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# “I’m talking to myself”: Children’s use of private speech for self-regulation

Review by Carolyn Tan-Niam



*William Oh*

## INTRODUCTION

Research in the last decade has witnessed a dramatic increase in the influence of Vygotsky on our understanding of cognitive development, particularly of his views on the social origins of higher psychological functions. A crucial aspect of Vygotsky’s theory is that the same language that mediates social interaction between humans is used to mediate cognitive activity within individuals. Language as a tool of thought, commonly referred to as private speech, thus constitutes a significant link between social and cognitive

phenomena. This paper reviews major findings of private speech research and their implications for teaching.

The significance of private speech in cognition and development was first raised by Piaget (1926) and Vygotsky (1962). Piaget (1926) employed the term “egocentric speech” in his writings to refer to children’s overt self-verbalisations emitted in social situations without any preoccupation about being understood or about trying to adapt the discourse for

others. According to Piaget, egocentric speech is a symptom of the child's cognitive immaturity and it serves no communicative or developmental function. For Piaget, egocentric speech included children's engagements in repetitions, monologues and "collective monologues", and were a consequence of the child's inability to make a distinction between the perspective of the self and the other. In the course of development, he argued that egocentric speech would eventually disappear and be replaced by social speech as the child takes cognizance of the role of others.

Vygotsky agreed with Piaget that private speech refers to speech spoken aloud by children that is addressed to the self or to no one in particular. Contra Piaget, Vygotsky conceived of private speech as an essential transitional stage where the language that mediated interaction between individuals began to mediate cognitive activity within the individual. This conceptualisation of private speech is very much a product of Vygotsky's theorising about the shared nature of mental functioning and the process of semiotic mediation through verbal signs. This is summarised in his general genetic law of cultural development that states 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. First it appears between people as an inter-psychological category, and then within the child as an intra-psychological category ... social relations among people genetically underlie all higher functions and their relationships*" (1981, p.163).

From Vygotsky's point of view, private speech is one such phenomenon that reflects the process whereby inter-psychological

functions are reconstructed on the intra-psychological plane. As such, it has a pivotal role to play in development i.e. the role of cognitive self-guidance. Specifically, speech-for-other is internalised and takes on an intra-personal function in addition to its interpersonal use, and enables the child to use linguistic means to regulate the activity for the self. This speech originates from social speech and functions predominantly to aid the child in guiding, planning and regulating his own activity.

## REVIEW OF RESEARCH

The bulk of private speech research has been framed in Vygotskian terms and involves a number of predictions about the nature and course of private speech. It must be noted that the main difficulty in the comparison of results from various studies is that of different operational definitions of categories of private speech by different researchers. Many of these investigations are reviewed in two major collections of private speech research by Zivin (1979) and Diaz & Berk (1992). A selective review of these studies is presented below.

### Private speech and developmental trends

Studies looking at age-related changes in the incidence of private speech and the occurrence of the various sub-categories of private speech have supported Vygotsky's view that there is a curvilinear trend of private speech emerging during the preschool years i.e. a gradual appearance of private speech in the early years, peaking at ages 5/6 and then decreasing in middle childhood (Berk, 1986; Berk & Garvin, 1984; Kohlberg et al., 1968; Rubin, 1979). In relation to developmental changes in the categories of private speech, Kohlberg et

al.(1968) postulated categories of private speech that fitted into a five-level developmental hierarchy and suggested that the order of the levels in the hierarchy was invariant. Kohlberg et al. (1968) presented three lines of evidence in support of their hypothesised developmental progression:

- (a) changes in the percentages of different categories of private speech;
- (b) a simplex pattern of intercorrelations among speech categories, (Kohlberg et. al., 1968) ;
- (c) changes in the relevant frequencies of categories within different age groups.

However, a review of private speech studies (Diaz, 1992) to date provides only limited evidence of developmental trends among the categories in children's use of private speech (Berk, 1986; Berk & Garvin, 1984; Fuson, 1979; Rubin, 1979). More recently, some investigators have critiqued Kohlberg et al.'s findings on methodological issues. Others have provided contrary evidence from work with adult subjects which show that private speech retains its self-regulatory function throughout the life-span (Fry, 1992; John-Steiner, 1992) and therefore, challenged Vygotsky's claim that the private-to-inner speech internalization process is complete in the middle childhood years.

