



Using an Integrative Model to Study the Cognitive Competencies in Hispanic Students



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Methods

The study was conducted over eight weeks using three main instruments:

- Observations:** A total of approximately 1096 minutes of observational data was collected by the two researchers during the study.
- Interviews:** Participants were interviewed and results were used to triangulate data from observations and anecdotal notes.
- Test:** A reading and math test was administered at the end of study and used to triangulate data from observations and anecdotal notes.

Sample

- The study was conducted in two fifth grade classrooms in central Illinois.
- Twelve students from Hispanic backgrounds were purposely selected for the study.

Theoretical Framework

- The Integrative Model (Coll et al., 1996)**
 - Based on the "non-shared" experiences of minority children, emphasizing the importance of racism, prejudice, discrimination, oppression, and segregation on the development of minority children and families (Coll et al., 1996)
 - Considers social position and stratification to be at the core rather than the periphery of a theoretical formulation of children's development
- Cognitive competencies (Herrera & Murray, 2016)**
 - Based on two components: cognitive academic language learning and the integrated content-based method
 - Measured based on the five World-Class Instructional Design and Assessment (WIDA) levels

Literature Review

- Numerous studies report that Hispanic students require accommodations to develop academic competencies (Gonzalez et al., 2011, Herrera & Morales, 2009, Suarez-Orozco, 2001, Ogbu, 2003).
- This is especially true for newly arrived immigrants. These students face many challenges in school that prevent them from experiencing academic success.

Data Analysis

- Observational data and interviews were transcribed and coded into two themes: Family and School
- The test administered at the end of study was graded and results were tabulated according to the WIDA levels of competencies: 1. Entering, 2. Emerging, 3. Developing, 4. Expanding, 5. Bridging

Abstract

This study examined influences on the cognitive competencies of Hispanic students. Using the Integrative Model as a theoretical framework, this mixed-methods analysis employed observations and interviews to investigate how children's individual characteristics and family structures affected students' cognitive abilities. A reading and mathematics test was also administered to collect quantitative data on the students' academic competencies.

The observations and interviews were coded into two major themes: Family and School. The test was scored according to the WIDA competency levels.

The results suggest that students' age on arrival in the U.S., physical appearance, family values, and racial socialization were the key predictors of cognitive competencies in Hispanic students.

Research Questions

- Do children's characteristics influence cognitive competencies in Hispanic students?
- Do children's family structures and roles influence cognitive competencies in Hispanics students?

Observation Results

- Children's age upon arrival in the U.S., physical appearance, family values, and racial socialization were the predictors of cognitive competencies in Hispanics students
- Temperaments, health issues, and the socio-economic status of the family had low relationships with the cognitive competencies of the students in the study.

Family Variables:

