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ABSTRACT

This study examined the effects of an interactive approach called instructional conversations (IC) on the language and concept development of Hispanic students categorized as learning handicapped, by comparing traditional instruction (basal reading approach) with instructional conversations. Lessons were conducted with five limited English proficient students (ages 7-9) in Spanish. The instructional program for the students consisted of traditional basal reading instruction 4 days per week and IC lessons approximately once per week, for a 6-month period. The study focused on five IC lessons and five basal lessons, alternated in implementation. For the IC lessons, the teacher formulated her own questions to generate maximum discussion rather than simply elicit factual recall, allowing students to lead the direction of the discussion when appropriate. Results of proximal measures, assessed for three of the students, indicated there were higher levels of discourse and greater participation with IC than with a basal approach. The distal indices yielded uneven results; there was evidence of greater understanding of the concept following IC but there were no differences in literal comprehension or post-lesson narrative results. Overall results show important trends suggesting that the discourse style of IC may provide linguistically rich learning opportunities for culturally diverse learning handicapped students. The student outcome measure is appended. (Contains 39 references.) (JDD)

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ALTERING TEACHER DISCOURSE STYLE TO MATCH THE NEEDS  
OF SPANISH-SPEAKING STUDENTS IN SPECIAL EDUCATION

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## Abstract

This study examined the effects of an interactive approach, instructional conversations, on the language and concept development of Hispanic students categorized as learning handicapped. This study compared traditional instruction (basal approach) with instructional conversations. Results of proximal measures indicated there were higher levels of discourse and greater participation with IC than a basal approach. The distal indices yielded uneven results: there was evidence of greater understanding of the concept following IC but there were no differences in literal comprehension or post-lesson narrative results. The overall results show important trends suggesting that the discourse style of IC may provide linguistically rich learning opportunities for culturally diverse learning handicapped students.

The past decade has brought increasing challenge to traditional instructional approaches in the field of special education (Cummins, 1984; Ortiz, 1986; Poplin, 1988a & 1988b). Special education methodology typically has been reductionistic, emphasizing highly structured drill and practice. Reading instruction, for example, focuses on subskills thought necessary to the reading act without much consideration given to aspects such as comprehension beyond literal recall. Critics suggest that such reductionism takes the task too far out of context so that it becomes a meaningless, even trivial, exercise that does not encourage concept development nor allow students to use language in a meaningful way (Ortiz & Wilkinson, 1991). Although there is a rational basis for breaking tasks into simpler components, when taken to extremes as often happens in special education, it can deprive students of important learning opportunities. Instruction gains meaning and scope when presented in context (Sawyer, 1991).

The need for an alternative instructional approach has never been more pronounced than in special education. The exploding population of language minority students in American schools extends to special education programs, placing these learning handicapped students at an even greater risk for school failure (Baca & Cervantes, 1986). The educational prescription for minority children from low socioeconomic backgrounds who speak a language other than English has been more control and structure from teachers, increased review, drill and practice, and lower-level questions (Brophy & Good, 1986). Such instruction involves reductionistic skill-building to the exclusion of other areas of learning (Barrera, 1983; Knapp & Shields, 1990).

Some researchers specializing in culturally and linguistically diverse (CLD) special education populations have called for abandoning this approach and promoting instead an interactive or experiential model (Cummins, 1984, 1989; Ortiz, 1986). Cummins, for

instance, advocates instruction that consists of genuine dialogue between the student and teacher, as well as student to student collaborative talk. The teacher's role is one of facilitator, encouraging students to use meaningful language without focusing on the correctness of form. Development of higher level cognitive skills, rather than factual recall, is the goal. One response to the call for change is instructional conversations (IC). Borrowing from Tharp & Gallimore (1988), the term "instructional conversations" (or IC) is used to describe an approach to teaching that goes beyond imparting knowledge and teaching skills. It encourages thoughtful discussions as students grapple with ideas. An important aspect of instructional conversations is that they rely heavily on contextualized, meaningful communication.

Goldenberg (1992-93) defines IC as a process in which

"students engage in extended discussions -- conversations-- with the teacher and among themselves. Teachers and students are responsive to what others say so that each statement or contribution builds upon, challenges, or extends a previous one. Topics are picked up, developed, elaborated...Strategically, the teacher (or discussion leader) questions, prods, challenges, coaxes -- or keeps quiet. He or she clarifies and instructs when necessary, but does so efficiently, without wasting time or words...Perhaps most important, he or she manages to keep everyone engaged in a substantive and extended conversation, weaving individual participants' comments into a larger tapestry of meaning." (p.318)

The idea of engaging students in interactions which promote analysis, reflection and critical thinking has been suggested for centuries (Goldenberg, 1992-93; Tharp & Gallimore, 1988). The roots of IC can be traced back to Socrates, Dewey, and more

recently L.S. Vygotsky (1962, 1978) and research conducted in Hawaii with native Hawaiian children (Au, 1980; Tharp & Gallimore, 1988). Specifically, the notion of the zone of proximal development and Vygotsky's suggestion that language is the primary vehicle for intellectual development are important ideas which have contributed to ICs. The zone of proximal development is defined by Vygotsky (1978) as

the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (p.86).

Vygotsky's theory is distinct in the importance he assigns to the social context and expert scaffolding. He suggests that a great deal of development is "scaffolded" by a more competent person. Thus, the role of the teacher in an IC lesson is one of facilitator, assisting students to move through the zone of proximal development. Such assistance includes helping students construct meaning from texts as well as understanding ideas and concepts that they would otherwise not understand on their own.

The important relationship between language and cognition is clear in Vygotsky's view that language is a primary vehicle for intellectual development. He conceives of thinking as an activity dependent on speech. Thinking is developed and maintained through interpersonal experience, which necessarily involves communication. Language development occurs in the context of functional communication (Rogoff, 1990), not through decontextualized basic skills emphasis of many traditional instructional approaches.