### **Private speech and task difficulty**

A number of studies (Behrend et al., 1989; Berk, 1986; Berk & Garvin, 1984; Kohlberg et al., 1968), using task comparisons and experimental manipulation of task difficulty, have yielded findings that suggest a clear

relationship between the incidence of self-regulating private speech and task difficulty. Berk & Garvin (1984) reported that engagement in academic seatwork as opposed to non-academic activities led to increase levels of private speech. The general contention here is that children use more self-regulatory speech as a result of the need to solve difficult problems i.e. the higher the level of difficulty, the increased incidence of private speech. Others (Fuson, 1979; Diaz, 1992) have counter-argued that children may use more private speech in these contexts not to regulate their problem-solving, but because of stress and tension induced by task or contextual factors. In fact many studies have shown the high variability of the incidence of private speech with evidence of large standard deviations (Azmitia, 1992; Berk & Garvin, 1984; Rubin & Dyck, 1980) and have suggested that this variability is a result of the effects of the "context" on the incidence of private speech. "Context" refers broadly to factors relating to:

- the social setting (presence or absence of audience);
- quality of audience (adult versus peer);
- nature of the task (cognitive activity versus free play);
- context of the activity (experimental versus naturalistic)

Findings have indicated that the incidence of private speech is dependent on the presence of a responsive audience (Berk & Garvin, 1984; Goudena, 1987), and the nature of the task i.e. demanding cognitive activity versus free play (Berk, 1986; Rubin, 1979).

## **Unitary versus multifunctional role**

Vygotsky's emphasis on private speech as representing a functionally unitary phenomenon is a result of his opposition to Piaget's "no function" claim. Some researchers have challenged Vygotsky's claim by contending that Vygotsky has underestimated the range of possible functions served by private speech. These investigators have suggested that private speech may have a multifunctional role to play in development. In particular, Flavell (1966, cited in Berk, 1992) found that solitary children engaged in private speech which served imaginary functions as well as a self-regulatory function. Later studies also showed that private speech provided practice for social discourse for unsociable children (Rubin & Dyck, 1980; Olszewski, 1987). In line with these findings, some researchers have argued that private speech allows emotional expression (Fuson, 1979) and makes children more aware of their own actions and existence (Rubin, 1979).

## **Private speech and the self-other distinction**

For Mead (1934), the key to the social development of the self is in the way we relate to the "other". According to Mead (1934), the young child can only understand his own actions from the perspectives of others within the context of experience in which he and the others are involved. Mead suggests that before the child can be aware of himself as an interlocutor, there is a transitional stage where in the presence of another (the other-listener), the child is able to recognise himself as the addressee of his own utterance (i.e. I-listener). In this process, the I-speaker is able to distance himself and form a perspective of I-listener, while at the same time attempting to

differentiate between the I-listener and other-listener. For example, at this stage, the child both asks and answers his own questions concerning the ongoing activity. Kohlberg et al. (1968, p.704) describe this as "the child can only see himself (or establish the meaning of his activity) from the perspective of another, and he can at first only take this perspective on himself by describing his activity to the other and so "calling out" in himself the implicit response of another". This "calling out" to the self is significant in the conceptualisation of the I-listener. Based on this view, researchers such as Kohlberg et al. (1968), Rubin (1979) and Ramirez (1992) suggest that the mental dialogue between I-speaker and I-listener be manifested as private speech. This view of development of the self through the perspectives of others requires the child to adopt different roles in social contexts, and therefore makes an implicit claim about children's understanding of distinct mental perspectives on the same situation.

The work of Morin & colleagues (Morin & Everett, 1990; 1991) adopt a Meadian perspective to explore the hypothesis that private speech constitutes an important part of the process by which individuals come to learn self-knowledge. In other words, private speech is a cognitive tool for self-observation. However, a test of this hypothesis with preschool children was unsuccessful (Morin & Everett, 1991) due to the difficulty of making young children aware of the self. A similar argument was put forward by Tomasello et al. (1993) in the theory of cultural learning. Tomasello and colleagues proposed that the child's ability to learn by taking on the perspectives of others is determined by their developing conceptions of persons as mental agents, which are in turn constructed through social

interaction. The authors suggested that the child can engage in internal dialogues of self-regulating speech only after they are able to understand other persons as mental agents with different thoughts and beliefs. This is so because both self-regulating speech and understanding of other minds presuppose two distinct mental perspectives on the same situation. In a social situation, the child will compare the other's perspective with his own, internalise it and subsequently apply this understanding in self-regulating behaviour or speech. Although the authors did not present any data, the implicit claim that the effective use of private speech may depend upon children's mentalizing abilities is a plausible one.

