

The Early Development of ‘Self Talk’ and its Relationship to Early Learning Success

Young preschool children frequently talk out loud to themselves as they play and explore the environment. This self-directed talk is known as private speech. Vygotsky’s sociocultural theory (1934/1987; cited in Daugherty & White, 2008) on cognitive development maintains that children’s private speech is used for self-direction and that this language is the foundation for later complex mental activity. Also known as inner language, self instruction or self talk, it serves to link words, actions and ideas, and facilitates planning, critical thinking and executive functioning (Winsler, 2007). The ability to consciously attend to the way we think is often described as metacognition or ‘thinking about thinking’ (Munro, 2009).

The literature suggests that private speech emerges in the toddler years, peaks in frequency during early childhood, then gradually reduces in prominence throughout the early school years, all the while following a shift from overt (out loud) self talk, to partially-internalised speech (whispers), to fully covert (silent, inner) speech or verbal thought (Manfra & Winsler, 2006; Winsler & Naglieri, 2003). Furthermore, inner speech development is enhanced by active engagement, as suggested by Corkum et al (2008) who note private speech as falling on a continuum from task irrelevant private speech, to task-relevant externalized speech, to task-relevant partially internalized speech, and finally to verbal thought.

Similarly, as inner speech develops, it is used both spontaneously and consciously as a tool for learning (Winsler & Naglieri, 2003). For example, Manfra & Winsler (2006) explored the more meta-cognitive aspects of private speech, such as conscious awareness. Their research stemmed from previous studies (Winsler et al, 2000) which found a qualitative shift that takes place in the context of the private speech used by children between the ages of 3 and 4. Manfra & Winsler found that unlike 3-year-old children, whose private speech in the naturalistic setting of the preschool classroom appeared across many different situations and settings, 4-year-old children’s private speech appeared more systematically as a function of their goal-directed task activities and social context. These findings are in line with the observations of Manfra (2003, cited in Winsler & Niglieri, 2003), who assert that children who were aware of their private speech were significantly older, had greater expressive language skills and believed that private speech was positive and helpful (demonstrating positive self-efficacy). The

development of private speech is affected by these factors, with particular emphasis placed on the knowledge of language as a platform for self-talk. Furthermore, language enables the storing and retrieval of information that is known (cognition) and reasoning about what an individual does and does not know (metacognition) (Remine et al, 2008). Research on language supports that private speech is influenced by experiences (Machado de Almeida Mattos, 2000; Cazden, 1994; Button & Millwards, 2005); where cognitive development becomes a socially mediated process (Bingham & Pennington, 2007); and that a young child's private speech will reflect previous social interaction (Daugherty & White, 2008; Roth et al, 2002). Thus the semiotic nature of language as a tool for learning and cognition assists the child in creating internal understandings of the external world. A better developed knowledge of language and how it is used means a greater capacity to learn and to manage and direct one's activity (Munro, 2009).

It follows that as people interact, talk is used in different ways to illustrate what is meant by the words and gestures or actions communicators use. Owens (2004; cited in Bingham & Pennington, 2007) identifies self-talk as being used in this way when the conversational partner, either an adult or a child with more sophisticated oral language abilities, talks about what she or he is doing, thinking, or feeling. Thus self talk can easily accompany everyday activities such as dressing, bathing, or playing. In these contexts, talk is a key factor for the learner in making links between objects, actions, words and concepts (Munro, 2009). Smith (2007) observed both the function and the consequences of private speech during a group activity and concluded that the act of uttering a word or phrase not only facilitates joint problem solving and attention to a particular aspect of a problem, but may result in the activation of one's own mind. Smith refers to statements made by Diaz and Berk (1992 cited in Smith, 2007) that in this context, private speech is "a most effective bridge between the social and psychological worlds of the child" p.345). When people communicate they may also use a range of nonverbal signals such as body language to express their inner thoughts. In effective communication, communicators use both oral and nonverbal language in a synthesized way (Munro, 2009). Girolametto et al (2000) studied interactions in the context of childcare and found that global aspects of teacher-child interaction, such as sensitivity to children's non-verbal cues, warmth, talkativeness, and verbal responsiveness provide the impetus for developmental progress in a number of areas, including language acquisition. This finding demonstrates the significance of early interaction for the development of children as competent language users

(Kirkland & Patterson, 2005; Weigel et al, 2007); furthermore, the study highlights caregivers as key mediators of cognitive development. Thus as children enter school, they bring diverse levels of language acquisition to the learning process and demonstrate diverse skill levels when thinking and directing their own activities (Munro, 2009).