#### IC: Implementation and Effects

IC as an approach to teaching has intuitive appeal, yet can be difficult to operationalize. In an effort to guide and assess level of IC implementation, a group of

researchers and teachers working in collaboration have determined ten elements (see Table 1) (Saunders, Goldenberg & Hamann, 1992) that can be reliably coded (Rueda, Goldenberg & Gallimore, 1992).

Table 1

Elements of Instructional Conversation.

1. **Thematic Focus.** The teacher selects a theme or idea to serve as a starting point to focus the discussion and has a general plan for how the theme will unfold, including how to "Chunk" the text to permit optimal exploration of the theme.
2. **Activation and use of background and relevant schemata.** The teacher either "hooks into" or provides students with pertinent background knowledge and relevant schemata necessary for understanding a text. Background knowledge and schemata are then woven into the discussion that follows.
3. **Direct teaching.** When necessary, the teacher provides direct teaching of a skill or concept.
4. **Promotion of more complex language and expression.** The teacher elicits more extended student contributions by using a variety of elicitation techniques, for example, invitation to expand ("Tell me more about \_\_\_\_"), questions ("What do you mean by \_\_\_\_"), restatements ("In other words, \_\_\_\_"), and pauses.
5. **Elicitation of bases for statements or positions.** The teacher promotes students' use of text, pictures, and reasoning to support an argument or position. Without overwhelming students, the teacher probes for the bases of students' statements: "How do you know?" "What makes you think that?" "Show us where it says \_\_\_\_."
6. **Few "known-answer" questions.** Much of the discussion centers on questions and answers for which there might be more than one correct answer.
7. **Responsivity to student contributions.** While having an initial plan and maintaining the focus and coherence of the discussion, the teacher is also responsive to students' statements and the opportunities they provide.

8. **Connected discourse.** The discussion is characterized by multiple, interactive, connected turns. succeeding utterances build upon and extend previous ones.

9. **A challenging, but non-threatening, atmosphere.** The teacher creates a "zone of proximal development" where a challenging atmosphere is balanced by a positive affective climate. The teacher is more collaborator than evaluator and creates an atmosphere that challenges students and allows them to negotiate and construct the meaning of the text.

10. **General participation, including self-selected turns.** The teacher encourages general participation among students. The teacher does not hold exclusive rights to determine who talks, and students are encouraged to volunteer or otherwise influence the selection of speaking turns.

Until recently, instructional conversations had been a theoretical model, although the work with reading comprehension in the Kamehameha Early Education Program (KEEP) was the forerunner of IC (Au, 1980). Some preliminary work has been conducted which investigated the effects of an IC approach on student performance (Saunders & Goldenberg, 1992). The study was conducted in a regular education classroom setting and examined the effects of an instructional conversation approach vs. a traditional basal approach on student performance. Results indicated that IC promotes higher level understandings of significant concepts without sacrificing literal comprehension. In addition, case study data collected in a special education setting (Echevarria & McDonough, 1993) indicated that there may be detectable effects of IC on students with learning handicaps students. The special education teacher anecdotally cited several areas of achievement gains that she attributed to implementation of IC such as higher level language usage, increased motivation and attention to task.

It seems that an approach such as instructional conversations may be particularly appropriate for learning handicapped students, given their unique learning characteristics. Learning difficulties experienced by these students includes poor verbal skills, attention

deficit, high distractibility, low motivational levels, external locus of control, lack of strategies use and poor self-regulating behaviors (Hallahan & Kauffman, 1991; Licht, 1983; Torgesen, Kistner & Morgan, 1987; Weiner, 1979, 1980).

Despite the appeal of alternative approaches, there remains a lack of substantial empirical evidence for the efficacy of interactive instructional approaches. A key line of inquiry, therefore, must address the efficacy question: Do ICs, and the discourse they promote, have effects on student achievement? We must also address the question of what constitutes effects. In an earlier, related line of work, Au and Mason (1981-82) argued that effects can be determined by using proximal indices of student performance during lessons, such as time engaged in reading, discussing the story being read and cognitive level of student responses. Although academic achievement has been correlated with such proximal indicators as high levels of engaged time (Rosenshine & Berliner, 1978), the two are not identical, nor are they inevitably linked (Karweit, 1989). This study separates proximal indices and distal indices of student performance in an investigation of the effects of instructional conversations on the language and concept development of young Hispanic special education students.

## METHODS

### Setting and Context

The student population at the elementary school where the study was conducted was comprised of 93% Hispanic children and 88% limited English proficient (LEP) children. Most of the parents in this urban district located in the metropolitan Los Angeles area worked in skilled, semi-skilled and unskilled occupations and had an average of 6-7 years of formal schooling (California State Department of Education, 1990).

The subjects in the study were classified as Learning Handicapped and had been

placed in a self-contained special education classroom, Special Day Class (SDC). The characteristics of the students are represented in Table 2.

Table 2

Sample Characteristics

	<u>Age</u>	<u>Grade</u>	<u>Decoding*</u>	
<u>Comprehension*</u>				
1. Elena	7 yrs. 10 mo.	2	1-1	primer
2. Fernanda	9 yrs. 11 mo.	3	3-1	2-1
3. Juan**	8 yrs. 5 mo.	2	2-2	1-2
4. Laura**	8 yrs. 8 mo.	3	1-2	1-2
5. Salvador**	7 yrs. 5 mo.	2	pre-primer	pre-primer

\* Based on assessment conducted in June 1991. Instrument used was the Brigance, a criterion referenced test. The scores indicate grade equivalents, e.g., 1-1 indicates the first half of the first grade, and 1-2 indicates the second half of the first grade.

\*\* Although the sample consisted of five students, a subsample of three randomly selected students were used for the videotape (proximal) analysis.

**Eligibility Statements (From IEP data)**

1. "Elena is eligible for special education due to learning disabilities in auditory memory, visual motor integration and attention deficits affecting her educational performance in reading and written language."

