

Transfer and Variation in Cognitive Reading Strategies of Latino Fourth-Grade Students in a Late-Exit Bilingual Program

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Abstract

The present study examines how 50 fourth-grade Spanish-dominant students utilize cognitive reading strategies to enhance comprehension of expository texts in Spanish and transfer strategic reading behaviors to English reading. The participants were grouped by Spanish reading ability into Able (Ab), Average (Av), and Less-Able (LAb) readers in order to determine how native language (L1) reading ability influences second language (L2) reading. Students' perception of the reading process and their oral proficiency in English were also examined as possible influences on cross-linguistic transfer. Data were collected through student interviews and think-aloud task tasks. For purposes of analysis, responses were grouped into categories of similar answers for comparisons across groups and languages; overall group means for strategic reading in Spanish were compared to those in English at various Language Assessment Scales (LAS) levels of English oral proficiency. All groups reported an increase in strategy use in English reading. Results indicate that strategic behaviors in L1 undergird L2 reading behaviors and that the level of second language proficiency played a less prominent role in second-language strategic reading than did the level of strategy use in L1.

Introduction

A major concern in education today is to improve the reading achievement of Latino students. Spanish speakers are the largest and fastest growing ethnic group in the United States (Suárez-Orozco, 1998), yet Latino students continue to lag behind academically and experience difficulties in the areas of language arts and reading (de la Rosa & Maw, 1990; Ramírez, Yuen, Ramey, & Pasta, 1991; U.S. Department of Education, 1998a). Over 2 million school-age (5–17) Latino students are English Language Learners (ELLs), that is, students

who are monolingual in the home language or have some English proficiency but are dominant in their home language (U.S. Department of Education, 1998a). Of these, over 53% are found in early elementary grades, in grades K–4 (August & Hakuta, 1997). Discussions about how to improve the reading achievement of Latino children learning English continue to be framed within a debate regarding the effectiveness of instruction through the native language versus the need for acquiring English quickly (August & Hakuta, 1997). Thus, it is timely to address biliteracy issues at the elementary school level.

Background

The latest National Assessment of Educational Progress (NAEP) (U.S. Department of Education, 1998b), which reported on the reading achievement of 31,000 students in the nation, at grades 4, 8, and 12, indicated that very low percentages of Hispanic students read at the advanced level. Only 2% read at the advanced level in grades 4 and 12, and 1% in Grade 8. A major concern in education, then, continues to be a need to improve reading above the basic level for Latino language minority (LM) students.

At the core of the debate over whether instruction through the native language improves reading achievement in English is the question of whether learning in the primary language (L1) transfers to the second language (L2). Several studies in Europe, Mexico, and the United States (Barrera, 1978; Cummins, 1989; Jiménez, García, & Pearson, 1995, 1996; Modiano, 1968; Koda, 1988) have demonstrated that students who read well in their native language read well in the second language. Cummins has proposed the Linguistic Interdependence Hypothesis (1979) to conceptually explain this positive relationship between languages. In the absence of related definitive research, questions persist about the connections between L1 and L2 reading (August & Hakuta, 1997) in part due to the continued lag of bilingual students' reading achievement. To examine the specific mechanism for cross-linguistic transfer of reading skills, further research is needed with young readers in biliterate contexts (García, 1999). This research would help design instruction to improve bilingual students' reading achievement, specifically, in English.

As language minority (LM) students move into the upper elementary grades, difficulties in reading comprehension rather than with decoding are more prevalent, severe, and difficult to eradicate (Anderson & Roit, 1996). Because the “problem” for ELLs has been construed as being almost entirely language-based, little is known about the reading strategies and problem-solving behaviors that successful bilingual readers in elementary school utilize to ensure comprehension of academic texts in English (Padrón, 1992). The present study seeks to extend our understanding of bilingual students' reading comprehension processes by examining their use of comprehension strategies as they read expository material in their native and in their second language. Examination of reading behaviors in Spanish and in English adds to our understanding of how

students transfer these strategies across languages. A cognitive perspective allows a focus on students' strengths rather than weaknesses and provides research-supported specifics on advanced reading processes.

Theoretical Framework

According to the National Assessment of Educational Progress (U.S. Department of Education, 1998b), at the advanced level of reading students should demonstrate overall understanding, provide inferential as well as literal information, draw conclusions, draw on background knowledge, judge text critically, and give thorough answers that indicate careful thought. Recent models of reading and reading comprehension processes help us understand how to develop these advanced reading abilities required to perform well academically. This section examines how recent and traditional models guide reading comprehension instruction in monolingual and in bilingual contexts.

Models of Reading

Recent models characterize reading as concept-driven and top-down, where thinking processes drive lower-level visual clues (Weaver, 1994). Based on Rumelhart's (1980) concept of schema—that is, the learner's existing conceptual frameworks—this constructivist model holds that concept development and background knowledge account for reading ability. Within this perspective, instruction takes place through literacy activities presented holistically. Traditional reductionist models, on the other hand, characterize reading as proceeding from outside stimulus, from text to reader, and propose that reading proceeds from smaller to larger parts, from letters, to syllables, to words, to cognitive processes, in a bottom-up sequence (Weaver, 1994). This model emphasizes knowledge of phonics and word recognition. Most researchers today agree, however, that the reading process is interactive (Maria, 1990; Weaver, 1994). Interaction between bottom-up and top-down processes are said to take place in a transaction between reader's mind (schema) and the language of the text, involving word recognition and comprehension processes. Reading instruction from this perspective involves skills instruction but incorporates instruction in comprehension strategies from the beginning stages of reading. Nonetheless, arguments persist about whether the initial point for reading instruction should be decoding or knowledge (Maria, 1990).

