Scholars in the Sandbox: Academic Talk with Preschoolers

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Center for Children & Families
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“Children from economically-disadvantaged backgrounds are especially likely to show lags in language and communication skills, including vocabulary, morphology/syntax, and discourse (e.g., Bowey, 1995; Dickinson & Snow, 1987; Hoff-Ginsberg, 1998; Justice & Ezell, 2001)” . . .
Main Goal:

Dispel this wide-spread belief that most preschoolers at risk for academic difficulties have OVERALL WEAK oral language skills.
Current View

Weak OVERALL preschool oral language skill

Leads to

Later Academic difficulties
Proposed View

Lack of/Less familiarity with Academic Register

Leads to

Later Academic difficulties
Propose A More Refined Lens to Consider Preschoolers’ Oral Language Skills

- Two DIFFERENT oral language registers available to preschoolers that are MEASURED differently.
- Many preschoolers at risk for later academic difficulties have weaknesses in only ONE of these registers.
An integrated set of co-occurring language features important for carrying out everyday affairs — having relationships with others and getting the business of everyday living accomplished.
An integrated set of co-occurring oral language features important for academic success in general, and for reading comprehension in particular – language used to transmit, display, & build knowledge and understanding
Two Preschool Oral Language Registers, But Only AT is:

- Often not familiar to preschoolers at risk for academic failure
- Measured by formal norm-referenced language tests
- Critically important to academic success
Same Language, Two Registers

Casual Talk

Academic Talk

Different Patterns of Language Use
What do I mean by register?

A culturally determined PATTERN of language and communication use
What do I mean by pattern?

A set of co-occurring features along many dimensions that are more prevalent in one register versus another
Why do we have registers?

• Because language is FUNCTIONAL for the situation we use it in – so language is a tool that can be changed or shaped to do different things

• Registers are the different patterns of language use reflecting the different purposes
EXAMPLE:
“Baby Talk” vs. “Adult Talk” Register
EXAMPLE:
“Baby Talk” vs. “Adult Talk” Register
Functions

Casual Talk
Language for Daily Living

Academic Talk
Language for Formal Learning
Registers are Culturally Shaped

• Cultures that FREQUENTLY use AT
  a. Classrooms in Western culture
  b. Families/homes of preschoolers where parents have relatively high education levels
Preschoolers with More Highly-Educated Parents

Exposed to (from onset of language) and therefore strong skills in BOTH registers (van Kleeck, 2014, in press)
Preschoolers Whose Parents Have Lower Education Levels (including many culturally and linguistically diverse – CLD– children)

Almost ALL strong in CT; many quite weak in AT, causing academic risk
Pattern Emerging in Recent Research:

Different types of assessments of pre-K and kindergarten oral language abilities show very different relationships with later reading comprehension and other measures of academic achievement.
My Explanation:
Different assessments reflect different types of preschool and kindergarten oral language (registers) – casual talk or academic talk -- & that is why they do a better or worse job of predicting later reading comprehension or academic success for preschoolers at risk for later academic difficulties.
Moderate to strong predictors of later reading comprehension/academic achievement for preschoolers at risk are found oral language assessed by:

• Formal discrete point (questions are unrelated to each other) language tests

• Most story retells (measures complex integration of language abilities)
A Formal Discrete Point Language Test
Preschoolers at Risk Academically

Have fairly consistent quite low performance on oral language when measured by formal, discrete-point tests or by story retell measures (average -1 SD below mean)
Formal oral language test or story retell

Academic talk

Assesses

Reading comprehension or school achievement

Predicts
Why this difference in exposure to AT in the homes of different children?