2. "Fernanda has multiple handicaps, concomitant impairment, mental retardation, and orthopedic impairment, the combination of which causes such educational problems that she cannot be accommodated in a program solely for the impairments."

3. "Juan qualifies for special education due to a significant discrepancy between demonstrated ability and current academic performance in reading and language as related to auditory processing deficits and visual motor integration."

4. "Laura is eligible for special education services based on a discrepancy between her low-average ability and achievement in the areas of reading and written language due to auditory sequential memory deficits and visual processing."
5. "Salvador is eligible for special education based on learning disabilities in the area of auditory processing and memory. These deficits affect his academic performance in all areas."

Identification of instruction that is conversational in a specific sense is a recent development. The parameters of the procedure needed to be defined and understood by the teacher, with training that involved videotaping of lessons, identifying and fine tuning aspects of the procedure, and attending regularly scheduled meetings to discuss issues related to implementation of the process (Saunders, et.al., 1992). Teachers utilizing IC as an instructional approach were limited to those involved directly in research projects.

The special education teacher, who was bilingual, had been learning and practicing the instructional conversation approach for two years and had the competence to conduct an IC lesson in English or Spanish. Therefore, the five subjects of the study were selected because of their teacher's participation in the IC project and her competence in conducting high quality ICs.

For the purposes of this study, all lessons were conducted with limited English proficient (LEP) students in Spanish. The instructional program for the students consisted of traditional basal reading instruction 4 days per week and IC lessons approximately once per week. The students had experienced an IC approach to reading for approximately six months prior to this study.

#### Procedures

The study consisted of five IC lessons and five basal lessons, alternated in implementation. The procedures used in the study solved a problem common in working with system-identified special education subjects; namely, given the individual nature of the subjects' learning characteristics, it would have been problematic to match the five subjects with controls on such variables as ability level, language proficiency and disability characteristics. Variables such as time of day, seating arrangement, and reading text were held constant. All lessons began at 8:30 a.m. with the students sitting in the same seats using the same text during both conditions.

Although all students participated in the videotaped lessons, three students were randomly selected to be the focus of the analysis of proximal indicators and were seated where they could be seen clearly through the camera lens, providing visual as well as audio data for transcription purposes. Based on pilot data, we concluded that analysis of all five students would not have yielded significantly more substantive information. Since the contrast between IC and basal conditions was so clear in the case of each student, three students were randomly selected for this extremely time and labor intensive process. All five students were included in the individual follow-up sessions and related analyses.

#### Lesson Presentation

Students participated in a reading group in which the lessons were presented from two different approaches, IC (treatment A) and basal (treatment B) lessons. The composition of the reading group remained unchanged during this study. The lessons were counterbalanced in their presentation and all lessons were videotaped for purposes of analysis.

Instructional conversations. The IC lessons were based on stories in the basal

text. However, rather than following the discourse style prescribed in the teacher's manual for the basal lessons, the teacher developed IC lessons by following the elements of IC (Table 1). The teacher's discourse style was quite different than that of a basal approach: She formulated her own questions to generate maximum discussion rather than simply elicit factual recall, but did not always adhere strictly to her preplanned questioning, particularly in response to student contributions. She allowed the students to lead the direction of the discussion when appropriate.

Basal lesson. Basal lessons were presented according to the guidelines of the teacher's manual, developed by the publisher of the reading series. The teacher introduced the stories as the manual suggested and asked the questions that were specified in the manual.

#### Individual Follow-up Sessions

Following each treatment, or lesson, students were interviewed individually by a rater. The raters had tape recorders, writing pads for notes and a page of questions to check literal comprehension. The students were told, "You have just finished reading a story. Now, tell me the whole story." After the student finished retelling the story, the rater said, "Now I have some questions about the story that Mrs. McDonald read." The questions were taken from the text and were generally literal recall or opinion in nature. This aspect of the study ascertained any effect, positive or negative, that IC may have on literal recall, since the focus of the approach is on higher level questioning and concept development (see measures below).

The students were systematically rotated in their interview assignment so that after each lesson a different child was seen by each rater. For each subject, the number of interview sessions were equally distributed among raters as was the order in which

subjects were interviewed.

### Materials

A basal reader unfamiliar to the students was used. The series, Programa de Lectura en Espanol de Houghton Mifflin (1987), was not the district's adopted reading series, thus the children had had no previous exposure to the stories. Ten stories were selected (five for IC lessons and five for basal lessons). The stories were followed sequentially as they appeared in the text, however, some selections were omitted if they were not narrative in genre, e.g., poetry, expository.

### Measures

Raters for the Teacher Rating measure as well as the proximal measures of student effects were two graduate students. The distal measures were scored by two bilingual speech pathologists. All raters were blind to the conditions of the study and had no prior knowledge of or exposure to instructional conversations. They were trained on each measure consecutively, completing analysis of one measure before being trained for the next.

Elements of Instructional Conversation Measure (Teacher Rating). Since the teacher presented both conditions of reading instruction (alternating basal and IC presentation), treatment fidelity was assessed by raters who were blind to the conditions of the study. Each lesson (both IC and basal) was rated using the Teacher Rating measure, scoring the number of elements instantiated in the lessons (Rueda, et.al., 1992). Certain IC elements (e.g., a challenging but non-threatening atmosphere, Element #9) are not unique to instructional conversations -- they are characteristic of good teaching and are found to some degree in most teaching situations. Thus, some elements were expected to be present in the basal lessons.

To establish reliability, the raters participated in three training sessions during which pilot data videotapes were discussed and practice-rated. A videotape was then independently rated by both individuals and yielded 80% reliability. The raters assessed the remainder of the tapes individually. Approximately midway through the tapes, the raters again double rated two tapes as a spot check of reliability, which resulted in 100% reliability. This was comparable to the reliability in Rueda, et. al. (1992).