Reading Comprehension in Monolingual Contexts

Although no specific models of comprehension exist (Maria, 1990) in the interactive view, comprehension is said to occur as the reader constructs a mental text from the physical text, approximating the writer's ideas (Maria, 1990; Weaver, 1994). In the traditional word recognition orientation, reading comprehension is considered to be an automatic outcome (a product) of decoding because the reader speaks the language in which the text is written

(Maria, 1990). Thus, in the word recognition orientation, reading comprehension is assumed to be very closely linked to oral language. Although it is generally accepted that oral skills and reading are linked, particularly in the initial stages of literacy, Goodman (1996) contends that the connection is not as strong as previously thought. Mature readers process print directly to meaning (cognitive processes), not to oral language; beginner readers decode written language to speech.

In upper elementary grades, when reading involves a great deal of expository text, text-based elements and bottom-up reading processes alone may be sufficient for recall but not sufficient for learning, which requires integration of text with the reader's knowledge system (Maria, 1990). Making inferences—filling in from previous knowledge what the author has left out—and prior knowledge are considered important components of the comprehension process in interactive models of reading. Additionally, thinking processes or cognitive processing strategies become necessary to remove blocks and ensure reading comprehension (Gaskins & Elliot, 1991). These strategies used during reading involve mental manipulations of text at word, sentence, paragraph, and text levels to enhance reading comprehension (Paris, Lipson, & Wixson, 1983). They differ from comprehension skills in that the latter are taught as automatized procedures to be applied as tasks out of context, for example, matching prefixes to root words isolated from real text (Duffy & Roehler, 1987). Therefore, in content reading, prior knowledge is not limited to knowledge about the topic. A strategic schema is also needed, which includes knowledge about strategies (declarative), knowledge about how to deploy them (procedural), and knowledge about when and where to apply the strategies (conditional) (Paris, Cross, & Lipson, 1984). Thus, expository reading involves not only understanding content, but also processing strategies in order to understand content.

A crucial cognitive component of effective reading is metacomprehension, or awareness of one's own comprehension or lack of it (Paris et al., 1983). As such, awareness precedes corrective measures. Degree of awareness varies from student to student. Effective readers show high degrees of metacomprehension by demonstrating that they know when they understand or do not understand. Effective reading also involves metacognition, which is a wider scope of knowledge about one's own learning processes, including monitoring, self-evaluation, repairing, and self-regulation. The objective of much strategy instruction is to raise metacomprehension and metacognition in order to develop student-directed behaviors so they can attain meaning from text on their own and become independent learners.

Language Arts Programs for Bilingual Language Minority Students

In upper elementary school, students are exposed to traditional methods of reading through the use of basal reading programs, which are the most commonly used in the United States, including in bilingual classrooms

(Anderson & Joels, 1986; Maria, 1990). These bottom-up approaches emphasize the teaching of specific skills, or a hierarchy of subskills, in a predetermined sequence focusing on decoding skills first and reading comprehension instruction later. Means, Chelemer, and Knapp (1991) contend that once the assumption of a skills hierarchy from basic to advanced is in place, compensatory education's focus on basic skills is eminent. In practice, within this framework, lower achieving students, students considered at risk, and non-English speakers have been offered only a remedial curriculum focused on basic skills and not reading comprehension, even after decoding skills are in place (Bergman & Schuder, 1993; Fitzgerald, 1995). Much of Title I reading instruction, offered to socio-economically disadvantaged bilingual students who have not progressed in reading, focuses on phonics and on lower-level skills (Allington & McGill-Franzen, 1989).

In classrooms where an assimilationist view of language and culture is in place, language arts instruction focuses on the acquisition of English first (Moll, 1988). Regardless of the student's level of reading in Spanish, reading instruction focuses on developing oral English proficiency and fluency, on grammar structures, on enunciation, on pronunciation, and on decoding (Flores, 1982; Moll, 1988). Moreover, traditional methods of reading instruction prevail, which assume and incorporate the following characteristics:

1. A close link between reading and orality.
2. Comprehension instruction must be delayed until oral English skills are in place (Anderson & Roit, 1996).
3. The use of lower-level basic exercises, worksheets, drill, and practice (Flores, 1982; Moll, 1988).
4. A tendency to reduce the complexity of the curriculum to match the student's level of English proficiency.

Furthermore, in many cases, the use of native language is curtailed or not allowed, which impedes the development of spontaneous meaning-making strategies. Consequently, in developing advanced reading skills in English, the Spanish-dominant student faces significant linguistic and instructional challenges beyond those of a native speaker.

