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THE EFFECTS OF INSTRUCTIONAL CONVERSATIONS
ON THE LANGUAGE AND CONCEPT DEVELOPMENT OF
LATINO STUDENTS WITH LEARNING DISABILITIES¹

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Abstract

This study examined the effects of an interactive approach, instructional conversations, on the language and concept development of Latino students categorized as learning disabled. This study compared traditional instruction (basal approach) with instructional conversations (IC). An alternating treatment design was employed consisting of five instructional conversation lessons and five basal lessons. The lessons were videotaped and analyzed for level of participation and use of academic discourse. A post-lesson narrative was constructed by each child and analyzed for evidence of academic discourse and concept development. Results indicated that there were higher levels of academic discourse and greater participation with IC than a basal approach. 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 IC may provide linguistically rich learning opportunities for culturally diverse students with learning disabilities.

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Introduction

Many teachers of language minority students turn to special education for assistance with students who are experiencing academic difficulties and uneven rates of academic progress (Gersten, Woodward & Morvant, 1992). Many special education programs promote a reductionistic approach, emphasizing task-analysis and highly structured drill and practice for mastery of discrete skills. 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 or allow students to use language in a meaningful way (Ortiz & Wilkinson, 1991). Some learning opportunities are missed when such an approach is used extensively and

children are reduced to their disabilities: language is reduced to fragments; learning is reduced to the performance of subskills to be individually mastered in a sequential way. Also reduced, however, is the chance for these children to function in an environment where language and literacy are used in meaningful ways to communicate and learn (Smith-Burke, Deegan & Jaggard, 1991, p. 58).

Many of the prevailing practices in special education stem from theoretical models of learning disabilities that have guided and influenced the field for decades. Poplin's (1988) overview of theoretical and empirical debates that have characterized the learning disabilities movement begins with the medical model of the 1940s and 1950s. This model emphasized testing and treating neurological symptoms. Instruction took place within highly structured, clutter-free environments featuring motoric and other neurological training as well as frequent medication. Even today the powerful influence of the medical model can be seen in the predominant "within-child" orientation of the categorical system that underlies our special education programs (Cummins, 1992). It manifests itself also in the diagnostic-prescriptive approach to instruction that is so prevalent in special education.

Lack of evidence for the efficacy of neurological interventions expedited the movement from medicine to psychology and education. The

psychological process model (1960s) focused on hypothetical "prerequisite skills" for academic success, with instructional approaches that emphasized sensory integration and/or modality training. Behaviorists began urging educators to deal directly with the academic skills and social behaviors necessary for school success.

The behavioral model dominated educational practices in the 1970s, emphasizing direct instruction using task analysis of skills and application of reinforcement principles. While the behavioral model is still prevalent today, the cognitive or learning strategies movement began to break into the field of learning disabilities in the 1980s. Based on the assumption that poor performance is the result of strategy deficits, the cognitive approach instructs students explicitly in skills demonstrated by successful school learners. Specifically, research in the past two decades has consistently demonstrated a strong relationship between metalinguistic abilities and reading. Thus, cognitive approaches explicitly instruct low-achieving students in metalinguistic skills.

Although each model (medical, psychological, behavioral and strategic) has had more influence on special education practices during certain time periods, in practice, traces of all of the models may be found in the instructional environment of many special education classrooms. All special education models, from medicine to metacognition, tend to be reductionistic (Poplin, 1988; Poplin & Stone, 1992), and researchers now debate whether students in special education would benefit from a move away from a reductionistic paradigm and toward interactive approaches that are more holistic (Stainback & Stainback, 1992). Rather than reducing learning tasks into smaller, decontextualized segments, Cummins (1984, 1989) suggests that the way to simplify tasks for low achieving, limited English proficient (LEP) students in special education is to add sufficient context to make the task comprehensible. Specifically, Cummins advocates instruction that guides and facilitates student learning rather than have learning be teacher-controlled. The teacher and student dialogue meaningfully in both written and oral forms, with the emphasis on genuine communication, not the correctness of surface forms. Development of higher level cognitive skills, rather than factual recall, is the goal.