Logic Path

- The more time Mom (& likely Dad, too) spent in school, the better she got at AT herself.
- The better she is, the more she uses AT just naturally with her own children at home.
- The more she uses AT, the more her child learns to understand and use AT, too.
Weak or no prediction of later reading comprehension/academic success for preschoolers at risk when oral language assessed by:

- Language sample analyses (LSA) of spontaneous conversation during play (taps CT skill)
Preschoolers at Risk Academically

Perform similarly to their peers whose parents have higher education levels on language sample analyses of their oral language skills – no weakness here!
For preschoolers at risk for later academic difficulties:

Conversational language sample analysis (LSA)

Casual Talk

Assesses

Reading comprehension/school achievement
Relationship of registers to later school achievement:

Casual Talk

Academic Talk

Reading Comprehension & Academic Success
## Language Exposure and Strengths of Different Preschoolers

<table>
<thead>
<tr>
<th>CT</th>
<th>Many preschoolers of mothers with low education</th>
</tr>
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<tbody>
<tr>
<td>CT &amp; AT Woven Together</td>
<td>Many preschoolers of mothers with higher education levels</td>
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Current View ONLY Considers an Academic Language Register with School-Aged Children

Greatly increasing concern with important role of a broad academic language register in school-aged children’s academic success

Now several literature reviews: Scarcella, 2003; Schleppegrell, 2001, 2004; Snow & Uccelli, 2009
Proposed View

- Waiting even until kindergarten is TOO late

- Research repeatedly shows that children who start behind as preschoolers (on formal tests & hence AT skills), tend to stay behind academically for the remainder of their academic careers
Impact of Using the AT register in Classroom or Home Dependent on Two Foundations
(adapted from Pianta’s research team)
Quality Factors in Pre-K Classrooms (& in Preschoolers’ Homes)

- Engaging in Academic Talk
- Organized Routines/Activities & Adequate Material Support
- Positive Emotional Climate
Engaging in Academic Talk

Organized Routines/Activities & Adequate Material Support

Positive Emotional Climate
Engaging in Academic Talk

Organized, Well-Managed & Interesting Activities Critical

Organized Routines/Activities & Adequate Material Support

Positive Emotional Climate
Engaging in Academic Talk
Organized Routines/Activities & Adequate Material Support
Positive Emotional Climate

Adult-Child Interactions
Most Critical Factor For Learning
From Mashburn, Pianta, Hamre, Downer, Barbarin, Bryant, Burchinal, Early, & Howes, 2008
Features Distinguishing CT & AT
Continuum of Frequency of Features

Casual Talk  Academic Talk  Written Acad. Lang
CT & AT Registers are NOT on a Developmental Continuum

- CT does NOT have to come first! The two registers can develop simultaneously from the beginning of language development.

- They are DIFFERENT patterns of language used for DIFFERENT functions – one register does not build on the other.
CT & AT Registers are NOT on a Developmental Continuum

**NOT:**

CT  →  AT

developmental time

**BUT:**

CT  →  AT

(higher parental education)
CT & AT Registers are NOT on a Developmental Continuum

**NOT:**  CT → AT

Developmental time

**BUT:**  CT → AT

(lower parental education)
Social-Interactive Features

Cognitive Features
Social-Interactive Features

Cognitive Features

Linguistic Features will Mostly Happen Automatically
Encouragement of autonomy/independence

Exhibitionism (anthropology term) – less competent person displays skills to more competent people in order to gain confidence & a sense of personal achievement
Social-Interactive Features
Distinguishing CT and AT

a. Rules for Participating in Interaction
   i. Degree of independence encouraged
   ii. Nature of verbal display – having children show you what they know by TELLING you
   iii. How you participate in interactions

b. Degree of Formality
Degree of Independence in Thinking & Self Direction in Activities

Casual Talk

Academic Talk

More encouraged in mainstream culture homes, less so in many CLD homes
Degree of independence in thinking encouraged

Asking questions like the following to foster child’s independence as a thinker and as having a say in his or her activities:

- **What do you think?**
- **Do you think that that will work?**
- **Which book would you like me to read to you?**
<table>
<thead>
<tr>
<th>Of What</th>
<th>Why Asked</th>
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<tbody>
<tr>
<td>Already acquired knowledge</td>
<td>Show adults what you already know (assessment); Help child gain confidence in being able to answer</td>
</tr>
<tr>
<td>Thinking</td>
<td>Build new knowledge; Display thinking; Develop critical thinking by practicing it</td>
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VERBAL DISPLAY