Research on Reading Comprehension of ESL and Bilingual Students

In the field of research, as in reading instruction, reading comprehension for ELLs has been dominated by the language issue. Some researchers have concluded from their research findings on adult ESL (English as a Second Language) students that reading comprehension in English is linked to the student's level of oral English proficiency. Clarke (1988), for example, contends that the smaller differences in the strategy use between good and poor readers when they read in L2 versus in L1, point to the crucial role of oral L2 proficiency to L2 reading comprehension. Cziko (1978) reached similar

conclusions when analyzing L2 reading difficulties and L2 language proficiency. Within this perspective, decoding skills and vocabulary acquisition are emphasized before reading for comprehension.

Although Fitzgerald's (1995) review of research literature provides evidence that there is a threshold in oral L2 knowledge for competent L2 reading to occur, much research points to the mitigating effect that reading strategies have on low levels of L2 oral proficiency. Good second-language comprehenders do not read mechanically but utilize top-down processing strategies (Block, 1986; Devine, 1988), even when they demonstrate equal levels of L2 language proficiency as less successful comprehenders (Devine, 1988). Good comprehenders also display higher awareness and monitoring abilities than less effective L2 readers (Carrell, 1989). These results have led to an opposing view that strategy use compensates for the lack of familiarity of linguistic structures in L2, and that L2 reading comprehension is more closely related to the student's reading ability in the first language (L1) (Block, 1986; Devine, 1988). This position assumes that, as long as literacy skills in the native language are in place, LM (language minority) students can be exposed to English reading before they acquire high levels of L2 oral proficiency, and to comprehension instruction as they learn linguistic structures (Anderson & Roit, 1996; Barrera, 1983).

Research with adult ESL readers has provided additional interesting results about the connections between L1 and L2 reading. McLaughlin (1987) found that not all advanced L2 readers engage in meaning-making strategies when reading in L2, though their syntactic and semantic knowledge suggests they are quite capable of doing so. McLaughlin proposed the concept of "restructuring" to explain the ability of those who effectively transferred strategic behaviors across languages in learning contexts. According to Kern (1989), meaning-making strategies, which may be well developed and automated in L1 reading processes, may not transfer automatically to L2 reading but may need mediating mental processes. He proposed strategy instruction with second-language learners to bring already-possessed strategies into conscious awareness so they might be used in an L2 context to enhance reading comprehension. In an experimental study (Kern, 1989), strategy training had a strong positive effect on L2 readers' comprehension gain scores.

Research with younger bilingual populations in the United States has demonstrated a link between native language instructional support and reading achievement in English, and between meaning-making reading behaviors in L1 and in L2. The longitudinal research of Ramírez and his colleagues (1991) found that students in late-exit bilingual programs who had received native language support throughout elementary school reached parity with native speakers on standardized tests in English. Those in the early-exit program lagged behind all others and showed less progress as they moved up into higher grades. Barrera (1978) found that Spanish-speaking third-grade students

in a meaning-based reading program did not approach reading in Spanish and English as separate and distinct processes when reading for understanding. They actively searched for meaning when reading in Spanish and transferred this insight when reading in English. In another study to determine the understanding of narrative fables in Spanish and English for students whose primary language was Spanish and English, Goldman, Reyes, and Varnhagen (1984) found that knowledge used to guide fable comprehension in a first language was also used to guide fable comprehension in a second language for both groups. These findings indicate that native language does not impede but facilitates reading in English.

More specific information was obtained by Jiménez et al. (1996), who researched the metacognitive reading strategies of 14 bilingual seventh-grade students classified as successful or less-successful readers of English. From their findings, the researchers concluded that the successful bilingual readers had a developed bilingual reading schema, which incorporated “declarative knowledge” about the reading process, about strategizing, and about cross-linguistic transference, and “procedural knowledge” for implementing strategies when reading in Spanish and in English. While the successful bilingual readers expressed the need for making sense of the reading, and perceived reading in Spanish and English essentially as the same activity, the less-successful bilingual readers appeared to be more concerned with finishing the task. Additionally, the successful bilingual readers were able to discuss specific reading strategies they used, such as questioning, rereading, and the use of prior knowledge. Although the less-successful ones could monitor and identify problem areas, they did not often resolve comprehension breaks. Moreover, they used approximately the same strategies whether reading narrative or expository text, failing to adjust their use of strategies. The successful bilingual readers also mentioned strategies specific to bilingual contexts, such as use of cognates and translating. They were aware of the positive relationship between Spanish and English and viewed their native language as a fund of knowledge useful for L2 reading. The less-successful bilingual readers, on the other hand, were more apt to think of bilingualism as an obstacle to second-language reading, viewed the two languages as being more different than similar, and believed that knowledge of one was not useful to reading in the other.

To summarize, research findings suggest that L2 oral proficiency is only one determinant of L2 reading comprehension and that L2 reading is not a static proficiency. Cross-linguistic transfer varies individually depending on ability to strategize and difficulty of task (Devine, 1988). Students who conceptualize reading as a unitary process in both languages, have a positive attitude toward their native language, and are aware that it can be a resource, have a greater potential to transfer reading strategies across languages (Jiménez, et al., 1995, 1996).