### EXAMPLES OF PRIVATE AND SOCIAL SPEECH CATEGORIES

In most studies of children's private speech, the verbal data obtained from children's interactions are segmented into utterances

that are the basic unit of analysis. An utterance is usually defined as a unit of speech that contains no temporal or semantic discontinuities. A pause of more than 3 seconds constitutes a temporal discontinuity, and a topic shift (whether or not preceded by a pause of 3 seconds) constitutes a semantic discontinuity. A topic shift refers to a change of subject in the speech data. Utterances are subsequently classified as social or private speech according to criteria usually adapted from Diaz & Berk (1992) and Berk & Garvin (1984). Social speech is defined as that which is clearly and objectively intended for the partner and is characterised by the markers described below. The markers are provided to specifically guide the coders with a defined set of criteria. This will reduce the subjectivity involved in solely imputing communicative intent to the speaker. The various social speech codes with examples cited from some play interactions are shown below. In each case, the utterance coded is indicated with bold-type. All other speech are categorised as private.

#### Social speech coding categories

Social speech	Examples
Making eye contact If child sustained eye contact with play partner during or within three seconds of his utterance, the utterance was coded as social. Glances of less than one second were not counted as sustained eye contact.	Hannae (makes eye contact with Jerilyn) <b>"Want to try?"</b>
Behavioural The utterance is coded as social if, within three seconds of the utterance, the child's behaviour involved the other child through physical contact, or approach, or extension of arms or any behaviour that	Seth - <b>"I need the comb."</b> (Reaches to partner for the comb)

attracts the other child's gaze; or other child's behaviour involves speaking child. In this category, there is clearly shared attention.	
<p><b>Content</b></p> <p>The utterance is coded as social if the utterance has the same topic as the other child's preceding utterance (i.e. three seconds before present utterance); the utterance was a question directed at other child where an answer is expected (i.e. rising intonation); utterance contains a name or vocative.</p>	<p>Joanna - "<i>I'm bathing him.</i>"</p> <p>Bernatte - "<i>Use the soap.</i>"</p>
<p><b>Temporal</b></p> <p>The utterance is coded as social if it occurred less than three seconds after any social utterance i.e. it follows naturally after child's previous comment.</p>	<p>Rachel - "<i>Let's put dolly into the water.</i>" (Makes eye contact with Cheryl and puts doll into bath-tub)</p> <p>Cheryl - "<i>Let her soak.</i>"</p>

Following the classification of speech utterances into social and private speech, the private utterances are further categorised into nine mutually exclusive and exhaustive categories of private speech (Berk & Garvin, 1984).