Cummins' recommendations are similar to those proposed in the writings of L. S. Vygotsky (1962, 1978) and his recent interpreters (Rogoff, 1990; Tharp & Gallimore, 1988), who recommend that verbal

interactions be "scaffolded" or facilitated by a more competent person, the teacher. Rather than relying on a "recitation script" (Tharp & Gallimore, 1988), the teacher and students participate in an interchange of ideas. Vygotsky suggests that it is through daily interactions wherein the child actively collaborates with the adult that the child is able to solve problems and gain understanding of the world.

One response to the call for more interactive approaches is instructional conversations (IC). Instructional conversations go beyond imparting knowledge and teaching skills, encouraging thoughtful discussions as students grapple with ideas (Tharp & Gallimore, 1988). Such an approach to teaching has intuitive appeal, yet may seem difficult to operationalize. In an effort to assess level of IC implementation, Goldenberg et al. (1992-1993) have determined ten elements (see Table 1) that can be reliably coded (Rueda, Goldenberg & Gallimore, 1992).

Table 1
Elements of Instructional Conversation:
Instructional Elements

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.

In an effort to determine the applicability of IC in special education settings, some preliminary work was conducted. Case study data collected in a special education class (Echevarria & McDonough, 1995) indicated that there may be detectable effects of IC on learning disabled students. The special education teacher anecdotally cited several areas of achievement gains that she attributed to implementation of IC such as higher level language use, increased motivation and attention to task.

It seems that an approach such as IC may be particularly appropriate for learning disabled 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). Although the notion of alternative approaches is appealing, there remains a lack of substantial empirical

evidence for the efficacy of interactive instructional approaches such as IC. Therefore, the study tested the following hypotheses about young Latino students in special education:

1. Student participation in instructional conversations will yield higher levels of academic discourse both during lessons and in post-lesson narrative construction compared with a traditional approach.
2. Student participation in instructional conversations will result in a higher level of concept development, evidenced by narrative construction.
3. The more the lesson approximates a high level IC, the greater the student participation.

Methods

Setting and Context

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

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). Table 2 shows student characteristics followed by eligibility statements from IEP data.

Table 2
Sample Characteristics

	Age	Grade	Decoding*	Comprehension*
Elena	7 yrs. 10 mo.	2	1-1	primer
Fernanda	9 yrs. 11 mo.	3	3-1	2-1
Juan**	8 yrs. 5 mo.	2	2-2	1-2
Laura**	8 yrs. 8 mo.	3	1-2	1-2
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."

The special education teacher was bilingual and had been implementing the instructional conversation approach for two years. For the purposes of this study, all lessons were conducted in Spanish with LEP students. The instructional program for the students in the study consisted of traditional basal reading instruction four 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.

Design

The study employed an alternating treatments design (ATD) (Barlow & Hersen, 1984) consisting of five IC lessons and five basal lessons. The basic strategy of ATD alternates two treatments over time within the same sample. The major question addressed by this design is the relative effectiveness of two treatments or conditions in a single subject. In this case, the conditions were a basal lesson vs. an instructional conversations lesson.

This particular design was most appropriate for the study because it solved a problem common in working with system-identified special

education subjects: 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.

Procedure

Although all students participated in the videotaped lessons, pilot data indicated that analysis of all five students would not have yielded significantly more substantive information. Therefore, a subsample of three students was randomly selected to be the focus of videotaping and related analyses. 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. During the IC lessons, rather than following the teacher's manual regarding implementation of the basal lesson, the teacher developed IC lessons by following the elements of IC (Table 1). The teacher 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. The teacher was cognizant of the importance of maintaining a consistent affect across treatments. In reviewing the data, the teacher's personal style appeared constant while only the structure and content of each approach varied.

Individual Follow-up Sessions

Following each lesson, students were interviewed individually by an examiner. The examiners 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 examiner 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 examiner. For each subject, the number of interview sessions were equally distributed among interviewers 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 Español de Houghton Mifflin* (1987), was not the district's adopted reading series, thus the children 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 narratives, e.g., poetry, exposition.

Measures

Teacher rating: Elements of Instructional Conversation Measure. 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 and had no prior knowledge of or exposure to instructional conversations. Each lesson (both IC and basal) was rated using the IC Rating Scale, scoring the number of elements instantiated in the lessons (Rueda, Goldenberg & Gallimore, 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 may be found to a greater or lesser 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 double rated (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.