Purpose

The purpose of this study was to examine and compare the strategic reading processes of bilingual, Spanish-dominant, fourth-grade students when they read expository text in Spanish and in English. The students were grouped by their reading comprehension in Spanish into Able (Ab), Average (Av), and Less-Able (LAb) because of the reported importance of L1 reading ability to L2 reading (Cummins, 1989; Jiménez et al., 1995). Additional factors examined were the students' perception of the reading process in two languages and their level of oral English proficiency. The students had received instruction in a late-exit bilingual education program. The research questions posed were:

1. How does each group of readers conceptualize the reading process in general and the reading process in two languages?
2. How do the respective groups utilize cognitive reading strategies when reading in their native language?
3. How do they apply cognitive reading strategies when reading in their second language?
4. How does English oral proficiency influence the use of cognitive reading strategies when they read in English?

Method

The present study describes and compares groups' perceptions of reading and their strategy use in two languages. It follows a qualitative approach of data collection and analyses. Individual student interviews were used to collect data about students' perceptions of reading. A read- and think-aloud task provided data about students' strategic reading processes in Spanish and in English. Coding and categorizing were used to analyze the data and determine patterns of strategies. The qualitative framework provides rich descriptions of reading behaviors in biliterate contexts; the cognitive framework enables one to obtain specific information on cognitive strategies to improve instruction. A focus restricted to cognitive aspects, however, would not provide sufficient insights to develop advanced reading in bilingual contexts. For this reason, the present study also addresses language issues.

Within the cognitive framework, cognitive learning processes, problem-solving behaviors, and strategy use have been primarily studied through interviewing-type disclosures or verbal self-reports (Ericsson & Simon, 1984). One method is the protocol analysis method, also known as "think-aloud task" or "talk aloud," which looks into the cognitive system of the individual as s/he pursues a well-defined task while talking aloud about ongoing mental processes. Shortcomings of the think-aloud task technique when used with young children relate primarily to the students' difficulties in verbalizing covert events, resulting in an underestimation of strategy use (Chou-Hare & Smith,

1982). To address the issue of the students' young age, the present study includes an interview of 15 questions about cognitive reading strategies, gleaned from the literature review (Block, 1986; Chou-Hare & Smith, 1982; Jiménez et al., 1995, 1996; Padrón, 1985).

Data Sources

The school

The school is located in a large metropolitan school district in the Southwest of the United States. It was chosen because its students are not mainstreamed abruptly into all-English instruction but receive instructional support in the native language through Grade 5. Therefore, a strong potential existed for finding participants who could engage in the use of cognitive strategies in Spanish and English. The program can be best described as late-exit (Ramírez et al., 1991). Additionally, the student make-up was representative of the demographics of our present-day inner-city schools in the public school system (Valenzuela, 1999). The ethnic make up of the school was 97% Hispanic, 2% White, 1% African American, and 1% Asian (the sum exceeds 100% due to rounding). Ninety-two percent of the students were on the free/reduced lunch program, indicating disadvantaged socio-economic status. Fifty percent of the students were enrolled in the bilingual/English as a Second Language (ESL) programs, with Spanish identified as their first language (L1) and English as their second language (L2). Title I Federal services were provided to 100% of the students. The school had attained an "acceptable" academic rating within the school district. Student enrollment was 804.

Students

A total of 50 Latino bilingual students, who made up the entire bilingual fourth-grade level in the school and originated from two intact classrooms, participated in this study. The fourth-grade level was chosen because at this point in the bilingual program students receive academic instruction through English and handle large amounts of expository text. There were 30 female students and 20 male students whose ages ranged from 9–10 years of age. None of the participants had been identified as gifted or in special education.

Students' protocols were grouped into Able (Ab), Average (Av), and Less-Able (LAb) readers of Spanish according to the *Aprenda (Aprenda: La prueba de logros en español-Technical Data Report, 1991)*, a norm-referenced test administered by the district during the time of the data collection in the spring of 1999. Twenty students whose grade-equivalent comprehension scores on the *Aprenda* were above the fourth-grade level made up the Ab group; 14 read at the fourth-grade level and fell into the Av group; 16 read below the fourth-grade and made up the LAb group. The breakdown of the students' oral English proficiency by the Language Assessment Scales (LAS) (Duncan & De Avila, 1990) is as follows:

1. Level 5: No students found.
2. Level 4: 20% Ab, 15% Av, and 0% LAb readers.
3. Level 3: 45% Ab, 46% Av, and 47% LAb readers.
4. Level 2: 20% Ab readers, 0% Av, and 13% LAb readers.
5. Level 1: 5% Ab, 38%, and 40% LAb group.

The Language Assessment Scales (LAS), grades 2–5 (LAS I) is designed to measure oral language skills in English or Spanish and was administered by the school shortly before the data collection.

Instructional context

Prior to the student interviews, I spent one week observing the school and conducting informal teacher observations. Both teachers were bilingual in Spanish and English, although only one was bilingual certified. Both had previous teaching experience. The instructional context in the two classrooms exhibited largely the same characteristics. The language arts curriculum was based on a traditional orientation. Basal readers provided the foundation of the reading curriculum; whole-group instruction prevailed. Neither classroom displayed charts or aids that provided procedures for reading comprehension processes or cognitive reading strategies. Students were grouped homogeneously by their English oral proficiency in the bilingual classrooms to receive reading instruction. The Ab group had greater English oral skills and was expected to read mostly English material. The Av and LAb groups read mostly in Spanish and were not singled out for explicit instruction in English reading until their oral English proficiency increased.

