialization of genre will contribute to the development of the readers and writers' discursal voice and identity in the internalization process.

More often than not, this resolution of the rhetorical problem space also leads to problems in the content problem space, like the problem of content generation and content integration. If the reader or writer makes use of his/her own life experience in resolving this space, perhaps his/her voice as experience and autobiographical self will transpire. If not, may the same voice be achieved through the inclusion of his/her textual experience? Here, Kern's (2000) notion of reading and writing as design is perhaps useful. Reading other texts, for example, may help in solving this content problem space in the recent text. A study found that complex reading-to-write tasks may affect writers to construct and transform meaning and that such tasks contribute to enhance learning to write (Arshad 2003: 111)

While reading, adult readers are actually creating facts from the texts that they read. They are involved in "designing texts to create a potentiality for that realized discourse" (Kern 2000: 171). But, ultimately, there has to be investment from the readers in such knowledge-transforming processes to integrate knowledge and fit all the parts together in a critique of the genre (Cazden 1993), to redesign meaning, before their voice as content and self as reader can transpire in the process of internalization.

Children and less-skilled readers and writers, on the other hand, according to Bereiter and Scardamalia (1987), are able to bypass such complex problem-solving activities so as to concentrate on retrieving enough information to tell, using the knowledge-telling processing. Here, the design is quick and even formulaic (Kern 2000). The readers and writers simply reproduce their available designs in giving meaning to text or composing a new text. Here, the use of both his discourse and content knowledge is almost minimal.

Even though Bereiter and Scardamalia's (1987) theory is able to capture the different processes as internalized by readers and writers at different levels

of development, it is not without its limitation, particularly the concern over the ways a reader or a writer internalizes a knowledge-transforming process. This theory seems to consistently present knowledge-transforming as a process beyond the internalization of young children.

ZONE OF PROXIMAL DEVELOPMENT (ZPD)

Before we discuss the theories in relation to the changes in young children's L2 reading and writing development as they internalize and transform the various literacy processes from adult-child interaction to attain their voice and identities, we will examine the concept of ZPD more closely. It is essentially to understand "the distance between the actual development levels as determined through independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky 1978: 86).

By this, Vygotsky can be said to argue for the importance of learning, or rather, social and participatory learning, in a child's development, including his or her development in reading and writing. Vygotsky in fact developed this concept as his way of attacking those theories that dichotomize learning and development, including Piaget's (1985), where maturation was viewed as a precondition of learning:

Learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers Learning is not development and sets in motion a variety of developmental processes that would be impossible apart from learning. Thus learning is a necessary and universal aspect of the process of developing culturally organized, specifically human, psychological functions. (Vygotsky 1978: 90).

In the context of this paper, Vygotsky could be interpreted as saying that children can indeed learn reading and writing from an early age and that they do not have to wait for an "auspicious" maturation time. More importantly, Vygotsky's theory on learning is capable of explaining why some children can read and write so well and yet others are still stuck at the stage of decoding and scribbling. Given "properly organized learning", it looks like not only these children, but all children can be guided through the various stages of reading and writing development to become independent readers and writers. However, before the ingredients of such "properly organized learning" can be decided upon, we need to know how reading and writing for young children can be developed through the process of scaffolding.

SCAFFOLDING

Bruner (1975) and others coined the term scaffolding to describe the actions and speech adults use to assist in increasing a child's rate of knowledge construction. For internalization and development to occur, Vygotsky (1978) argues that the assistance given by the adult during scaffolding must be $i + 1$,

with “*i* representing the task the child is able to accomplish independently, and 1 representing another’s level of assistance to the child” (Sowers 2000: 13).

To Bickhard (1992: 43), “any form of simplifying a cognitive or social problem on the way to the solution of the original problem constitutes a version of scaffolding”. Developing from this, Sowers (2000) suggests that the actions or speech which an adult can provide to assist children includes summarizing what the latter has previously done, questioning them on the consequence of their action; answering their questions, clarifying their misconceptions or assumptions, or offering predictions of possible outcomes.

In the context of providing instructional scaffolding for reading and writing, Applebee and Langer (1983: 168) argue that adults or more skilled language users must provide “the support necessary to carry through unfamiliar tasks”, and further derive a set of five criteria including intentionality, appropriateness, structure, collaboration, and internalization to judge the appropriateness of the instructional scaffolding for particular tasks. While these criteria are insightful and will be elaborated in the next section, they however provide insufficient information on what we, as adults should do before we are able to observe changes in our young children’s L2 reading and writing development. Because of this, we have to look at the characteristics of scaffolding as applied to education in general.