- Often not practiced in many low-income or culturally diverse families (children often expected to learn via quiet observation)

- Common manifestation of exhibitionism in individualist cultures and institutions (e.g., schools), hence commonly requested in AT
For children **not** familiar/comfortable with questions regarding information they & teacher already know answer to, teachers can explain:

- I will ask questions I already knows the answer to
- In school, your job is to tell me the answer anyway
- This will help me know see if I’m doing a good job teaching
For children *not* familiar/comfortable with questions asking them to talk about what they are thinking, teachers can explain:

- I want you to tell me what you are thinking, even if you are not sure of the answer
- If you don’t have any ideas, I’ll tell you what I’m thinking (teacher provides a “think aloud”)

“I wonder who this book is going to be about?’ I haven’t read this book before, so I don’t know for sure who it is about. But I can use hints from the cover to guess who the book might be about. There is a picture of a bear and a bird on the cover. So maybe the book is about the bird or the bear, or maybe about both. But, I’d have to read the book to find out if I made a good guess or not.”
Topic Participation

Many-to-one (many children to one or a couple of adults) classroom context influences social interaction in classroom
All participants in interaction in more mainstream culture families; Not as encouraged in children from CLD families

Generally controlled by teacher
Topic Spontaneity

Casual Talk

Academic Talk

Spontaneous contributions from children encouraged in more mainstream families, but are less encouraged in CLD families.

Typically elicited and focused by teacher.
Balance of Contributions to Talk

Casual Talk

More balanced/equal in mainstream culture families; Tend to have give & take conversations

Academic Talk

Less balanced; Teachers often talk much more than children
In Classroom, Teacher Can:

- Make sure rules for participation in any activity are clearly stated to children as routines are established in beginning of the school year.
- Gently hold children to the current task and topic.
- Engage children in discussion frequently and work to help all children in class feel comfortable contributing.
Degree of Formality
Less Formal = Casual Talk Register
More Formal = AT Register
CT allows more “colloquial” (everyday) vocabulary than AT does

- Examples: *kid, kitty, go bananas, gonna, y’all*
Formality Shows up in Vocabulary Choices

CT uses more simple, common, high frequency, familiar vocabulary than AT
More Germanic Terms in CT & More Latinate Equivalents AT

<table>
<thead>
<tr>
<th>Germanic</th>
<th>Latinate</th>
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<tbody>
<tr>
<td>Eat</td>
<td>Dine</td>
</tr>
<tr>
<td>Hand</td>
<td>Manual</td>
</tr>
<tr>
<td>Ask</td>
<td>Inquire</td>
</tr>
<tr>
<td>At Night</td>
<td>Nocturnal</td>
</tr>
<tr>
<td>Teach</td>
<td>Educate</td>
</tr>
<tr>
<td>Baby</td>
<td>Infant</td>
</tr>
<tr>
<td>Help</td>
<td>Assist</td>
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CT uses more “appreciative markers” that convey attitude, interest, values, and involvement than AT.

Examples: Wow, Cool, Gee, Really?

Oh no! You’re kidding!
Teachers Can:

Introduce “fancy” synonyms

(e.g., dine for eat, infant for baby, assist for help)
Teachers Can:

Use more "Tier 2" vocabulary
Three Tiers of Words

Tier 1: Words of Everyday Speech
Tier 2: General Academic Words
Tier 3: Domain-Specific Words

Academic Vocabulary

From Beck, McKeown, & Kucan, 2013
Teachers Can Use Tier 2 Vocabulary:

e.g., demonstrate, directions, opposite, represent, sequence, accurate, pattern
Cognitive Features
Distinguishing CT & AT
Cognitive Features
Distinguishing CT & AT

1. Generality of Information
2. Precision of Concepts
3. Type of Reasoning
4. Level of Reasoning
5. Level of "Meta" Skills
6. Confidence in Information
7. Support of Context