#### Proximal Indices

Student Outcome Measure. The Student Outcome Measure (SOM), shown in Appendix A, was designed by the author to assess quality of discourse response. The scale was based on probable responses to the presentation of IC elements. Responses were considered higher level discourse if, for example, students used the text as a basis for a statement or position, or if they used complete sentences and complex language forms in their responses. Each of the three students (subsample) were individually assessed on their performance during the lesson through analysis of videotaped lessons. Raters scored performance on a three-point scale and were instructed to record their impressions in the comment section of the scoring sheet. Reliability was established through training sessions wherein the trainer (researcher) and two blind raters collectively scored a videotape from pilot data. The trainer then went through each item to ensure agreement between the raters. Once the raters were in close agreement on each item during the training session, they independently rated two videotaped lessons (double rated) to establish reliability. The results of the ratings yielded an 87% reliability.

Analysis of Utterances. Categories of utterances were constructed prior to analysis of the data by two researchers and two practitioners who watched practice tapes, analyzing the type of utterance each child made. The categories that emerged through

the process were: self-initiated nonscripted; self-initiated scripted, teacher prompted; unrelated to lesson content; and asked for attention.

The raters tabulated the total number of utterances in each category, as well as total number of utterances overall. For each student in the subsample, the raters tallied and categorized every utterance the subject made during the lesson.

#### Distal Indices

Narrative competence measure. Studies indicate that the school environment demands specific kinds of discourse or communication, one of which is narrative ability. Following each lesson, each of the five students was asked to retell the story using the prompt, "You have just finished reading a story. Now tell me the whole story." All audiotaped narratives of the story were transcribed into written form. Two bilingual speech pathologists were trained to segment the narratives into propositions, or simple clauses, to categorize each proposition, and to score each narrative according to the story structure guidelines discussed in Peterson & McCabe (1983). Story structure scores ranged in value from 1 (Description of the characters, setting and habitual activity without indication of causal relationships) to 7 (An interactive episode that described the goals and attempts of two characters who influence each other and provided episodes from the perspective of each character). The raters participated in three practice sessions prior to the calculation of interrater agreement. Agreement percentages indicated a level of reliability ranging between 85% and 89%. The narratives were also segmented into propositions and classified into categories following the procedure developed by Jax (1989). The categories (e.g., setting, initiating event, and internal response) were specified by Stein & Glen (1979) and modified by Roth & Spekman (1986). The number of propositions for each narrative was recorded.

Thematic Concept Development. For the purposes of the study, reference made in the narrative to the lesson's thematic concept demonstrated a higher level understanding of the concept that IC was hypothesized to promote. All of the stories had a discernable idea or theme, either stated explicitly in the story (basal treatment) or introduced by the teacher (IC treatment). If the student mentioned the theme in their retelling of the story, then they had attained the thematic concept. For example, one story explicitly stated that the students would read about a fox fooling other animals and the word "fooled" was found throughout the story. If the student used the word "fooled" in the narrative, it was assigned a score of 1. Such language, referred to as "the tracer" (Newman, Griffin, & Cole, 1989; Saunders & Goldenberg, 1992) provides a trace of the differentiated understanding of the thematic concept that IC was hypothesized to promote. Those narratives with no such evidence were assigned a 0.

#### Literal Recall

The teacher coded the comprehension questions which were taken directly from the end of chapter questions in the basal reading text. She was instructed to score each answer on a three-point scale developed by Saunders & Goldenberg, (1992): 0, incorrect--inconsistent with the story; .5, partially correct--consistent with the story but not a complete answer; 1, correct--consistent with the story and a complete answer. There were five possible correct answers for each lesson.

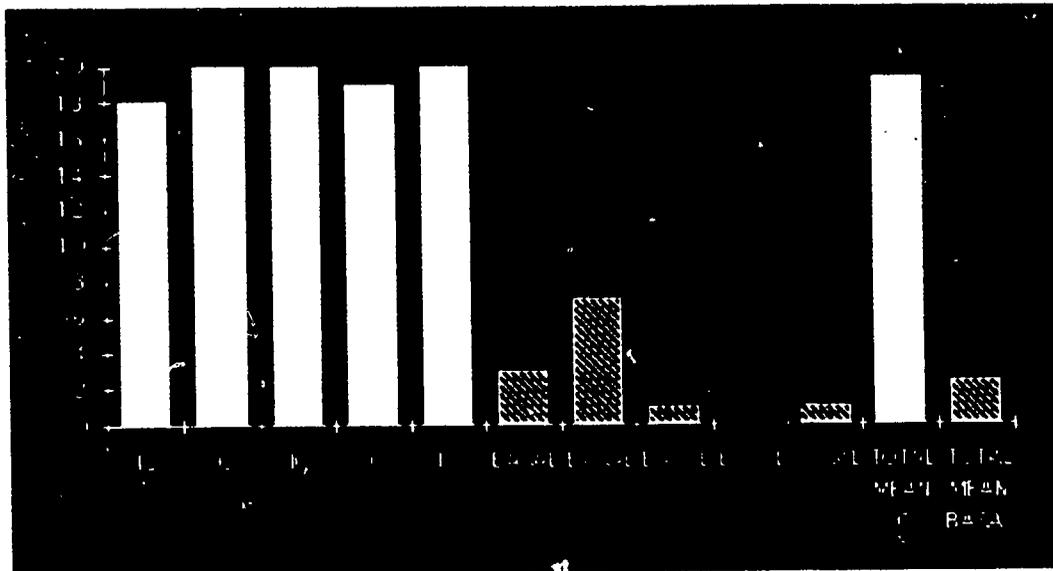
### RESULTS

The analyses reported in this section are based primarily on qualitative data, however t-tests were used to substantiate the findings, with a 0.05 level of significance. While the data show important trends, the small sample size dictates that the results be interpreted cautiously.

Fidelity of Treatment

The Teacher Rating measure was needed to establish that the teacher's implementation of the IC and basal conditions were distinctly different presentations. The possible range of scores on the Teacher Rating Scale was from zero to 20 with the teacher being rated on 10 IC elements. A two-point scale for each element indicated whether or not it was instantiated in the lesson. The results are presented in Figure 1.