CHARACTERISTIC OF SCAFFOLDING

The most salient characteristic of scaffolding must be that it provides clear directions to explain what the learners must do to meet the expectations for the learning activity. McKenzie (1999) argued that the instructional designers must try to anticipate any problems or uncertainties before writing step-by-step user-friendly directions. In the context of providing instructional scaffolding for reading and writing, Applebee and Langer (1983) also emphasize the importance of the teacher in determining the difficulties that the new task was likely to pose for particular students, selecting strategies to overcome the specific difficulties anticipated and in structuring the activity as a whole to make those strategies explicit at appropriate places in the task sequence.

From the perspective of Bereiter and Scardamalia’s (1987) two-model theory of reading and writing processes, this means that the adult or teacher who is scaffolding for L2 reading and writing must select strategies and structure activities to help novice readers and writers with the difficulties they will encounter in both the content knowledge (including vocabulary and structure) and the discourse knowledge of the L2.

The second characteristic of scaffolding is that it clarifies purpose and answers the question of “Why are we doing this?” in the forefront. To judge the appropriateness of instructional scaffolding for particular reading and writing tasks, Applebee and Langer (1983) in fact put “intentionality” as the first out of their five criteria. By intentionality, they mean that the task must have a clear overall purpose driving any separate activity that might contribute to the whole.

In the context of scaffolding for literacy development, Calkins (1994) argues that a genre approach provides exactly such an advantage point, especially for writing. This is because genre refers to a specific type of writing meant for a specific audience with a specific purpose. Following such a genre approach to writing, beginning writers should be let in on the secret early, whether they are expected to produce a poem for their own father or a report for their science teacher or even a story to amuse an unknown audience. When the writing task was purposeful, the novice writers could concentrate on their discovery of meaning and meaning making, rather than being caught up in mindless activity traps. After all,

[...] if students write a poem, story, and picture book about Egypt, and then a poem, story, and picture book about Brazil, I'm not sure they will be growing as poets or as fiction writers. If the focus is always on the topic – the country or the dinosaur – when will children inquire about line breaks, meter, and repetition in poetry, or about developing a character and staging a story in fiction?. (Calkins 1994: 357).

The third characteristic of educational scaffolding as described by McKenzie (1999) is that it keeps students on task. He compares a scaffolded lesson to the guardrail of a mountain highway. The learner can exercise great personal discretion within parameters yet is not in danger of “off road” stranding. Because of this, he sees “structure” as the keyword. In the context of reading and writing, Applebee and Langer (1983: 168) also equate instructional scaffolding as providing structure, whereby in the course of this process, “the structure provided by the skilled reader or writer is gradually internalized by the novice, who thus eventually learns to carry through similar tasks independently.”

Not only this, Applebee and Langer (1983) also pinpointed “structure” as one of the criteria in judging the appropriateness of instructional scaffolding for particular tasks. This means that the adult or the teacher must see that the modeling and questioning activities are structured around a model of appropriate approaches to the task and lead to a natural sequence of thought and language. This characteristic is especially vital in the context of scaffolding young children's exploration in reading and writing. Without the liberating yet controlling activities, the children might end up wasting their time on retelling and reiterating what is already known and will be unable to move beyond knowledge-telling to achieve their voice and identities in reading and writing.

The fourth characteristic of scaffolding is that it offers assessment to clarify expectations. Rather than being kept in the dark until the process of reading and the product of writing is completed, scaffolded lessons provide the students with examples of quality work done by others from the very beginning. The criteria and standards that define excellence are clearly stated to ensure quality work.

In the context of scaffolding for L2 reading and writing development, this means that the novice readers and writers must not only be exposed to various

texts of the target genre but also the “touchstone texts” (Calkins 1994: 36). Calkins in fact talks about “immersing [...] in the genre” before going on to “examine and reexamine, talk about, and admire and learn from” these touchstone texts “that evoke particularly strong responses” within her classroom. This modeling of the genre followed by the text mediation through discussion is in line with the socio-cultural framework discussed so far in the paper.

After reading with a view of an author and engaging in dialogic book discussion surrounding these touchstone texts, the novice readers and writers can then “collaborate” – consciously or subconsciously – and make use of the textual experiences they have had with the authors of these texts which they have read before drawing from them (Nelson 1998). This undoubtedly will not only make the process of meaning making and composing texts easier especially for novice readers and writers reading and writing in an L2, but it also raises the issue of ownership. Nelson asks how much transformation is necessary before something stops being one author’s and becomes another author’s?

Because of this, there is a place for the young EFL children to be scaffolded to recognize, choose, and use the appropriate linguistic patterns for the intended meaning through the strategy of genre socialization. The problem, however, in supporting novice readers and writers with genre through genre socialization is that it may be reduced to the prescription of “statistic formal recipes” of the previous, product approach (Kern 2000: 183), which can be more oppressive than liberating the process of scaffolding (Cope and Kalantzis 1993).