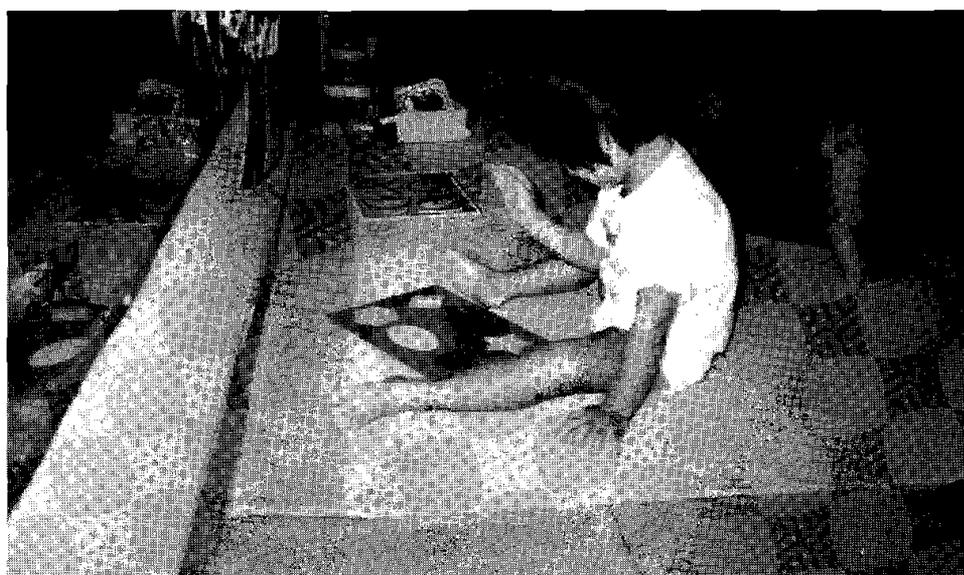
### Private speech coding categories

Social speech	Examples
<p><i>Egocentric communication</i></p> <p>This is speech attempting to communicate with the other but failing because it was not adapted to the perspective of the other.</p>	<p>Bianca (puts hat on doll) - "<i>Santa Claus likes hats.</i>"</p>
<p><i>Affect expression</i></p> <p>This is expression of emotions not directed at any particular listener or expressions that have no external stimulus but are attempts by the child to emotionally integrate a thought.</p>	<p>Jerilyn (after changing doll's clothes) - "<i>Finished at last.</i>"</p>
<p><i>Word play and repetition</i></p> <p>This involves repetition of words or sounds for their own sake.</p>	<p>Jennifer (scrubbing the doll) - "<i>Rub, rub, rub, rub, rub.</i>"</p>

<p><i>Fantasy play</i> Role-playing or sound effects verbalisations for objects.</p>	<p>Joyce (feels her own forehead) - <b><i>“How are you feeling now, Joyce?”</i></b></p>
<p><i>Remarks addressed to non-human objects</i> Describing one’s own activity and self-guidance. Remarks by the child about his own activity and addressed to no one in particular.</p>	<p>Carrie (looking at the comb) - <b><i>“You naughty comb.”</i></b></p> <p>Si Yan (picks up the powder prop) - <b><i>“I’m going to put some powder.”</i></b></p> <p>Si Yan (dressing the doll) - <b><i>“Dressing up is difficult - must put this hand in first.”</i></b></p>
<p><i>Self-answered questions</i> Utterances in which the child verbalised a question and then immediately supplied the answer.</p>	<p>Joanna (looking for a prop) - <b><i>“Where did I put that? Ah, over here.”</i></b></p>
<p><i>Reading aloud</i> Reading print materials aloud.</p>	<p>Alex (reading a name label in the play surrounding) - <b><i>“Sam.”</i></b></p>
<p><i>Inaudible muttering</i></p>	<p>Remarks uttered with lip movements and cannot be understood by observer.</p>

## CONCLUSION

Over the past two decades, research in private speech has concurred with Vygotsky’s observations i.e. that private speech is important as it provides a foundation for children to think about their own behaviour. The many examples of private speech which we “hear” in children’s activities are therefore concrete evidence of children’s use of language and highlight the central role of language in children’s mental life.



William Oh

## IMPLICATIONS FOR PRACTICE

***1. Provide children with a variety of activities, both individual and collaborative.***

When working alone on problem-solving activities, children must be allowed to “talk” to themselves as they employ speech as a tool for self-regulation. In such instances, the child’s private speech becomes an effective bridge between the social and psychological worlds of the child. Children rely on private speech to focus attention, pace their motor activity, mark important endings and transitions, modulate their affective states, as well as self-praise and self-motivate in the face of weakening persistence during boring tasks. Close observations of children’s talk in such situations can guide the teacher towards better understanding of child’s strategies and motivations.

***2. Develop teaching contexts where teachers verbalise their problem-solving strategies so that pupils can model the process.***

As adults, teachers have already internalised the processes and strategies required in learning a routine or solving a task. Pupils may require help or modelling with this process. In a sense, teachers are guiding the use of private speech in such contexts.

***3. In the preschool context, teachers need to be encouraged to provide fantasy play opportunities.***

Private speech research shows that pretend play generates a large amount of private speech, a process which young children need to come to terms with new aspects in the learning environment.

***4. Teachers need to be aware of the different types of discourse they use in the classroom.***

Many teachers alternate between interactive speech (directed activities), social monologue (lecture), and dialogue (discussion). An analysis of these three types of social discourse (as opposed to private speech) may help teachers determine how to use these types of speech more effectively.

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