Figure 1. A comparison of the teacher's rating scores in implementing the elements of instructional conversations during two treatments.



The teacher implemented the IC ( $M = 19.4$ ) and the basal ( $M = 2.2$ ) treatments in significantly different ways ( $t = 12.33, p = 0.01, df = 4$ ). No further analysis was necessary. Although some IC elements were present during basal lessons, there were significantly more IC elements present during the IC treatment. The teacher was able to shift from one

approach to the other effectively, thus assuring accurate, high level implementation of each procedure.

### Summary Table of Results

Results of proximal measures indicated there were higher levels of discourse and greater participation with IC than a basal approach. The distal indices yielded uneven results: greater understanding of the concept following IC but no differences in literal comprehension or post-lesson narratives. The results are summarized conceptually in Table 3.

Table 3

### Summary of the Effects of Basal and IC Lessons Based on Proximal and Distal Measures

<u>Proximal Indices</u>	<u>Effect</u>
Student Outcome Measure (SOM)	IC > basal
Utterances	IC > basal
<u>Distal Indices</u>	
Narrative	0
Thematic Concept	IC > basal
Literal Recall	0

### Proximal Measures

Student Outcome Measure. Videotape data were analyzed, evaluating the three selected students' performance on eight verbal items related to language use during the lesson. Differences emerged through the comments that the raters were told to record when appropriate. The raters reported no comments during basal lessons, but

characterized IC treatment responses with comments such as: "comments directly relate background to theme...complex and complete sentences...connected background experiences to the theme...very conversational...points to the text, unrequested, five times." A basal lesson does not necessarily exclude these behaviors. Indeed, the procedure followed during the basal presentation attempts, in an indirect manner, to elicit many of these same outcomes (e.g., the manual instructs the teacher to "Remind the children that, when they read, they can often figure out what may happen next in a story by thinking about the things that have already happened and about *what they know from real life*" [emphasis added]). However, the following comparison of the basal and IC lessons suggests that the former may not provide sufficient opportunity for such behaviors.

Both basal and IC lessons included reading of the text (by the teacher and/or individual students) and questioning following each page. The basal presentation, however, tended to emphasize "known-answer" questions, as specified by the publisher's Teacher's Guide. The language elicited frequently consisted of short-answer, often incomplete sentences. To the extent that a teacher follows the Teacher's Guide, the basal transcripts represent the type of lesson -- and line of questioning -- typically found in classrooms. For example, the following excerpt from a basal lesson is a discussion of a rabbit who fools several animals to get to his grandmother's house.

(The teacher reads as students follow along silently, pointing with their fingers.)

T: Miren el dibujo de la página 143. ¿Con qué animal está hablando el conejito?

[Look at the picture on p. 143. What animal is the little rabbit talking to?].

Salvador: La zorra. [The fox].

T: Muy bien. Está hablando con la zorra. [Very good. He's talking to the fox].

The teacher reads a page, and then Elena reads the following page.

T: ¿Cón quién vivía el conejito? [Who did the little rabbit live with?].

Laura: Con su mamá. [With his mom].

T: ¿Dónde vivía su abuelita? [Where did his grandmother live?].

Salvador: En la montaña. [On a mountain].

T: ¿Estaba emocionado el conejito porque iba a ir a visitar a su abuelita? [Was he excited to visit his grandmother?].

Laura: Sí. [Yes].

T: ¿Cómo saben que estaba emocionado? [How do you know he was excited?].

Fernanda: Porque venga en el camino bailando y saltando. [Because he came down the road dancing and hopping].

T: ¿Cuál fue el siguiente animal con quién se encontró el conejito? [Who was the next animal that the little rabbit met on his travels?].

Salvador: El tigre. [The tiger].

In contrast, in the IC condition the time was more evenly distributed between teacher talk and student contributions, and the students seemed to have more opportunity to elaborate in answering questions.

(Fernanda was reading the page while the others followed along. When she finished, Juan commented by his own initiative, referring to the butterfly:)

Juan: Se le rompió una alita. [His wing broke].

Laura: Aquí se le ve (pointing to the book). Aquí se le ve, Senora McDonald (others look on). [You can see it here, you can see it here Mrs. McDonald].

T: Sí, se ve que está rota...y que va a pasar entonces? [Yes, you can see that it's broken...and what is going to happen next?].

The students answered the question at the same time, with self-initiated comments:

Juan: Van a ver aquí (points to the picture). [They're going to look here].

Elena: (unintelligible).

Fernanda: Van a buscar, van a buscar un, un, [They're going to look for a, a...]

Laura: Su pedazo de ala. [His piece of wing].

Fernanda: Su pedazito. [His little piece].

The students jointly constructed an answer to the teacher's question. After Juan made his comment, he then looked at Laura and Fernanda as they talked, as if they were finishing his thought.

T: ¿Quiénes van a buscar? [Who are they going to look for?].

Juan: El...(pointing at the picture) [The...].

Fernanda: Los dos amigos, caracolito y la araña. [The two friends, snail and the spider].

T: ¿Van a ser amigos todos? [Are they all going to be friends?]

All: Sí. [Yes].

T: ¿Como saben? [How do you know?].

Fernanda: Porque un, unos..los uno a otro se ayuda. [Because one..they help each other].

T: Vamos a ver que pasa. [Let's see what happens].

Laura: Yo quiero leer la otra página [I want to read the next page].

After the passage was read, again two students worked together to construct an answer. The final comment demonstrated the kind of elaborated language that an IC format seemed to encourage:

T: ¿Por qué saltaron? [Why did they jump?].

Fernanda: Porque querían este..querían a su... [Because they wanted this.. they

wanted to cli...].

Laura: Subir al hongo. [Climb up the mushroom].