To assist educators Munro (2005) developed a framework which describes oral communication skills in terms of the ideas, conventions and purposes for communicating. The ICPALER framework (Appendix One) features the links between language, learning and cognition within and across the stages of language development (Munro, 2005). For example, the association between the words and the concepts to which the words refer. Or inner knowledge of rules for how these words combine into sentences and discourse. The framework is described as one which “provides educators with the capacity to identify the complexity of the ideas communicated, the language conventions used, the knowledge of the purposes of communicating to achieve social goals and the ability to learn oral language” (Munro, 2009, p.1). Munro (2009) encourages that educators use the model to assess and diagnose the speaking and listening skills of primary school students and in planning and implementing education programs in speaking and listening. Of particular importance in the ICPALER model is the ability to learn, as all other aspects of the framework depend on how well the person can learn both when they speak and when they listen. This includes complex abilities such as retaining ideas in short term memory, storing of ideas in long term memory, retrieving ideas and ways of thinking (Munro, 2005) and how well a person understands the ideas being communicated, the conventions or rules they are using, the purposes for communicating, and also their perception abilities and how confidently these things are learnt, integrated and used in a variety of contexts (Munro, 2009). Language skills develop as all aspects of the model fitting together in an integrated way.

As children guide their thinking in a variety of contexts, examples of overt and covert language may be observed (Winsler, 2007). The considerable influence of context is followed in the work of Isac et al (2008) who further linked inner concepts and understandings to language knowledge. Isac et al refer to the connectedness of culture and language, finding that people of the same culture have mental grammars quite similar to each other because they were exposed to similar linguistic experiences when they were acquiring their language as children. This is in line with Tomasello (2006) who notes that “children learn to communicate using the linguistic conventions used by

those around them in both their symbolic and grammatical dimensions” (p.2). Similarly, studies identify a broad range of background variables including IQ, socioeconomic status, ethnicity, gender and family literacy as oral language measures (Roth et al, 2002; Weigel et al, 2007). Given their impact on language, early interactions become a critical factor for early learning success. In studies with 1 to 3-year-olds attending day care, Girolametto et al (2000) focused on directiveness in teacher’s language as a factor affecting children’s overt verbal performance and participation. It was found that teachers who relied heavily on directive communication provided few opportunities for joint engagement. Girolametto et al note “though its discourse role may be to increase child participation in interaction, its effect on verbal conversation and output may be counter productive” (2000, p. 1102). They found that the teacher’s style of talk increased or decreased the verbal participation of students in a play context and also reported that child-directed play contexts in which teachers used less control yielded more complex speech and more talk overall. The study further advised that the teacher’s use of wh-questions, clarification questions and conversational yes/no questions is related to the greatest amount of child talkativeness, lexical diversity, and complexity.

As we consider the development of language, private speech and its implications upon early learning, it is important for educators to note that while the culture of the child influences the patterns of language, the school environment can enable children to refine its use (Kirkland & Patterson, 2005). Furthermore, the quality of self-talk used by children can be developed when attention is given to expressive language skills (Manfra & Winsler, 2006; Munro, 2009); through explicit instruction and engagement in curriculum that includes thinking routines and problem solving (Salmon (2008)); and also through fostering of motivation and self efficacy (Manfra & Winsler, 2006).