Comprehension instruction took place primarily through teachers' verbal explanations, not through modeling and practice, and was focused on literal comprehension, test-taking skills, and skills for answering comprehension questions, not on strategic processes. In Spanish and English reading, there was an emphasis on recognizing the sequential organizational structure of narrative passages, rather than on patterns prevalent in expository passages, such as cause and effect, superordinate and subordinate structures, comparison and contrast (Gaskins & Elliot, 1991). Inferential comprehension required in expository text, which taps into a content knowledge base, stored as previous knowledge was not explicitly taught.

Measures

Interview protocol on reading (IPOR)

This was an eight-question interview on the student's perceptions of reading and the reading process in two languages. The questions were based upon the study of Jiménez and his colleagues (1995) on bilingual students. The questions asked about the reading behaviors of good readers, about the student's preferred language in reading and previous language of instruction, and about specific ways that Spanish reading could help or hinder English reading and vice versa.

Think-aloud task task

The Flynt and Cooter English-Español Reading Inventory for the Classroom (EERIC) (1999) provided expository passages in Spanish and English to contextualize the read- and think-aloud task tasks. Expository passages were chosen because they do not follow the sequential organization of narrative text and have been linked to the academic reading demands of upper elementary grades. Passages from EERIC correspond closely with those of commercial leveled materials used in classrooms. Their difficulty was determined by using the Fry Readability Graph, the Harris-Jacobson Readability Formula, teacher input, and the authors' judgment (Flynt & Cooter, 1999). The Spanish and English versions are equivalent translations in terms of style and difficulty. Since the passages pertained to general topics familiar to bilingual and fourth-grade students (Flynt & Cooter, 1999), prior knowledge was not deemed to constitute a major obstacle to comprehension. Students' instructional reading level was used because materials for examining reading strategies should present some challenge without causing frustration (Bereiter & Bird, 1985; Chou-Hare & Smith, 1982). The passages ranged from level 2–5 in Spanish, and levels 1-4 in English. A red dot divided each passage into segments, which could consist of one to four independent clauses (Chou-Hare & Smith, 1982; Padrón, 1985). Students read different passages in Spanish and English.

The structured interview on strategies (SIOS)

Fifteen probing questions were adapted from reading strategies identified in the literature review (Chou-Hare & Smith, 1982; Jiménez et al., 1995, 1996; Padrón, 1985). Strategies originating from studies with English-monolingual students, which could be generically applied when reading in Spanish or English, include the following 11 strategies: (a) rereading, (b) selective reading to distinguish between main points and supporting details, (c) imaging, (d) changing speeds or slowing down, (e) using prior knowledge, (f) noting novelty or salient details to remember, (g) clarify or learn certain points, (h) paraphrasing, (i) predicting, (j) self-questioning, and (k) paying close attention or concentrating. Four additional strategic reading actions specific to bilingual contexts and which bilingual students can apply generically when reading in a second language, include: thinking in the language of the text to ensure concept development versus thinking in the weaker language to practice it, translating, transferring prior knowledge learned in another language, and using cognates.

Student strategic scores

A strategic score for each student was obtained by adding the level of each individual strategy in the protocol and coming up with a total strategic score for each student. The maximum score on a protocol could be 30 if a student used all 15 strategies at Level 2. To answer Research Question 4,

strategic group averages in Spanish and English were compared at various LAS levels.

Procedures

Most of the data were collected through face-to-face interview sessions between student and researcher. Before the interview sessions, various activities were carried out. Informal teacher observations of the two fourth-grade teachers took place during the language arts and ESL blocks (i.e., morning and afternoons) for approximately one and a half hours on each occasion, for a total of 15 hours. Classes were also observed during recess, in the cafeteria, and in the library. Another activity included student training in the think-aloud task task. I read a passage to the entire class, stopped after short segments, and spoke about what I was thinking as I tried to understand the reading. Students then practiced in pairs or in small groups while I monitored the process. Additionally, students' instructional levels in reading in Spanish and English were determined, as outlined in the Flynt and Cooter IRI (1999). Finally, the interview order was determined. To avoid problems of interpretation due to order effects, the language for the reading was to be alternated after every 12 students.

Each student met with the researcher for two individual interview sessions. The initial session consisted of three phases: (a) the interview on reading (IPOR), (b) the reading and think-aloud task task in Spanish or English, and (c) the interview on strategies (SIOS), immediately after the read- and think-aloud task. Since the IPOR was only given once, the second session consisted of two phases: (a) the reading and think-aloud task task in the alternate language, and (b) the interview on strategies (SIOS) used when reading in that language. So that the students would not remember the questions on reading strategies, the second think-aloud task was conducted a week after the completion of the first think-aloud task. Students were given the opportunity to express themselves in either language during the think-aloud task. The average time for each individual interview session was 40-45 minutes per session. All interviews were audio taped with the student's consent.

Data Analysis

Student responses on the IPOR and the SIOS were not transcribed verbatim. Using Nunan's (1994) framework for categorizing, the responses were transcribed as key words and key phrases, ensuring that the student's intended meaning was captured accurately. The single most prominent phrase or word was chosen as the response for each question, so there was one response per student.