The novice readers and writers may once again revert to producing voiceless texts and giving meaning to the knowledge-telling texts. The voice is lost due to the tension between genre and voice. This must be one of the biggest dilemmas of educational scaffolding. As we have quoted earlier, “How do we provide sufficient structure to keep students productive without confining them to straight jackets that destroy initiative, motivation, and resourcefulness?” (McKenzie 1999: 2) To resolve this dilemma between structure and freedom, McKenzie urges for a balancing act.

The fifth characteristic of scaffolding is that it pointed students to worthy sources. In the context of web-based research, this characteristic is particularly important as it prevents the students from wasting their energy and time wandering and getting lost in the “data song” and “infoglut” (McKenzie 1999). In the context of scaffolding young children’s reading and writing development, this points to the importance of the adult selecting and exposing the children only to children’s books of the best quality, especially at the beginning.

In other words, the assistance provided by the adult through children’s picture books must follow Vygotsky’s (1978) principle of $i + 1$ for internalization to occur. They must be neither too difficult nor too easy. Equally important, Newkirk (1989: 5) argues that children must be exposed to not one source but a repertoire of genres. He in fact warns that, “any system of education that limits children to one genre, even one as powerful as the fictional story, may also limit the advantage points that children may assume”.

While the web, as pointed out by McKenzie (1999) is filled with sites not

worth visiting because of quality, bias or reading level; children's books are also the same. There is, for example, sex-role stereotyping in some children's picture books, which reflected and served the needs of our patriarchal society (Sugino 2000; Arshad 2007). Because reading and writing are learned cultural practices and we normally "write" what we "read", there is the danger that the novice readers and writers may appropriate the dominant discursive conventions wholesale without any resistance. Under such circumstances, there cannot be many changes in their reading and writing development arousing response with them as readers, let alone by building voice and identities with them as writers.

This emphasizes the importance of the adults enriching their prototypical exemplars with contextualized variations (Cazden 1993) in the form of alternative texts to encourage genre resistance. This is especially necessary when the initial exemplar used is a constructed model and not an authentic text. "The paper bag princess" (Munsch 1980) provides a classic example of such an alternative text which sought to resist the genre of a fairytale. Instead of getting married and living happily ever after with her prince, the beautiful, dragon-fighting Princess Elizabeth decides to give the vain and most ungrateful Prince Ronald a piece of her mind. Naturally, they "didn't get married after all" in the end!

The sixth characteristic of scaffolding is that it reduces uncertainty, surprise, and disappointment. According to McKenzie (1999), the operating design concept for scaffolded lessons must be the "teflon lesson" – no stick, no burn, and no trouble. To eliminate distracting frustrations to the extent possible and maximize learning for young children engaging in L2 reading and writing, the lesson must be refined based on the new insights gained by watching them actually try the activities during trialing. For example in the writing classroom, the process approach to writing can be argued as exhibiting this characteristic of scaffolding as it seeks to model writers' processes, from inventing, drafting, revising, to editing.

The seventh characteristic of scaffolding is that it delivers efficiency. If done well, according to McKenzie (1999), a scaffolded lesson should scream with efficiency because the work is well centered on the enquiry. In the context of L2 reading and writing, the changes in the young children's development should be observable after each session, culminating to their various voices and identities transpiring all through the texts, after the whole of the scaffolded lesson.

To ensure efficiency in the context of reading and writing, perhaps the criterion of "appropriateness" as derived by Applebee and Langer (1983) is useful here. By this, they mean that the instructional tasks must pose problems that can be solved with some help but which students could not successfully complete on their own. In this sense, the most appropriate tasks will be those that involve abilities that have not yet matured but are in the process of maturation, or in Vygotsky's (1986) terms, abilities that are not so much "ripe" as "ripening".

The last characteristic of scaffolding is that it creates momentum. McKenzie

(1999) argues that the channeling achieved through scaffolding concentrates and directs energy in ways that actually build into momentum. The essential question and its subsidiary operations create suction, drive, urgency, and motivation. The search for understanding inspires and provokes. One loses sleep. One awakes in the middle of the night, wondering, pondering, considering. In the context of reading and writing, this characteristic of scaffolding is perhaps the sign that internalization occurs. As such, the instructional scaffolding given for reading and writing in this study must satisfy the criterion of internalization – as the patterns are internalized by the students, the external scaffolding for the activity must be gradually withdrawn.

CONCLUSION

In this paper we reviewed Vygotsky's socio-cultural theory to come out with an understanding of how young children learn to read and write in the context of a second language environment. We discussed Vygotsky's concept of ZPD, which asserts that children can be nudged to go beyond their present developmental level in acquiring the skills. As such, for them to read and write should not be an impossible task even though they have not really acquired a fair knowledge of the language. On how to make the task possible, Vygotsky's concept of scaffolding provides important information for parents and teachers to carry out reading and writing guidance to their children and pupils.

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