T: ¿El hongo va a subir allí? [Is the mushroom going to climb up there?].

Fernanda: No, quería subir a la mariposa para poder la ayudar. [No, he wanted to get up on the butterfly so he could help her].

In terms of quantitative analysis, the possible range of scores on the SOM was 0 to 16. The results show that the subjects' use of academic discourse during the lessons was significantly greater during the IC treatment ( $M=14.0$ ) than during the basal treatment ( $M=7.24$ ) ( $t = 4.057$ ,  $p = .01$ ,  $df = 4$ ). The students exhibited more of the desired outcomes during IC lessons (e.g., using the text as a basis for their comment, relating their background experiences to the story, and using complete sentences and more complex language) (see Appendix A). The examination of subject's scores indicated that each student's mean score for the IC lessons was consistently higher than that of the basal lessons.

Table 4

A comparison of students' scores on eight verbal items on SOM during two treatments.

Student	IC			Basal		
	Mean	SD	Range	Mean	SD	Range
Juan	13.0	3.13	8-16	7.8	4.03	3-12
Laura	15.2	1.79	12-16	11.4	2.30	9-15
Salvador	13.5	3.70	8-16	8.2	3.11	5-12

Utterance Measure

Analysis of the videotaped lessons revealed not only a higher number of utterances during IC lessons but more complete and complex expression as well, often initiated without teacher prompting. During an IC lesson using a story about a girl who goes to the library with her brother, the students eagerly participated, sometimes speaking at the same time. They also added their opinion when not in agreement with someone else's. For example:

T: Elena dice que no estaba leyendo porque está mirando la lluvia. Debe estar..[Elena says that she isn't reading because she's watching the rain. Should she be..].

The students do not agree with Elena's comment and don't wait for the teacher to finish her sentence before telling her so. The following comments actually overlapped:

Fernanda: No le gusta. [She doesn't like it].

Juan: No le gusta leer. [She doesn't like to read].

Salvador: No le gusta leer (unintelligible). [She doesn't like to read...].

Laura: Esta viendo un gatito o un pajaritito. [She's looking at a little cat or a little tiny bird].

The story continued and the teacher asked,

T: ¿Qué pensó Enrique cuando veía que estaba leyendo? [What did Enrique think when he saw her reading?].

Elena & Laura: Que ya aprendió leer. [That she had now learned to read].

Fernanda: El pensó que ya no quería leer ya cuando ya se van a leer, estaba leyendo y la presto un libro. [He thought that she didn't want to read, and then when they started to read, she was reading and he gave her a book].

T: ¿Y se enojó que estaba leyendo? [Was he mad that she was reading?].

Salvador: No.

Fernanda: Se estaba riendo. [He was laughing].

Elena: Se estaba diciendo, Vámonos Beatriz. [He was saying, Let's go, Beatriz].

In the basal lessons, on the other hand, it appeared as if the students were conditioned to expect the teacher to accept only one answer. Several students would raise their hands to answer (self-initiated) but seemed to lose interest if they weren't called upon, evidenced by looking away from the focus of the group or sitting back in their chairs. The students did not make non-scripted comments or challenge one another's answer. They seemed to defer to the teacher as authority and simply answered what was asked without expressing their own ideas. For example, in a basal lesson about a girl who was too shy to talk in class, the teacher asked,

T: ¿Quién pidió a María Josefa que compartiera? [Who asked Mary Jo about sharing?].

Salvador: La maestra. [The teacher].

Here the answer could have been the teacher, Laura or her father. However, none of the children responded after the answer was given. In another basal lesson, randomly selected for transcription, the students' tendency to respond with short answers and to defer to the teacher is illustrated. The story is about a boy who is told he is too little to play with the others.

T: Qué piensan Uds. que sucederá cuando Pablo encuentra a Linda? [What do you think will happen when Pablo finds Linda?]

Laura: Puede jugar con él. [She can play with him.]

T: Sí? Va a poder jugar con Linda. Uds. están de acuerdo? Vamos a ver p. 16.

[Yes? Will he be able to play with Linda? Do you agree? Let's look on p. 16.]

Students nod in agreement.

T: Qué deporte está jugando Linda? [What sport is Linda playing?]

Juan: Basquetbol. [Basketball.]

T: Muy bien. Y que quizo hacer Pablo? Qué creen Uds.? [What did Pablo want to do?]

Juan: Jugar. [Play.]

Teacher asks Juan to read the next page aloud.

T: Quién quiere leer en voz alta las do oraciones que indican lo que piensa Pablo sobre su habilidad para jugar baloncesto? Elena. [Who will read aloud the two sentences that say what Pablo thinks about being able to play basketball? Elena?]

Elena: Pablo...(unintelligible).

T: Como debe decir esto Pablo? [How do you think Pablo should say it?]

Laura: Yo no soy muy pequeño. Yo soy grande. [I am not too little. I am big.]

T: Como se siente él? [How does he feel?]

Laura: Triste. [Sad.]

T: Creen Uds. que Pablo es muy pequeño? [Do you think Pablo is too little?]

S & L: Sí. [Yes.]

Juan: No. [No.]

T: Sí? Por que, Salvador? [Yes? Why Salvador?]

Salvador: Porque no le alcance a meter. [Because he's not big enough to put it in.]

T: Elena?

Elena: Es pequeño. [He's little.]

T: Piensen en el título "Muy Pequeño, Muy Grande". Qué creen Uds. que significa "muy pequeño"? [Think about the story title, "Too Little, Too Big." What do you think "too little" means?]

Laura: Muy chiquito. [Too little.]

T: Y por qué es el título esto? [Why is this the title?]

Nobody responds.

T: Algo que es pequeño en el cuento, o alguien? [Is something in the story little, or someone?]

No response. Laura is looking through other stories in the book, Juan is turned around looking at students behind him and Salvador and Elena remain quiet.

T: Fernanda?

Fernanda: Pablo es un poco pequeño. [Pablo is a little small.]