During the lesson: Student Outcome Measure. In an effort to assess student response during the lesson, students were rated using the Student Outcome Measure (SOM). The scale was designed by the researcher and was based on probable responses to the presentation of IC elements. Students were individually assessed on their performance during the lesson through analysis of videotaped lessons and were rated on a three- point scale by raters blind to the conditions of the study. For example, the raters assessed whether or not the subject used the text as a basis for a statement or position at least once during the lesson. 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.

During the lesson: Analysis of Utterances. For each of the students, the raters tallied and categorized every utterance the subject made during the lesson. Each utterance was categorized as follows: self-initiated nonscripted (an original comment made by the student without teacher prompting); self-initiated scripted (a comment related to a teacher question made by the student without teacher prompting); teacher prompted (teacher calls on a student); unrelated to lesson content(comment about something other than the lesson); and asked for attention (e.g., called the teacher's name). The raters then tabulated the total number of utterances in each category, as well as total number of utterances overall.

After the lesson: 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." The audiotaped narratives 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). 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) based on the proposition characteristics specified by Stein and Glenn (1979) and modified by Roth & Spekman (1986).

After the lesson: Thematic Concept Development. All of the stories had a discernible idea or theme, either stated explicitly in the story (basal treatment) or introduced by the teacher (IC treatment). If students mentioned the theme in their retelling of the story, this was seen as an indicator that they understood the central concept or idea to some extent. For example, in reference to one story the teacher's manual 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.

After the lesson: Literal Recall. The teacher scored the comprehension questions. 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 results were analyzed and based on t-tests, with a 0.05 level of significance. Given the small sample size, it was necessary to substantiate the statistical findings with qualitative data. While the data show important trends, the small sample size dictates that the results be interpreted cautiously.

Fidelity of Treatment - Elements of IC. The Teacher Rating Scale 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 0 - 20 with the teacher being rated on ten IC elements. A two-point scale for each element indicated whether or not it was instantiated in the lesson.

The teacher implemented the IC ($M=19.4$) and basal ($M=2.2$) treatments in significantly different ways ($t=12.333$, $p=0.01$, $d=$). 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. This finding indicates that the teacher was able to shift from one approach to the other effectively, thus assuring accurate, high level implementation of each procedure.

Measures of Effects - Student Outcome Measure. Videotape data were coded and scored according to the elements on the Student Outcome Measure seen in Table 3. The raters evaluated each of the three selected students' performance on the eight verbal items related to academic language use during the lesson. The possible range of scores was 0 - 16.

Students' 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). 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 3
A Comparison of Students' Scores on the Student Outcome Measure (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
Utterances	Mean	SD	Range	Mean	SD	Range
Juan	22.8	11.6	9-35	10.8	8.4	4-25
Laura	30.6	15.8	14-55	24.8	10.4	14-39
Salvador	26.6	8.9	16-35	13.2	4.1	9-19

These differences also 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," 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 students to relate their own experiences to the story.

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. 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's comments are represented below by a bold T. 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: ¿Con 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 vino en el camino bailando y saltando. [Because he came down the road dancing and hopping.]

T: ¿Cuál fue el siguiente animal con quien 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 on his own initiative, referring to the butterfly:

Juan: Se le rompió una alita. [His little 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 ¿qué 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: ¿Cómo 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 qué 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 poderla ayudar. [No, he wanted to get up on the butterfly so he could help her.]

The previous excerpts seem to indicate that there were differences in the quality of discourse in basal and IC lessons.

Utterance Measure. As part of the videotape coding process, raters tallied and categorized student utterances. Results indicated a higher number of utterances in the IC condition (\underline{M} =27.35) than the basal condition (\underline{M} =16.25, $t = 2.55$, $p = 0.063$, $df = 4$). Moreover, the IC condition yielded significantly more self-initiated scripted (IC \underline{M} =19.0, basal \underline{M} =11.60, $t = 5.052$, $p = 0.007$, $df = 4$) as well as more self-initiated non-scripted contributions (\underline{M} =5.03, $t = 3.54$, $p = 0.024$, $df = 4$) than the basal ($M=1.08$). The self-initiated, non-scripted utterances are particularly important (see Table 3) because it indicates that not only did the IC condition frequently evoke participation without teacher prompting, but students made original contributions, as seen in the transcript below.