The think-aloud task task were analyzed by listening to each segment of the reading to determine which strategies were used or stated explicitly. These strategies were used to corroborate those from the SIOS and were not counted

twice. The maximum number of strategies a student could obtain was 15, unless the student came up with a new strategy not on the list. The think-aloud task was also used to determine level of metacomprehension, which is described as being high, fair, or low. Students with a high level of awareness went back to solve comprehension problems and engaged in self-talk, guessing, or other strategies independently. At the fair level, they lacked consistency in their problem-solving approach or stopped and recognized a problem but did not know what to do. A low level occurred if they skipped over problem areas and focused only on what they understood, did not go back to solve comprehension problems, and read for speed or memorization.

Transcriptions of the IPOR were analyzed for patterns within the eight interview questions. Similar responses were grouped within each question. Percentages of students who gave similar responses were calculated and compared across groups of Ab, Av, and LAb readers. The transcriptions of the SIOS were analyzed in conjunction with the think-aloud task for strategy patterns within the 15 categories. Responses elicited for each strategy were first organized under three superordinate levels—Level 2, Level 1, and Level 0—as explained below. Then, within each of the three superordinate levels, similar responses were grouped into sub-categories. Student percentages for sub-categories were calculated within each superordinate level for eventual group comparison purposes.

The three superordinate levels for coding student responses were devised to determine whether a student employed an action strategically or not (Bereiter & Bird, 1985), and if not, the reasons why. In Level 2 responses, the student read for meaning, provided a plausible rationale for the strategy use when asked, and exhibited ability to use the strategy during the reading, indicating both declarative and procedural knowledge or deep processing. Only actions coded at Level 2 were counted as strategic for comparison purposes. Responses were coded at Level 1 when there was a discrepancy between strategy use and explanation and the student was unclear or gave an inaccurate reason for strategy use, or when the reasons concerned primarily with answering questions or doing well on tests. At Level 0, the student did not employ the strategy and lacked concept of it when asked. Typically, this student did not read for ideas but focused on mechanics, processing at a surface level.

Intercoder reliability showed a percentage of agreement in the coding of the independent rater and the researcher of 91% for the Spanish reading and 96% for the English reading.

Results and Discussion

Bilingual Readers' Perceptions of Reading

The most compelling results of the IPOR related to the groups' differences in their perceptions about reading. Seventy percent of the Ab readers

conceptualized the act of reading as a meaning-attaining endeavor and stated explicitly that good readers read for meaning, focus on learning, and do not focus on sounding out words. A total of 42% of the Av readers linked reading to understanding and learning; the majority (75%) of the Lab readers were concerned with surface aspects of the process, such as not tripping on words and not making mistakes when reading aloud. The LAb readers believed attention should focus on mechanics, making it unlikely for them to succeed in attaining meaning.

Over 60% of the students in the three groups stated that Spanish would be helpful to reading in English in various ways that would enhance meaning of the English text. When asked if English reading would be helpful to Spanish reading, a similar pattern emerged. A greater percentage of Av and LAb readers, however, felt that English reading would help with Spanish reading. This pattern is interesting, considering that these two groups demonstrated lower levels of English oral proficiency and received reading instruction in Spanish. When students were interviewed about whether the reading processes were similar or different in two languages, more than half of the students in all groups addressed the linguistic differences and not similarities in print processing. This focus may reflect the emphasis on the separateness of languages and the Spanish and English reading processes observed in classroom instruction.

Strategy Use in Spanish Reading

All students, including the LAb readers, engaged in the use of cognitive reading strategies to varying degrees. The Ab and Av reading groups demonstrated very similar patterns of strategizing when reading text in Spanish and utilized more strategies oriented toward gathering meaning; the LAb students used fewer strategies to gather meaning, orienting themselves to the perceptual and mechanical aspects of the reading task.

Metacomprehension and monitoring

A greater percentage of Ab readers read with high levels of awareness (40%); 28% of the Av readers and only 6% of the LAb readers fell into the high-awareness category. These findings reveal a crucial link between metacomprehension and reading comprehension. Additionally, Ab and Av readers demonstrated more flexibility by adjusting their reading speed to match the difficulty of the text and slowed down when encountering more dense or difficult text. The LAb students, on the other hand, reported speeding up and skipping difficult parts, and not coming back to them. When they slowed down, it was to remember in order to answer questions, to decode, and to pronounce the words correctly.

Other monitoring strategies include paraphrasing, self-questioning, and paying close attention. Paraphrasing is important to determine whether understanding has occurred or not. The Ab group demonstrated a much higher

level of ability to paraphrase, indicating the need for the other groups to develop this strategy. None of students in this sample exhibited a robust use of the strategy of self-questioning. Such weak use demonstrates that reading instruction for them has not focused on developing mentalistic processes and the need for explicit strategy instruction. A greater number of Ab readers reported using the strategy of paying close attention or concentrating as a means to improve comprehension.