Position
Content
Reasoning

Support of Context
Generality of Information
Precision of Concepts
Type of Reasoning
Level of Reasoning
Level of "Meta" Skills
Confidence in Information
Cognitive Features
Distinguishing CT & AT
Cognitive Features Distinguishing CT & AT

7. Support of Context
6. Confidence in Information
5. Level of "Meta" Skills
4. Level of Reasoning
3. Type of Reasoning
2. Precision of Concepts
1. Generality of Information
## Generality of Information

<table>
<thead>
<tr>
<th>CT</th>
<th>AT</th>
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<tbody>
<tr>
<td>• <strong>Specific, personally familiar, personally relevant</strong> objects, animals, people, places, actions, &amp; events discussed for <strong>practical</strong> reasons</td>
<td>• <strong>General characteristics &amp; qualities of categories</strong> of objects, animals, people, places &amp; events to build scientific/theoretical knowledge (less personally familiar &amp; relevant)</td>
</tr>
<tr>
<td></td>
<td>• <strong>Generally known</strong> (by wider public) people, places &amp; events</td>
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</table>
How Generality of Information Can Show Up In Language Used

<table>
<thead>
<tr>
<th>CT</th>
<th>AT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nouns</strong> more frequently represent specific persons, places, and things; concrete nouns</td>
<td>Nouns often represent more abstract ideas: <em>migration</em>, <em>development</em>, <em>weather</em></td>
</tr>
<tr>
<td>Fewer superordinate <em>(animal)</em> &amp; subordinate <em>(tabby)</em> category terms</td>
<td>More superordinate &amp; subordinate category terms</td>
</tr>
<tr>
<td>More Tier 1 vocabulary</td>
<td>More Tier 2 vocabulary that cuts across academic disciplines</td>
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</table>
Teachers Can Regarding the General Information in AT:

Engage children in discussions of general kinds of information (e.g., how shadows are formed, seasons, weather, farm animals, growing plants, dinosaurs)
Teachers Can Regarding the General Information in AT:

e.g., Help children transition from stories about specific characters to more general scientific information
An example from storybook 
Mooncake by Frank Asch

- Book text: “I would like to go with you,” said Little Bird, “but winter is coming, and I must fly south with the flock.”

- No further discussion of this in the story.
Could Extend Story of One Bird Flying South to General Concept of Migration

Migration- Some birds fly very long distances to places where it is warmer in the winter. We call this migration. Birds usually migrate to a warmer place so they can find food.
Then maybe launch into using an information (expository) book appropriate for preschoolers.

Cognitive Features Distinguishing CT & AT

1. Generality of Information
2. Precision of Concepts
3. Type of Reasoning
4. Level of Reasoning
5. Level of “Meta” Skills
6. Confidence in Information
7. Support of Context

Reasoning

Position

Content
Precision of Concepts:

- **CT**: Don’t have to be very precise with ideas
- **AT**: Requires being increasingly more precise with ideas as the register continues to develop
How Precision (or lack thereof) of Information Can Show Up In Language Used

<table>
<thead>
<tr>
<th>CT:</th>
<th>AT:</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Fuzzy” terms are frequent (e.g., sort of, something like, thing, do, there, this)</td>
<td>Precise academic vocabulary (Tier 3 vocabulary)</td>
</tr>
</tbody>
</table>
Three Tiers of Words

Tier 3:
Domain-Specific Words

Tier 2:
General Academic Words

Tier 1:
Words of Everyday Speech

Academic Vocabulary
Teachers Can Foster Precise Concepts by Using Tier 3 Words:

- Eclipse
- Circumference
- Peninsula
- Evaporation
- Metamorphosis
- Migration
Best When teachers Can Use Tier 3 Words Integrated Around a Topic:

A unit on volcanoes would require students to understand a number of related specialized vocabulary words:

- Molten
- Crust
- Mantle
- Magma
- Lava
Cognitive Features Distinguishing CT & AT