Underpinning these ideas, Vygotskian theory (1978; cited in Winsler & Naglieri, 2003) emphasizes the early childhood years as a period during which language, originally a social and cultural tool used for communication with others, merges with cognition in a new way such that children come to use language in the form of private speech as a tool for guiding, planning, and regulating their own thinking and behaviour. The extent to which private speech is helpful to children in terms of either guiding motor behaviour or enhancing task performance refers to a thread of research based upon this early work (Vanderburg, 2006). For example, Kray et al (2008)

noted that a child's motor behaviour, such as initiating and stopping actions, is primarily regulated by external verbal instructions of adults, whereas later in development, children are able to use internal verbal signals for voluntary action control. In their study about task switching and verbal control Kray et al concluded that private speech helps children to focus attention, work through challenging tasks and plan their behaviour, observing that verbal self-instructions are a useful tool for reducing action-control deficits in younger children and even in older adults. The developmental relations between language, cognition, and behaviour continue to be positive (Winsler et al, 2007; Machado de Almeida Mattos, 2000), demonstrating links from the earliest childhood studies. For example, Rose et al (2009) found evidence of the contribution of domain-general cognitive processes such as attention, learning, and memory to the emergence and development of early language and its growth from 1 to 3 years. Similar studies demonstrate that variations in linguistic comprehension of children at school entry depend upon a range of factors including vocabulary and grammatical abilities and resources such as attention (Bowyer-Crane et al, 2008). The link between language and cognition is encapsulated in the ICPALER framework of language learning which places particular importance on the student's ability to learn (Munro, 2005). By developing an understanding of these relationships, particularly how early language underpins learning, educators can assist the process in a variety of ways.

For some learners an inability to perform the basic skills required to learn language, such as symbolizing, sequencing, retrieving and recalling, automatising, linking and using of strategies to learn (repeating, visualizing, paraphrasing etc) impairs their ability to learn (Munro, 2009). Scaffolding the ability to learn requires explicit teaching and development of these skills. It could be said that in learning, an individual uses words somewhat like pegs, where personal experiences, culture and rules hang as an invisible 'clip on', giving the language user an inner resource as they navigate their world (Munro, 2008). Given that children will enter school with varying levels of language competency Horner and O'Connor suggest that "teachers, and other adults, will need to be proactive in modeling, guiding, and scaffolding the ineffective learner" (2007, p101).

The development of oral language in the early years becomes a critical topic as curriculum is seemingly pushed down into the primary grades. Teachers feel the need to spend time on academic content, rather than allowing children opportunities to build language (Kirkland & Patterson, 2005; Wilde

& Sage, 2007); both through play and other more explicit learning opportunities. There is a strong theoretical rationale for early years teaching to foster good speaking and listening skills and to target oral language skills in language-delayed children who are, for example, likely to be at risk of literacy problems (Wilde & Sage, 2007; Rose, 2006 cited in Bowyer-Crane, 2008). Exploring early learning difficulties that occur through less developed use of language for self instruction, Remine et al (2008) investigated the relationship between language ability and verbal and nonverbal executive functioning in a group of deaf students who communicate using spoken English. Remine et al suggest implications of deficits included a lack of inhibition or impulse control, a lack of initiation (e.g., social withdrawal and apathy), poor planning and organizational skills, difficulties in information processing, and a lack of self-awareness of abilities and limitations. Similarly, Horner & O'Connor (2007) describe the ineffective learner during reading instruction, as one who may observe and emulate models haphazardly, they may focus on the wrong aspect of the reading activity, or they may attempt to avoid learning altogether. These children may also struggle with learning to read and write, where modeling effective reading behaviours and positive attitudes may not be enough.

Munro (2009) suggests observations which a teacher may use as evidence of difficulties in use of language to learn.

The child demonstrates difficulties:

- *learning to use new words to label unfamiliar events or items;*
- *having their attention directed through language;*
- *actually doing actions that match what they say they will do;*
- *converting instructions they hear into self talk for themselves;*
- *internalizing oral language, forming sub vocal patterns; and*
- *learning in group situations, learn better in one-to-one situations.*

For example, the child repeats instructions but does not know what was instructed. Thus the child has difficulty using instructions to manage her/his behaviour or has difficulty saying what he/she will do or has done to finish a task (Munro, 2009).