Global aspects of text

Able and Av readers demonstrated sensitivity to global aspects of text by using the strategy of rereading to guess word meaning from context clues and to understand sentences within paragraphs. LAb readers did not reread to link words to sentences and sentences to paragraphs but rather to remember the material and to memorize parts. Few Ab and Av readers exhibited familiarity with text structure through use of selective reading. When LAb readers read selectively, they did so in order to find answers to comprehension questions. While more than half of the Av group of readers used the strategy of integration, only a quarter of the Ab readers did so. The Ab students may have automatized many of their strategic reading processes to the point of lacking awareness of the steps they took to ensure comprehension. In various instances, the Ab readers nonchalantly gave incomplete answers about strategies they had been observed using.

Use of prior knowledge and predicting

Ability to utilize prior knowledge greatly influences students' ability to inference and hypothesize about the text (Jiménez et al., 1995, 1996). Rather low percentages of students used prior knowledge to make text more comprehensible, demonstrating low declarative knowledge of this strategy. The lowest performers were the LAb readers, with more than half reporting a focus on text elements only. Predicting is closely related to using prior knowledge and inferencing. Although a majority of Av and Ab students were able to predict in the think-aloud task, they could not provide strong reasons for its use. A general underutilization of these strategies reflects the lack of emphasis on inferential comprehension. Without this ability, students are not poised to meet the demands of expository material.

Noting novelty

The majority of students across all groups used this strategy primarily for noticing new vocabulary and for ensuring recognition of the main idea; few used it to note details to enhance their comprehension of the text. Other ways in which the Ab and Av readers resolved unknown vocabulary was by engaging in rereading, guessing meaning from context clues, and slowing down on difficult and unknown words.

Imaging

All three groups utilized this strategy to the same extent. Instruction on imagining was observed during the informal teacher observations and was often mentioned specifically during the interviews as being one of the strategies they were taught. It is not surprising, then, that a large percentage of LAb students reported using imagery. As expected, strategy instruction helped equalize the disparities in reading ability between the groups.

Bilingual strategies when reading in Spanish

Rather low percentages of students from all three groups utilized these strategies when reading in Spanish, their dominant language. The strategy of thinking in the language of the text sought to determine whether students consciously chose to think in their native or the second language when reading in order to enhance comprehension, or whether they chose to think in the second language in a non-strategic manner. The majority of students from all three groups indicated thinking in Spanish when reading in Spanish but were unable to provide strong reasons for doing so. In terms of translating, very few students in the three groups found the need to do so when reading in Spanish. This pattern confirms previous reports in the literature (Jiménez et al., 1995, 1996) that effective bilingual readers translate from stronger to weaker language. Moderate percentages of students reported the transfer to Spanish of information learned through the weaker language (English). The reason may be because most of their knowledge has been acquired through Spanish instruction, but it may also be related to a general low activation of prior knowledge in reading, which the students demonstrated. The Ab readers in this sample outperformed the Av and LAb groups in the use of cognates by a high margin; however, many students in all three groups were unable to explain the reasons for using cognates. Lack of explicit instruction in this area would account for low declarative knowledge.

To summarize, when reading in Spanish, the Ab and Av readers demonstrated similar patterns of strategy use and were higher than those of the LAb readers, including metacomprehension and monitoring. Nevertheless, all groups demonstrated a rather low declarative and procedural knowledge of strategies related to inferential comprehension, such as use of prior knowledge and predicting. The use of imagining and noting novelty, on the other hand, was high for all three groups. Use of strategies specific to bilingual contexts was low for all students when they read in Spanish.

Strategy Use in English Reading

If good readers are in possession of a strategic schema of reading (Carrell, 1984, 1989; Kern, 1989; Jiménez et al., 1995, 1996), these behaviors would be expected to transfer from native to second language, either at the same level or at a higher level to compensate for a lower linguistic level in English. Transfer at a lower level may indicate inability to implement strategies cross-linguistically or to strategize in L1. In terms of monolingual strategies, students

from all three groups transferred problem-solving behaviors from Spanish to English in similar percentages. This replication of strategic behaviors to English occurred with most strategies, except for selective reading, used by greater percentages in Spanish reading, and paraphrasing, which was implemented at lower levels by Av and LAb readers. The strategies of imaging, changing speed, self-questioning, paraphrasing, use of prior knowledge, and noting novelty were used at a higher level in English by one or all three groups. A notable finding about students' reading in English was that the Ab and Av groups had much higher levels of awareness of comprehension breaks than the LAb group, similarly to when they read in Spanish.

A few other patterns warrant further discussion. It may appear at first glance that the Ab readers could use imaging better in English because they had received more reading instruction through this language; however, for responses to be coded strategic, it was not sufficient to have "images come into mind." Students had to demonstrate the presence of strategic schema through use and verbalization. A greater percentage of LAb readers reported slowing down or changing speeds when reading in English to increase understanding. This maneuver indicated that the passages in English presented a greater reading challenge for them even though they were not above the instructional reading level. Another reason may have been that these students were taught to read in English more slowly and carefully. Greater percentages of students from all three groups utilized the strategy of noting novelty when reading in English. The challenge of reading text in English may have sensitized the students to anything that appeared to be novel or different.

