A study examined children's use of private speech in early childhood classrooms. The study's three goals were: to determine the degree to which private speech is used; to replicate and extend previous research with older children; and to examine the classroom's particular contexts and activity settings which maximize children's use of private speech. Subjects were 3- and 4-year olds in a university laboratory preschool, including 14 children (43% female) in the 3-year-old classroom and 14 of 16 (56% female) children in the 4-year-old classroom. Observers used a behavioral checklist instrument and pre-recorded time signals. Each child was observed an average of 98 times yielding a total of 2752 observations. Results indicated that, overall, children used private speech in 13% of the observations, suggesting that 3-4 year old children spontaneously use self-regulatory language often in the context of the preschool classroom. Among other results, 4-year-olds' private speech occurred during the self-directed, tacitly structured, self-selected activity time setting, whereas 3-year-olds' self-talk was more evenly distributed across the three classroom settings. Findings suggest that most (77%) 4-year-olds' private speech occurred during focused, on-task activities while 3-year-olds' private speech was equally likely to appear during either on-task or off-task activities. (Contains 9 references; graphs of study results are appended.) (CR)
Children's Systematic Use of Private Speech in Early Childhood Classrooms

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Children's Systematic Use of Private Speech in Early Childhood Classrooms

Background/Rationale/Objective

One of the central tenants of cultural-historical theory is that higher order psychological functions have social origins and that children's cognitive and social development is largely the result of the internalization and/or constructive appropriation of sociocultural tools or signs (Forman, Minick, & Stone, 1993; van der Veer & Valsiner, 1991; Vygotsky, 1930-1935/1978, Wertsch, 1985). Possibly the most important cultural tool internalized by the child is language. Vygotsky placed great importance on children's private speech, or self-talk, as an intermediate step in the process of speech internalization whereby children begin to use language not only for communication but also as a tool for thought and self-regulation (Diaz, Neal, & Amaya-Williams, 1990).

Research has supported Vygotsky's views on the role that children's private speech plays in development by showing that a) ontogenetically, private speech follows a particular developmental course of progressive internalization during the preschool years, b) micro-genetically, private speech emerges in moments of task difficulty as children are in the process of mastering a new skill, c) such speech serves important self-regulatory functions for children, d) private speech is dynamically related to task performance and improvement over time, e) the quantity and self-regulatory quality of children's private speech is related to the type of social interactions they participate in and the quality of adult scaffolding they receive, and f) private speech reliably emerges as a tool for learning and overcoming obstacles when young children are engaged in challenging, goal-directed activities (for a review, see Berk, 1992). Although much empirical and theoretical work has now been done on private speech and its role in children's development, application of this work for educators, especially those in the early childhood classroom, has only recently begun to emerge (Berk & Winsler, 1995).
Vygotsky's ideas are particularly relevant for the field of early childhood education as the preschool years witness both the internalization of important cultural tools, such as language, literacy, and numeracy, and corresponding major developments in cognition and behavioral self-regulation (Diaz et al., 1990; Kopp, 1982). Gaining a better understanding of children's private speech is particularly important for early childhood educators because 1) private speech can serve as a window for teachers to observe young children's emerging social and cognitive processes, 2) private speech has been shown to be an important mediating link between teacher-child interaction/instruction and children's subsequent cognitive growth (Winsler, Diaz, & Montero, in press), and 3) young children's spontaneous use of task-directed private speech can serve as an assessment tool as it usually indicates that the child is meaningfully engaged in appropriately challenging and interesting goal-directed activity -- a prominent goal of many, if not most, preschool programs (Berk & Winsler, 1995; Winsler & Diaz, 1995).

The present study had at least three major goals: 1) the determine the degree to which preschool children spontaneously use private speech in the naturalistic and ecologically valid context of the early childhood classroom, 2) to replicate and extend both previous research in the laboratory and research in the classroom with older children which has addressed more or less the same question (Winsler & Diaz, 1995), and 3) to examine the particular contexts and activity settings of the preschool classroom which maximize children's use of private speech, using such speech as a measure of children's self-directed engagement in problem-solving activity.

Method

The three year-old and four year-old classrooms of a university laboratory preschool were observed over a period of two months in the spring of the academic year. All 14 children (43% female) in the three year-old classroom were observed by one observer, and 14 of the 16 children (56% female) in the four year-old room were followed by a different observer. Observers used a behavioral observation checklist instrument and
pre-recorded time signals (which projected via headphones to one ear from an audiocassette recorder attached to a belt) to assist them in following their time-sampling observation schedule. Target children were observed, according to a predetermined random order, for 10, 10-minute periods, with each period consisting of 10, 10-second direct observation intervals separated by 50-second recording intervals. Each child was observed an average of 98 times yielding a total of 2752 observations.