It follows then that effective and ineffective self-talk may be observed in children with these characteristics as they attempt to guide their thinking. In his work comparing the private speech of children with ADHD and normal controls during problem solving and inhibition tasks, Corkum et al (2008) found that children with ADHD produced more task relevant external and

more task-relevant internal private speech, suggesting that they may have employed a less mature strategy to aid in self-regulation. The educational implications of the study suggest that there should be an increased awareness of the developmental nature and functional significance of private speech and how private speech usage may differ in children with ADHD. Furthermore, Winsler et al (2006) examined the effects of children's private speech use on task performance for behaviourally at-risk children and a group of control children during a speech-action coordination task. Findings indicated that the behaviourally at risk children used more speech spontaneously compared to control children and performed just as well. Interestingly, Corkum et al (2008) suggests that though there is an appreciation by educators that private speech is used by children to direct their behaviour, at times private speech is also viewed as disruptive and therefore may be discouraged. If indeed children's spontaneous private speech is helpful to some or all children, then such classroom policies would need to be revisited (Winsler et al, 2007)

Munro (2009) refers to the notion of oral language as the least understood component of literacy instruction. Given that common practice encourages teaching of reading and writing as part of an explicit literacy block, it may be true that the explicit teaching of oral language is overlooked in some educational settings. It is critical to early learning success that children develop appropriate oral language, in both social and private capacity. Research has shown that parents and child care teachers can provide ample language activities and experiences. Effective early years activities include reciting rhymes, drawing pictures, shared book reading, reading and writing centres, singing songs and telling stories, listening games, group games, dramatic play and more recently, technology-assisted games (Lapp et al, 2000, Bennett et al, 2002; Baker et al, 1995; all cited in Weigel et al, 2007). Appropriate time and guidance must be provided, considering that language cannot be effectively used for learning if there is a deficit in appropriate development. Most children progress on this journey toward self-regulation with the normal amount and type of instruction and guidance from teachers and parents. Unfortunately, some children struggle on this journey, fall behind their classmates, and are in danger of losing their way. Bingham & Penningham (2007) suggest caregivers be aware of basic oral language developmental milestones, such as self talk, and play a role in their development, in order to respond to the needs of the individual learner.

Basic strategies described by Bingham & Penningham (2007) seek to build upon the existing language knowledge base. For example, they suggest that when using self talk it is important for the more advanced conversational partner to limit the length of each statement to one or two words above the level used by the child. This strategy is based upon Vygotsky's Zone of Proximal Development (1978, cited in Winsler & Naglieri, 2003; Vanderburg, 2006). Parents and educators who recognize the importance of developing independent learners prioritise the development of language capacities. Explicit teaching and intervention is appropriate to facilitate oral language development for children with typical development, children who are second-language learners, and children with special needs, thus increasing all children's potential to acquire literacy skills in school settings. In these instances learning and using language, self talk and metacognitive thinking requires that particular attention be paid to the type of talking taking place during early learning. Further recommendations by Bingham & Penningham (2007) suggest using a language level just higher than that currently used by the child provides an opportunity for the child to learn through an interaction that is slightly more competent than the level he or she is using. Thus with a child who has no verbal language or who has language limited to single words, self talk would be limited to simple two- or three-word phrases or sentences. Building on the relevance of intervention, Horner & O'Conner (2007) suggest that using a variety of methods, such as modeling, explicit teaching, prompting and praising can help struggling learners become more knowledgeable and self-regulatory. Such a process can be applied to a variety of learning situations, such as reading development, where the learner not only learns how to perform strategic activities and use mental strategies, but learns when and why they should use them. This is particularly useful for children with atypical development.

Children who innately understand techniques that assist learning, are motivated to use these techniques. Winsler & Naglieri (2003) explored children's own awareness of verbal strategies such as talking aloud to oneself or spontaneously engaging in private speech. Studying children aged 5-17, they found that verbal strategy use was particularly helpful for the lower achieving 5- to 7-year-olds, suggesting that young children who are struggling in academic achievement in the early grades may be good recipients for strategic intervention. Their findings also concluded that children come to use language in the form of private speech as a spontaneous (as opposed to trained) strategy for self-regulation. Awareness

was not a prerequisite for children's verbal strategy use but was positively associated with strategy effectiveness among those who talked, in fact strategy effectiveness comes first and actually drives to some extent children's awareness, reporting, and memory of strategy use (Winsler & Naglieri, 2003).