Strategies specific to bilingual contexts (Jiménez et al., 1995) were used to a greater extent by all groups when reading in English, the weaker language, than when reading in Spanish. It was notable to find that most Ab students reported thinking in both languages or in their primary language when reading in English, in spite of having the higher levels of English oral proficiency. The Av readers leaned toward thinking in their primary language. The majority of LAb readers, on the other hand, reported thinking in English or in both languages when reading in English. Since they had the lowest level of oral English proficiency, they demonstrated the lowest engagement in mental bridging activities from stronger language. As for the use of translating, the trend was for the three groups to translate from stronger to weaker language. Interestingly, the Ab readers translated more than the others when reading in English, suggesting that Ab readers display a strategic bilingual schema mentioned in the literature (Jiménez et al., 1995). All three groups transferred prior knowledge from Spanish to English at a higher level than from English to Spanish, specially the Av and LAb readers. Much higher percentages of students from the three groups resorted to the use of cognates to help improve comprehension when reading in English, indicating the dominance and more extensive knowledge of the Spanish language than the English language for

Table 1

Percentages of Students Utilizing Strategies at Level 2 in Spanish and English

Strategy	Able Readers (n = 20)		Average Readers (n = 14)		Less-Able Readers (n = 16)	
	Spanish	English	Spanish	English	Spanish	English
Rereading	55%	55%	57%	65%	19%	20%
Selective Reading	35%	20%	22%	28%	12%	0%
Imaging	50%	65%	57%	57%	44%	40%
Changing Speeds or Slowing Down	50%	50%	58%	65%	19%	46%
Using Prior Knowledge	35%	35%	21%	43%	6%	48%
Integrating Text Passages	25%	10%	50%	50%	19%	6%
Noting Novelty or Salient Details	40%	85%	29%	79%	38%	53%
Paraphrasing	65%	65%	49%	36%	31%	20%
Predicting	50%	30%	35%	36%	25%	35%
Self-Questioning	30%	45%	43%	22%	25%	33%
Paying Close Attention or Concentrating	40%	33%	29%	31%	18%	20%
Bilingual's Thinking in Language of Text	30%	5%	50%	7%	6%	7%
Translating	10%	50%	28%	15%	6%	33%
Transferring Knowledge	30%	35%	21%	43%	21%	31%
Using Cognates	30%	40%	14%	43%	13%	19%

all three groups. Table 1 lists the percentages of students that implemented strategies in Spanish and in English, demonstrating differences in group patterns of transfer.

Role of English Oral Proficiency in Strategy Use

One question the present study sought to answer was whether, with this sample of students, the level of oral English proficiency contributed to second language strategic processes to a greater extent than the reader's strategic processes in the native language. The answer was obtained by comparing the overall strategic reading mean in Spanish reading to the overall strategic reading mean in English reading of students grouped by English oral proficiency LAS levels. The average LAS level of oral English proficiency of the Ab group was 2.7, 2.21 for the Av group, and 1.94 for the LAb readers. When the strategic averages in both languages are compared by groups' LAS levels, the overall strategic reading means goes up for all groups when they are in English reading. The Ab group improved 1.45 points, the Av by 2.11 points, and the LAb readers by 2.51 points. This group pattern indicates that all three groups strategize when reading in the second language, at the same or at a higher level, including those who had the lowest levels of English oral proficiency. The resulting pattern does not corroborate the view that strategic reading in English depends solely on the level of oral English proficiency.

To summarize, results indicate the following general findings:

1. Ab readers conceptualized reading as a meaning-gathering activity; LAb readers focused on mechanical aspects.
2. Ab and Av readers exhibited similar patterns of strategizing in Spanish and were higher than those of LAb readers. All groups exhibited rather low levels for using prior knowledge and predicting. Metacomprehension was higher for Ab readers.
3. Ab and Av readers exhibited similar strategic behaviors when reading in English and were higher than those of LAb readers. Strategy use in English by all were at the same or at higher levels than in Spanish, except for selective reading. Paraphrasing was not transferred by Av and LAb students. Bilingual strategies were used at a higher level when reading in English, the weaker language. Metacomprehension was higher for Ab readers.
4. Overall mean for strategic reading scores went up for all groups when they read in English. The group with the highest increase was the LAb group, which had the lowest levels of oral English proficiency.

Therefore, the results suggest that strategic behaviors in L2 reading do not depend solely on L2 oral proficiency and indicate that strategizing in the primary language provides a foundation for strategic L2 reading behaviors.

Recommendations and Conclusions

To develop advanced reading behaviors of bilingual students in Spanish and English, reading instruction should seek to develop a perspective of reading that involves mentalistic processes, inferential comprehension, awareness of one's own comprehension, and strategies to remove comprehension blocks. A focus on mechanics and on developing comprehension skills as procedures is too restrictive and narrow for the student to develop advanced reading abilities. A unitary view of cognitive reading processes in Spanish and English is needed to encourage cross-linguistic transfer of strategic behaviors. Reading instruction for second-language readers should integrate reading comprehension with linguistic elements rather than developing oral L2 skills first and delaying comprehension instruction. In addition, instructional implications call for the need for professional development of monolingual and bilingual teachers in new paradigms of reading focusing on strategic processes, which address the similarities in the cognitive reading processes of both languages.

Further research in experimental training studies with think-aloud task task could shed light on whether the procedure is productive in increasing metacomprehension of elementary school bilingual students. A longitudinal study of strategy transfer would help determine whether the initial strong link between native language reading and second language reading achievement holds over time or is stronger in the initial stages of L2 development.

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