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.

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: Está 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 and 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, "Vármos 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 Maria Josefa que compartiera? [who asked Mary Jo to share?]

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.

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

Narrative Analysis. The narratives the subjects constructed after the lesson were analyzed for story structure (IC \bar{M} =3.23 basal \bar{M} =2.93, t =3.0, p =0.095, df =2, U =2, U' =7) as well as the number and category of propositions (IC \bar{M} =61.9, basal \bar{M} =77.8, t =1.485, p =.276, df =2, U =4, U' =5). 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 as the theme the idea 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 story's thematic 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=7 1% correct).

IC Implementation and Student Participation. It was hypothesized that the more a lesson approximated a high level IC, the greater the student participation. The data were correlated by lesson, comparing the teacher's IC rating score with the students' corresponding student outcome score. Using the Pearson Correlation Matrix, $r = 0.872$ and the Spearman Rank Order Correlation resulted in $r = 0.98$. Teacher IC rating scores ranged from 0 to 20 and student outcome measure scores ranged from 6.0 to 15.3.

Discussion

The purpose of this study was to examine the effects of instructional conversations on Latino students with learning disabilities. Specifically, the effect of IC on academic discourse, student participation, conceptual understanding, and literal recall was investigated. Three research hypotheses were formulated and stated that (1) there would be higher levels of academic discourse demonstrated by the students during and following the IC lessons, (2) there would be a higher level of conceptual understanding by the students following the IC lessons, and (3) the more a lesson approximated a high level IC, the greater the student participation.

Academic Discourse

Findings indicated that there were significant differences between the levels of academic discourse students used during IC lessons compared with a traditional basal approach. Students contributed significantly more discussion during IC lessons than during basal lessons. In particular, during IC lessons students used more complex and complete sentences,

and were often related to their own background experience and/or the lesson's theme. In addition, the conversational aspect of IC seemed to give students time to think through their responses, frequently presenting another point of view or actually using the text to support their comments. Conversely, during basal lessons students tended to use simpler sentences, and responded in a strict question-answer format with little elaboration.

The trends seen in these data seem to indicate that 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). These findings appear to reinforce such a notion, and indicate that IC may provide the needed opportunity for academic discourse use.

The results of the post-lesson narrative analysis indicated that there were no differences in students' use of discourse when retelling the story. It was expected that students would use a higher level of discourse (e.g., more complex sentence structure, more sophisticated story elements) when constructing a narrative following the IC lessons, and, following the basal, a simpler narrative, emphasizing factual recall. However, the results did not support this supposition. This finding is inconsistent with the other results such as the richer language interactions found during IC lessons compared to basal lessons. 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.

Conceptual Understanding

Students attained a higher level of conceptual development with an IC format than with a basal approach. Although the IC theme selected by the teacher was not an explicit part of the story, it appears that the way in which it was incorporated into the story and referred to throughout the

lesson may have contributed to a higher level of understanding, as evidenced by reference to the theme in the students' narratives. 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.

while the basal lesson cited an explicit concept that the children would attain by the lesson's end, the question/answer format did not appear to provide sufficient opportunity for development of the concept. As a result, students did not mention the stated concept in their narratives.

Relationship of IC Implementation to Student Participation

The results strongly indicated that the presence of lesson features that are characteristic of IC elements tended to encourage student participation. The higher the teacher's score for implementing IC, the higher the students' Student Outcome Measure score, evidenced by an exceedingly high correlation. However, causality cannot be determined with certainty. The presence of more IC elements could be the cause or result of more student engagement, discussion about the theme, opportunities to relate lessons to background experiences, et cetera. In any event, a high level IC lesson yielded more student participation and seemed to encourage more of the behaviors desired, such as using the text as a basis for their position, self-initiated comments, and comments that related their background experience to the story.

This study provides several important contributions to our understanding of instructional practices for Latino students with learning disabilities. Until recently interactive approaches such as instructional conversations have been largely theoretical, and lacked empirical evidence for their effectiveness, although advocated in the literature. This study demonstrated that there are effects in a number of important areas such as academic discourse, levels of student participation and concept development. IC may provide more conceptually and linguistically rich learning opportunities for culturally diverse students with learning disabilities. These students might be in the greatest need of such opportunities.

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