The self-regulatory nature of inner speech assists children in guiding their thinking and learning. Similarly, training in effective strategy skills can be helpful as children become literate. Souvignier & Mokhlesgerami (2006) showed that a program offering students a reading environment that covers the teaching of motivational aspects of self-regulation, strategy skills, and cognitive self-regulation appeared to be most effective but noted that it appears to be very useful to implement strategy-oriented reading and self-regulation skills to all students –independent of their skills – as early as possible in order to avoid any adverse effects on a child's self-efficacy. They demonstrated that such teaching improves reading comprehension (Roth et al, 2002; Bower-Crane, 2008); cautioning that a too wide-spread strategy instruction might contain the risk of decreasing students motivation for reading and learning, also that self-regulated learning requires the use of metacognitive strategies to serve as a control to check whether use of cognitive strategies has led to satisfactory text comprehension (Souvignier & Mokhlesgerami, 2006). In these contexts use of language for self instruction demonstrates a critical component of how an individual processes information, behaves intelligently, solves problems, and learns through the use of language (Remine et al, 2008).

Play provides further opportunities for enhancing language and thinking. Salmon (2008) embarked on a research project towards nurturing a culture of thinking in young children. The study took place in two Reggio-inspired schools where participating teachers documented children's work as part of their teaching. The documentation was a key element to make children's thinking visible as they installed the culture and language of thinking in their classrooms through the use of thinking routines. The study found that thinking routines build up positive attitudes about thinking and learning. By re-visiting their documented work children developed metacognitive and critical thinking skills which make them more alert to situations that call for thinking (Salmon, 2008).

In this study, the teachers were able to engage their students' minds in ways that strengthened their thinking dispositions by respecting their interests,

needs and developmental characteristics. When it was evident that children made personal connections, this was a great venue for teachers to identify the children's Zone of Proximal Development (Vygotsky 1978, cited in Salmon, 2008; Winsler & Naglieri, 2003; Vanderburg, 2006), and scaffold their thinking and language. In many instances the thinking routines employed engaged children in thinking activities that resulted in their desire to express their thoughts using oral language and drawings. Interestingly, when using thinking routines, the children's responses to children's books showed evidence that they were making good and strong connections between the reading and their thinking. In this learning context, the children were creating rules of understanding and also learning to control how they used these ways of thinking.

Another approach which further explores the use of language for thinking was researched by Sungur & Tekkaya (2006). In this study, they investigated the effectiveness of problem-based learning (PBL) and traditional instructional approaches on various facets of students' self-regulated learning, including motivation and learning strategies. Participants included tenth-grade students from two classes in which students worked with ill-structured problems. In their research, Sungun & Tekkaya (2006) observe that students should not depend on teachers to learn; instead, they should be independent learners throughout their lives. Sungun & Tekkaya further identified that self-regulatory skills are of little value if students do not motivate themselves to use them. Their findings revealed that PBL students had higher levels of intrinsic goal orientation, task value, use of elaboration learning strategies, critical thinking, metacognitive self-regulation, effort regulation, and peer learning compared with control-group students. Their findings supported those of Paris & Paris (2001, p. 315; cited in Sungun & Tekkaya, 2006) who found "PBL, which places responsibility on students to (a) find information, (b) coordinate actions and persons, (c) realise goals, and (d) monitor understanding can be used by teachers to support the development of self-regulated learners".

Looking at the vast body of research reviewed, it is reasonable to conclude that the use of language as a tool for thinking and for learning, such as in the use of self-talk, is enhanced through quality interactive experiences and that inner speech contributes not only to early learning success, but continues to be critical to all learning success. Evidence of links between self-talk and early learning success are evident in findings that children use language for efficient action such as the ability to plan, to discuss and evaluate ideas, and

self-evaluate. Given that increasingly sophisticated language is required for learning it is likely that students with poor language abilities will have difficulties achieving success (Wisler et al, 2007; Remine et al, 2008).

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