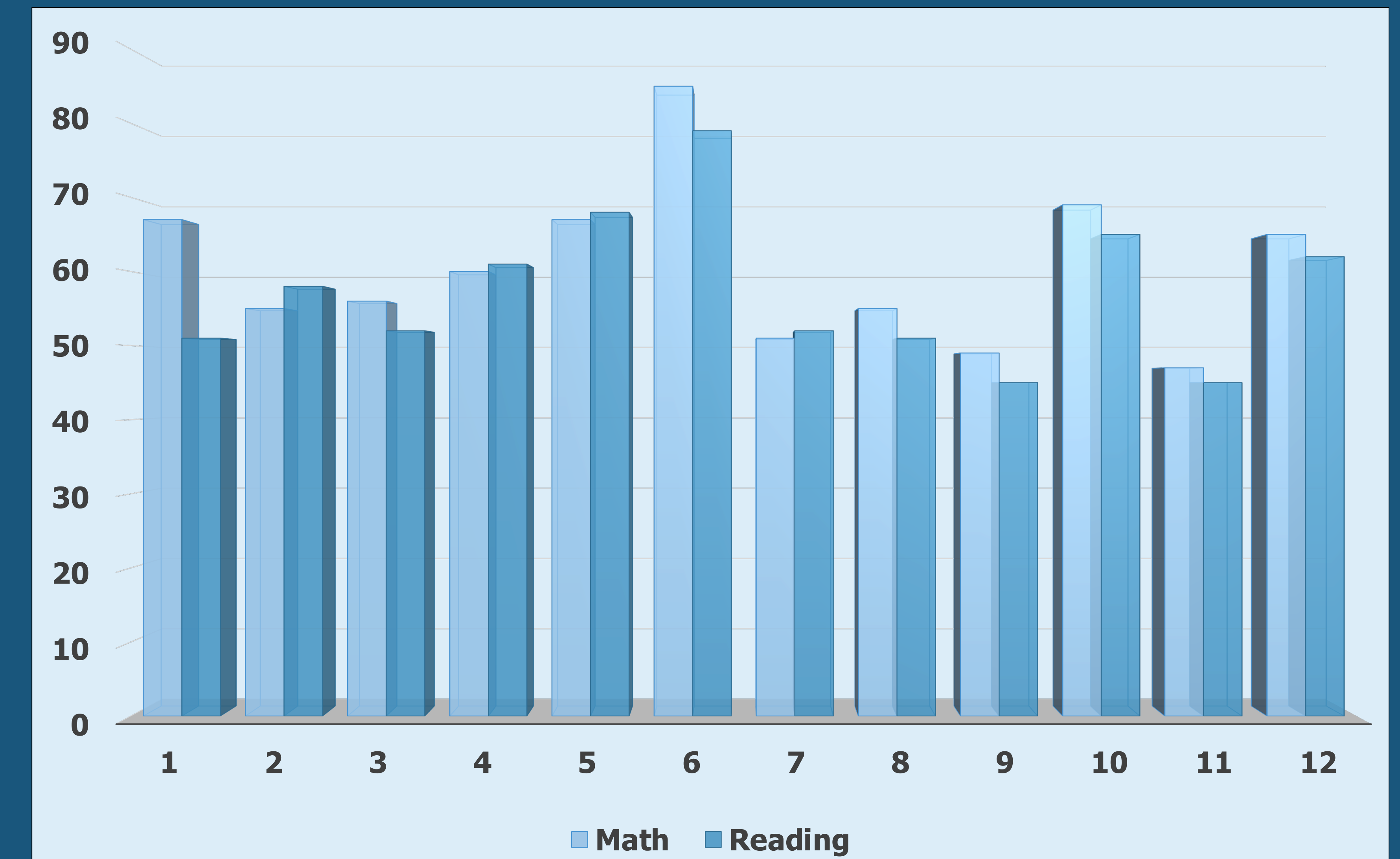
- Child-rearing practices
- Parent/community programs that helped families address school-related issues were shown to be effective in two ways:
 - Parents learned how to convey to the schools their interest in bilingual programs and other curriculums
 - Parents learned how to socialize their children to meet the expectations of the school.
- The sociocultural compatibility of classroom instruction and children's native culture patterns; compatibility could improve learning

School Variables:

- The school district or system: Organizational and instructional philosophies, policies, and procedures;
- The individual schools: School personnel and resources;
- The individual classrooms: Child, teacher, and peer characteristics and classroom structure, curriculum, and instructional strategies;
- The role of administrators and school boards: The school's policies on staffing and tracking, the extent to which the school promotes parental involvement.

Test Scores

Student #	Math	Reading
1	67	51
2	55	58
3	56	52
4	60	61
5	67	68
6	85	79
7	51	52
8	55	51
9	49	45
10	69	65
11	47	45
12	65	62
Mean	60.5	57.1
Standard Deviation	1.78	2.11



Number of Students at Each WIDA Level

WIDA Levels	Entering	Emerging	Developing	Expanding	Bridging	WIDA Score Key	
						Level	Points
Math	-	2	4	5	1	Emerging:	40 points
Reading	2	2	4	4	-	Developing:	50 points
						Expanding:	60 points
						Bridging:	80 points

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