1. Generality of Information
2. Precision of Concepts
3. Type of Reasoning
4. Level of Reasoning
5. Level of “Meta” Skills
6. Confidence in Information
7. Support of Context

Reasoning

Position

Content
Type of Reasoning

CT:
Allowed to “ramble” and very loosely connect topics while conversing
Called “topic-associated” narratives

AT:
Required to “stay on topic” and keeps things logical and in correct sequence (called linear reasoning)
Called “topic-centered” narratives
To foster type of reasoning, teachers can:

- Frequently elaborate on children’s answers to questions or contributions to discussion.
- Have children retell stories and retell logical sequence of steps in activities and events they have experienced.
- Gently guide children back to the topic if discussion goes too far afield.
Sequence of photos of activity children experienced as support for reporting to someone not present
Cognitive Features Distinguishing CT & AT

1. Generality of Information
2. Precision of Concepts
3. Type of Reasoning
4. Level of Reasoning
5. Level of “Meta” Skills
6. Confidence in Information
7. Support of Context
Level of Reasoning

Casual Talk  
(less cognitive demand)

More basic level – talk about & report on specific & familiar things (label, describe, relay specific events)

Academic Talk  
(more cognitive demand)

More higher level thinking conveyed in inferential language
We have to engage in inferencing when information has not been directly provided for us . . .
Teachers can ask higher level questions that require inferencing during book sharing and other activities.

Who do you think this story is going to be about?
Literal: What color are the firefighters’ clothes?

Inferential: Why do you think firefighters wear such bright clothes?
Examples of higher-level thinking (that involve inferential uses of language)

-explain, problem solve, categorize, talk about cause & effect, hypothesize, predict, summarize, categorize, generalize, compare, contrast, describe, define, justify, analogize, give examples, evaluate, interpret, & synthesize
Verbs That Can be Used in Classroom Related to Thinking

Wonder, think, guess, believe, agree, suppose, imagine, know, decide, forget, remember, understand, comprehend, confuse, predict, compare, concentrate, aware, analyze, assume, anticipate, contradict, generalize, evaluate, infer, research, hypothesize, conclude, doubt, plan, realize, summarize, estimate, claim, picture, aware
Cognitive Features
Distinguishing CT & AT

1. Generality of Information
2. Precision of Concepts
3. Type of Reasoning
4. Level of Reasoning
5. Psychological: Level of “Meta” Skills
6. Confidence in Information
7. Support of Context

Reasoning

Position

Content
“Meta-” Skills Involve

- Awareness of cognitive processes (e.g., memory, comprehension, learning, & thinking) or of language and its various components (e.g., phonology, morphology, & syntax)
“Meta-“ Skills are Typically Only Used in School and Therefore Only Found in AT

For example: Phonological awareness (sound units that make up words) is important in learning to read
For Awareness of Cognitive Processes Teachers Can:

Teacher discusses strategies for cognitive processes such as remembering (e.g., What could we do to try to remember what this story is about? Maybe we could look at the pictures to help us?)
Cognitive Features Distinguishing CT & AT

6. Attitude: Confidence in Information

7. Support of Context

1. Generality of Information

2. Precision of Concepts

3. Type of Reasoning

4. Level of Reasoning

5. Level of "Meta" Skills

Reasoning

Position

Content
Confidence in Information

• **CT:** Not required to convey your degree of confidence in the information you are sharing

• **AT:** Speakers need to tell listener about the credibility of what they are saying
Verbal Expressions of Degree of Confidence in Information

- Possibility
- Probability
- Typicality
- Certainty
Words Used to Express

• **Verbs**: believe, think, know, wonder, guess, doubt, seem, claim

• **Nouns**: possibility, guess, doubt

• **Adjectives**: likely, clear, certainly, obviously

• **Adverbs**: maybe, perhaps, probably, definitely, usually, frequently, sometimes, always

• **Terms used with verbs**: might, should, could
Cognitive Features Distinguishing CT & AT