Observers recorded the following on the checklist instrument:

1) in which of the three main classroom settings the observation took place *(self-selected activity)* time [SSA] - in which children chose which of the many curriculum-based, activity stations they would work/play with; *large group* time, in which the entire class would assemble for, say, stories or songs; or *outside free play/recess*,

2) whether the child was *on-task* (defined as being focused on an organized or goal-directed activity) or *off-task*,

3) *sustained activity* (whether or not the child was still engaged in the same activity as in the immediately preceding 10-second observation,

4) affect *(positive, negative, or neutral)*,

5) social context (whether the child was *alone*, with *peer(s)*, with a *teacher*, or with *both* peer(s) and a teacher),

6) behavior *(appropriate, inappropriate)*, and

7) speech *(none, social speech, private speech* [defined as speech not clearly addressed to another as indicated by a glance, touch, or pronoun], or *both* social and private speech within the same 10-second interval).

Reliability for these judgments, as determined during the pilot testing of the checklist instrument in which two observers rated the same children independently, was good, with inter-observer agreements ranging from .80 to 1.00. Chi-square and logistic regression analyses were performed on the data with observations (pooled across subjects) as the unit of analysis.
Results/Conclusions

Overall, children used private speech in 13% of the observations. This percentage is consistent with, if not slightly higher than, what has been observed with older children in similar classrooms (Winsler & Diaz, 1995) and suggests that 3-4 year-old children spontaneously use self-regulatory language often in the context of the preschool classroom. Multivariate logistic regression analyses revealed that preschool children's use of private speech can be successfully predicted on the basis of the classroom context and the child's activity. For example, private speech was more likely to occur during the SSA setting compared to the other settings, and more likely to occur when children were either alone or with the peers, compared to in the presence of a teacher. Other variables and interaction terms in the regression model also contributed significantly to the prediction of private speech, such as class/age, class by social context, class by context, and context by activity, and these will be discussed in more detail below.

Several findings suggest that an important developmental transition occurs in the way in which three and four year-old preschool children use private speech in the classroom, with the four year-olds using such speech in more systematic and specialized contexts than the three year-olds. A clear majority of four year-old children's private speech (76%) occurred during the self-directed, tacitly structured, SSA setting, whereas three year-old children's self-talk was more evenly distributed across the three classroom settings. The three year-olds, overall, were more likely to talk to themselves (16%) compared to the four year-olds (10%), however, this age/class difference was not evident in all settings. Four year-olds were just as likely to use private speech as three year-olds during the SSA setting, but were less likely to use such speech outside or during group time. Private speech appears to be more related to children's on-task and sustained activity for the four year-olds, compared to the younger age group. Most (77%) of four year-old private speech occurred during focused, on-task activities while three year-old private speech was equally likely to appear during either on-task or off-task activities. Similarly,
most (72%) four year-old private speech occurred in the context of sustained activity, whereas three year-old private speech was equally likely to occur during either sustained or rapidly changing activities.

The results of this study provide additional support for Neo-Vygotskian sociocultural theory regarding private speech and the development of self-regulation in the preschool years by showing that private speech, rather than being epiphenomenal, is used in systematic ways by young children in the early childhood classroom. Early childhood educators can benefit from an understanding of children's private speech as it can serve as a valuable assessment tool and an indication of the degree to which early childhood curricula are promoting children's active engagement in sustained and appropriate learning activities in the zone of proximal development.

References


METHOD

SUBJECTS

14 - Three-Year-Old class
   (43% Female)

14 - Four-Year-Old class
   (56% Female)

PROCEDURE

2752 Naturalistic Observations

Time-Sampling Observation Method:

- Each child - approximately 10 observations:
  - 10, 10 minute observation sets
  - each set:
    - 10, 10-sec periods of direct observation separated by 50-second intervals.

- Behavioral Observation Checklist
## VARIABLES

### Classroom
- 3 Year Old
- 4 Year Old

### Classroom Context
- Large Group Activity (LGA)
- Self-Selected Activity (SSA)
- Outside Recess (OR)

### Behavior
1) On-Task vs. Off-Task
2) Appropriate vs. Inappropriate
3) New Activity vs. Sustained Activity

### Affect
- Positive
- Neutral
- Negative

### Social Context
- Alone
- With Teacher(s)
- With Peer(s)
- Both (Teacher & Peer)

### Speech
- None
- Private
- Social
- Both (Private & Social)
Children's Private Speech by Social Context

[Bar graph showing the percentage of observations for different social contexts: Alone, Peer(s), Teacher(s), Both]
Distribution of Children's Private Speech by Classroom Context, Combined and by Age/Class
Distribution of Children's Private Speech into On-Task vs Off-Task Activities, Combined and by Age/Class
Distribution of Children's Private Speech into Sustained Activity and Novel Activity Categories, Combined and by Age/Class
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