The next day's lesson took place at the same time, in the same place using the same book with an IC approach. A randomly selected segment revealed the following instructional conversation about a dog who was fixing up his house to sell. He went to the store and the teacher asked:

T: Qué creen que está pasando allí? [What do you think is happening there?]

Fernanda: Que tiene una, una ventana. [That he has a, a window.]

Elena: El va a hacer una ventana. [He's going to make a window.]

T: Eso lo va a hacer? [Is that what he's going to make?]

Several: Sí. [Yes.]

T: Como será? [How will it be?]

Fernanda: Es que los perros quieren que tengan todo como si fuera una, una casa de, de, de así para personas. [It's that dogs want to have everything as if it were

a. a house of, of, of like for people.]

T: Sí, parece las casas dónde viven.. [Yes, it seems like houses where...]

Salvador: Yo digo que le va a poner la ventana como por acá. [I say that he's going to put the window over here (points to the picture in the book).

Laura and Juan giggle.

T: Va a poner allí la ventana? [Is he going to put the window there?]

All: Sí. [Yes.]

T: Y como será poner la ventana? Será fácil o difícil? [How will it be to put in a window? Will it be easy or hard?]

Some say easy and others say hard. T remains quiet but gestures to the students to resolve this by extending her hands, palms up, moving back and forth.

Fernanda: Porque una ventana es difícil porque la casa es de, es de palo. [Because a window is hard because the house is made of, is made of wood.]

Laura: Pero lo puede romper acá así un cuadrito y ya la pone y pone (unintelligible) acá en la ventana. [But he can break a square into it there like this and then put it, put (unintelligible) there in the window.]

Fernanda: Todo la ventana puede ser de vidrio. [The whole window can be made of glass.]

T: Salvador, dijiste que sí es difícil. Laura todavía dice que es fácil. [Salvador, you said that it's hard. Laura still says it is easy.]

Laura: Pero si la pone con mucho cuidado, no se le va a romper. [But if he puts it in carefully, it's not going to break.]

It is particularly interesting to compare the utterances of specific students from one day to the next. Fernanda contributed only twice during the basal lesson ("no", "Pablo es

un poco pequeño") yet initiated several complex sentences during the IC lesson and participated enthusiastically.

Other supporting data included the videotape coding process in which raters tallied and categorized student utterances. Results indicated a higher number of utterances in the IC condition ( $M=27.35$ ) than the basal condition ( $M=16.25$ ,  $t = 2.55$ ,  $p = 0.063$ ,  $df = 4$ ). Moreover, the IC condition yielded significantly more self-initiated non-scripted contributions ( $M=5.03$ ,  $t = 3.54$ ,  $p = 0.024$ ,  $df = 4$ ) than the basal ( $M=1.08$ ), as well as self-initiated scripted (IC  $M=19.0$ , basal  $M=11.60$ ,  $t = 5.052$ ,  $p = 0.007$ ,  $df = 4$ ). In other words, the IC condition frequently evoked participation without teacher prompting.

IC lessons appear to encourage students to participate on their own, without teacher prompting. If IC does have any effect on higher level of language usage and concept development, the data tend to indicate that, during the lesson, students take time to construct a meaningful answer rather than giving a short, simple answer. Moreover, the students seemed to show initiative in expressing their ideas. This finding is most interesting in light of the characteristics of students with learning handicaps; poor verbal skills, low motivational levels, and high distractibility (Hallahan & Kauffman, 1991).

#### Distal Indices

Narrative Analysis. The narratives the subjects constructed after the lesson were analyzed for story structure (IC  $M=3.23$ , basal  $M=2.93$ ,  $t=3.0$ ,  $p=0.095$ ,  $df=2$ ), as well as the number and category of propositions (IC  $M=61.9$ , basal  $M=77.8$ ,  $t=1.485$ ,  $p=.276$ ,  $df=2$ ). The results indicated no significant differences in the treatments.

Analysis of Thematic Concept. The post-lesson transcription of the students' narrative was analyzed for evidence of higher level concept development as the result of participation in an instructional conversation. The raters examined the narratives for

evidence of a "tracer" of the theme within the students' retelling (narrative) of the story. For the IC condition, the teacher selected themes not explicitly discussed in the story. For example, in the story about the little girl in the library who doesn't like to read, the teacher selected a theme about the concept of older siblings taking care of younger siblings. In the story, the older brother brings his sister to the library, implying that he is in charge of her after school. Although the actual story never refers to the brother taking care of the sister, the following excerpt shows that Elena clearly understood the concept:

Un niño grandote y una chiquita. El niño cuidaba a la chiquita y la niña no le hacía mucho. [A big boy and a little girl. The boy took care of the little girl and the girl didn't do much].

The basal theme, on the other hand, is quite explicit. The Teacher's Guide suggests, "Tell the children that when they finish the story, they will know how the little rabbit fools some animals as he goes to and from his grandmother's house." Only one student used language in the narrative about the idea of fooling the others. Following the IC condition, students mentioned the concept 72% of the time while only 20% following the basal treatment. Students in the IC condition seemed to demonstrate a greater level of understanding of the concept.

Literal Recall. During the post-lesson interview, each subject was asked five comprehension questions. The questions were part of the basal text and were designed for the teacher to ask following the story. There were no significant differences on correct response to the literal recall questions (IC=62% correct; basal=71% correct).