6. Confidence in Information
7. Physical/Social: Support of Context
1. Generality of Information
2. Precision of Concepts
3. Type of Reasoning
4. Level of Reasoning
5. Level of "Meta" Skills

Reasoning
Position
Content
Relationship to Social Context

Casual Talk
(less cognitive demand)
Embedded in social context; often with people who know you well and can “fill in” information not stated or not well-stated

Academic Talk
(more cognitive demand)
Much less shared social context
Relationship to Immediate Physical Context

Casual Talk

More talk is about things in physical context

Academic Talk

More talk is about physically non-present things or about more abstract things
Teachers can talk about things not present in physical context:

Non present things:

Abstract things:

Migration
Activities Increasingly Less Supported by Physical & Social Context

Ongoing activity >

Past activity >

Book sharing >

Future Activity >

Independent Test Taking
Summary of Cognitive Features in AT

Physical: Less Support from Context

Attitude: Express Degree of Confidence

Psychological: Reflecting on Cognitive Processes & Language ("Meta-" skills)

Higher-Level Reasoning/ Less Concrete

Careful, Logical, Sequenced, Lengthy Discussion

Precise Concepts

General Information

Position

Content

Reasoning
Steps for Teacher Integrating Across Features of AT

Classroom Discussion

Request Child Participation (ask question)

Child Initiates Participation

Feedback → Elaborate
**Academic talk** involves the conscious *simultaneous* use by the adult of numerous possible cognitive and social interactive features, which serve to shape many linguistic features.
When Teaching, We Can Make AT Easier and Harder

- Manipulating only one cognitive feature initially to make it easier (e.g., using inferential language during an ongoing interaction in the physical context)
- Gradually adding more and more cognitive features (see next slide . . . )
To integrate the information in this presentation, I gratefully acknowledge being carried by the work of many scholars in many disciplines conducted over many years!
Vielen Dank
Merci
Dank
Gracias
Grazie
Ευχαριστώ
SHUKRIYA
Dhanyawaadagalu
THANK YOU
OK, time to chill.
Discussion

Contact:
annevk@utdallas.edu
I referred to this register as “school talk” in 2006 book. Why “academic talk” now?
In Preschool, We Frequently Use Both Registers
Preschool Classroom

Casual Talk

Academic Talk
Although maybe less frequent, AT is critically important!
Later School Years

Casual Talk

Academic Talk
I referred to this register as “school talk” in 2006 book. Why “academic talk” now?
In Preschool, We Frequently Use Both Registers

Casual Talk

Academic Talk
Preschool Classroom

Casual Talk

Academic Talk
Although maybe less frequent, AT is critically important!
Later School Years

Casual Talk

Academic Talk
Example study . . . .

Formal language test performance of 502 children at entrance to kindergarten played a "strikingly important role in predicting later school achievement" (Durham, Farkas, Scheffner, Hammer, Tomblin, & Catts, 2007, p. 301).
Related to Mother’s Education Level
(Durham et al., 2007, p. 300, 301)

- “The mother’s educational attainment has a powerful direct effect on the children’s kindergarten language skill.”

- NEED TO QUALIFY: On their academic talk skills as measured by formal tests
“The typically more positive school performance by children from higher-SES families is largely determined by differential oral language skills that are provided to their children by more highly educated parents.”

NEED TO QUALIFY – Because these mothers expose their children in more academic talk, and that is what is being measured!
Example study . . . .

Formal language test performance of 502 children at entrance to kindergarten played a “strikingly important role in predicting later school achievement”

Example study . . .
DeThorne et al., 2010

• Measures language from spontaneous conversation related to reading comprehension

• No relationship when measured at the same time

• Very weak relationship to reading comprehension one year later
Inferential (higher level reasoning) question (requesting verbal display) about something in a book (decontextualized) that is focused on and aspect of story grammar (logical, linear reasoning regarding story structure) and involves think alouds when adult supplies answer (modeling modulation of certainty). Could also involve general information and use vocabulary the involves a precise concept.