#### Discussion

Traditional approaches to instruction may not provide sufficient opportunity for original thought, or higher level contributions. Researchers have often noted that typical

questioning techniques used during instruction seem to inhibit discussion (Cazden, 1988) and the findings of this study appear to reinforce such a notion. More importantly, the students seemed to be aware of the sociolinguistic rules of both treatment settings and adjusted accordingly. That is, the students demonstrated a degree of social knowledge about each context. They adhered to a teacher-controlled question/answer format during basal lessons, seemingly accepting that the teacher had only one "correct" answer in mind and responded in kind. Likewise, without rules being explicitly stated, the students realized that other behaviors were acceptable during IC, such as speaking without being called on, challenging a comment, and making original (nonscripted) contributions. Further, these students showed an ability to respond appropriately in the microcontext of discourse. The discourse rules of the basal treatments tended to elicit more who, what, where types of questions than IC, while the IC discourse attempted to evoke opinion and more complex language by asking fewer "known-answer" questions. These students with learning handicaps appeared to demonstrate an ability to adjust to the way the teacher framed the discourse as well as to the setting. Such a finding has important implications for teacher training: students responded positively to a discourse style that promoted self-initiated original contributions in a conversational format. Traditional discourse styles that are characterized by teacher dominance and "known answer" questions may actually hinder higher level language and concept development. Promotion of creative and flexible teacher discourse should be an explicit part of teacher training programs. Moreover, teachers need to be mindful of low-level questions in Teacher's Guides and need to incorporate some principles of ICs in their questioning.

Distal indicators, however, paint a more complex picture. Although there were no effects on literal recall or narrative construction, there were effects on thematic concept

development. According to Vygotsky (1962), language interactions between adults and children play a key role in acquisition of concepts, which may be a possible explanation for these results. A similar study comparing IC with traditional instruction in a regular education class (Saunders & Goldenberg, 1992) produced results consistent with the present study. While the IC condition had no bearing on literal comprehension, there were effects on concept development. Thus, there is some evidence that this variable produces effects.

The study yielded fairly clear evidence of proximal effects but uneven evidence of distal effects. Such findings seem to indicate that there is a difference between proximal and distal indicators: one does not necessarily lead to the other. Although the proximal indicators were fairly strong, it did not assure that the students' achievement was affected. There are, however, several possible explanations why there were not significant distal effects.

It is possible that narrative construction was inappropriate for measuring the effects of IC. Perhaps the kinds of processes that are developed through exposure to a conversational approach to instruction are not tapped through narrative construction. While it was speculated that the enriched language opportunities IC provides would enhance the students' narrative construction, it is possible that what takes place in the classroom does not contribute to narrative development. Thus, a narrative measure was not the appropriate form to examine the kind of development that occurs as a result of instructional conversations.

Further, these students had participated in IC lessons approximately once a week for almost seven months. Theoretically, the process that takes place during IC lessons provides a desirable cognitive/communicative function that, when done consistently over

time, would begin to be appropriated. In case study data, the teacher frequently remarked about the improved language abilities of the children as a result of participation in IC lessons. Her observations may provide a possible explanation for the narrative results: the students did not "turn off" their improved language skills when asked to retell a story. It is possible that the positive effects of IC cleared any differences in performance in narrative construction.

Finally, it seems reasonable to assume that the effects of IC take place over an extended period of time and cannot be measured in a discrete number of treatments. Theoretically, there must be a long term conceptual and linguistic benefit to participation in a linguistically rich learning environment where students grapple with ideas, interact with one another, and link their own pertinent experiences to the text.

In any event, examination of both proximal and distal indices demonstrated that distal effects cannot be taken for granted in the presence of evidence of proximal effects.

In summary, the findings indicated that students with learning handicaps used higher levels of discourse when given the opportunity to do so, and were able to adjust the discourse to the context at hand. Moreover, IC enhanced thematic concept development. These findings are preliminary but promising and have implications for the kinds of alternative instructional approaches often talked about but seldom examined in teacher training programs.

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## APPENDIX

### Student Outcome Measure

#### Nonverbal Behaviors

- |  |   |   |
|--|---|---|
| <p>0 _____ 1</p> <p>1. Makes occasional eye contact with others. Does not or seldom attends to the focal point of the lesson (text, teacher, peers).</p> <p>0 _____ 1</p> <p>2. Occasionally faces the group. Body position indicates only a moderate level involvement.</p> | 1 | <p>_____ 2</p> <p>Makes eye contact with teacher and/or peers throughout the lesson.</p> <p>_____ 2</p> <p>Engagement evidenced by body position (e.g., facing of teacher/text, leaning forward into the group) nearly throughout the duration of the lesson.</p> |
|--|---|---|

#### Verbal Behaviors

- |   |   |   |
|---|---|---|
| <p>0 _____ 1</p> <p>3. Comments do not make direct reference to illustrations or text unless specifically requested.</p> <p>0 _____ 1</p> <p>4. Comments do not directly connect the theme to the story.</p> <p>0 _____ 1</p> <p>5. Does not make a comment which ties student's background experience to the text.</p> <p>0 _____ 1</p> <p>6. Comments do not make a connection between the theme and student's background knowledge.</p> <p>0 _____ 1</p> <p>7. Student initiates comments less than three times during the lesson.</p> <p>0 _____ 1</p> <p>8. Contributions are limited to yes/no answers and phrases.</p> <p>0 _____ 1</p> <p>9. Comments are unconnected to others' contributions.</p> <p>0 _____ 1</p> <p>10. Some answers indicate lack of comprehension of story or discussion.</p> | 1 | <p>_____ 2</p> <p>Uses the text as a basis for statement or position at least once during the lesson.</p> <p>_____ 2</p> <p>Comment makes an explicit or implicit link between the story theme and the story.</p> <p>_____ 2</p> <p>Comment may allude to student's background or experience or explicitly relates it to the text.</p> <p>_____ 2</p> <p>Mention is made of the theme or student's background, and may or may not directly connect the two.</p> <p>_____ 2</p> <p>Student initiates comment at least four times during the lesson.</p> <p>_____ 2</p> <p>Uses complete sentences or complex language forms such as cause/effect statement.</p> <p>_____ 2</p> <p>Comment refers to or builds upon a previous comment. May extend a comment or contribute to a discussion, much like everyday conversation.</p> <p>_____ 2</p> <p>Answers to the majority of questions are accurate, based on information presented in the story and/or discussion, demonstrating comprehension.</p> |
|---|---|---|