Self-Efficacy and Acculturation in Second-Generation Middle School Hispanic Students; Impact on Reading Performance

By:
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Abstract

The purpose of this study was to explore the academic performance of second-generation Hispanic middle school students as it relates to self-efficacy and acculturation. Utilizing a quantitative approach, the final objective was to uncover relationships and predictors of self-efficacy and acculturation of academic performance mediated by reading skills. The following aspects were explored as factors that may influence academic performance: (1) Self-efficacy, and (2) Acculturation as theoretical underpinnings framing the study in the context of self-perception as learners, school experiences, and cultural identity. Self-efficacy and acculturation were determined to significantly impact middle-school second-generation Hispanic children as it relates to academic achievement. Self-efficacy was a predictor of academic achievement based on reading proficiency. Educators and policy makers may be able to synthesize and implement interventions that will ease the schooling challenges experienced by students in the United States whose parents speak a language other than English at home.

Introduction

English language learners (ELLs) in the United States are categorized unidimensionally as students who speak another language at home. However, understanding the multidimensional characteristics of ELLs is essential in meeting the academic needs of these students (Abedi, 2007). Second-generation immigrants are often identified as ELL students through the Home Language Survey given at school registration based on the parents’ usage of a language other than English at home. Nevertheless, many of these students are fluent English speakers based on standardized oral language tests. These second-generation Hispanics straddle two cultures; home and host culture. The dichotomy may cause social dilemmas with the potential for educational underperformance (Kramer, 2010). Concurrently, academic underperformance may be symptomatic of the students’ self-perception as learners. These dilemmas may influence school experiences and learning resilience, leading to chronic academic underperformance (Dweck, 2008). Ultimately, it behooves educators and policy makers to synthesize plausible causes and interventions to increase the academic performance of the second-generation immigrants in the United States for the welfare of these students, and the collective welfare of the nation.

To meet the challenges of the immigrant student population of immigrant, the educational community must begin to examine ways to increase academic achievement at the outset, with the outcome of increased graduation rates in high school and college. Few studies have focused on middle school as the genesis of school dropout and the interplay of factors that Hispanic students contend with in the educational process, potentially erecting barriers to academic achievement (Brown & Rodriguez, 2009). Fewer studies have connected self-efficacy of Hispanic students to acculturation in the crucible of middle school as potential barriers. Hence, the purpose of the study will be to discover effects of self-efficacy and acculturation as factors influencing academic achievement, mediated by reading scores in middle school second-generation Hispanics.
The independent variables of the study are self-efficacy and acculturation. Self-efficacy is students’ inner beliefs that shape their psychological worlds; thoughts, feelings, and behaviors, as the conduit through which students evidence their academic capabilities and performance (Dweck, 2008). Acculturation is defined as the process of accommodating new linguistic, social, behavioral or ritual values in a new culture (Kramer, 2010). The dependent variable is the 2013 reading Florida Comprehensive Assessment Test (FCAT) reading scores as mediating factor in overall academic performance (Lesnik, George, Smithgall, & Gwynne, 2010).

To discover effects of self-efficacy and acculturation as predictive factors related to academic achievement, mediated by reading scores in middle school second-generation Hispanics, within a quantitative, correlational design. A quantitative approach will yield numeric data to reflect possible effects of self-efficacy and acculturation on reading achievement. The sampling is purposeful using the available population, and the design is quasi-experimental with a non-randomized sampling. The independent variables are self-efficacy and acculturation scales, and the dependent variable is standardized Florida Comprehensive Assessment Test (FCAT) reading scores for one year.

**Methods**

Four research questions were used in the study:
1. What are the effects on the Florida Comprehensive Assessment Test (FCAT) reading scores based on self-efficacy of second-generation middle school Hispanic students?
2. What are the effects on the Florida Comprehensive Assessment Test (FCAT) reading scores based on acculturation of second-generation middle school Hispanic students?
3. How is self-efficacy a predictor of academic achievement based on reading proficiency in second-generation middle school Hispanic students?
4. How is acculturation a predictor of academic achievement based on reading proficiency on second-generation middle school Hispanic students?

Only students from Hispanic ancestry were included in the sampling. The sampling was not stratified by age, grade, gender, socio-economic status, or reading scores. The sample size was 104 students in seventh and eighth grade at a site on the west coast of Florida with an enrollment of approximately 995 students. Two criteria were utilized: 1) the middle school students be born into Hispanic families, and 2) the students have attended a school in this country from the second grade based on the entry date on the ESOL roster. The rationale for the second grade cut-off is based on studies suggesting that reading fluency by the third grade is a predictor of academic achievement in later years, and a predictor of high school graduation and college attendance operating through eighth- and ninth-grade academic performance (Bandeira de Mello, Blankenship, & McLaughlin, 2009; Klassen & Kuzucu, 2009).

**The Questionnaires**

Self-efficacy instrument. The General Self-efficacy Scale (GSE) was used as a measurement instrument (Schwarzer & Jerusalem, 1995). The scale assesses perceived self-efficacy to predict coping with daily challenges and stress in school while engaging in learning tasks (Schwarzer & Jerusalem, 1995). The 10-item Schwarzer and Jerusalem (1995) self-efficacy scale is averaged across two broad learning domains, the first three items address the ability to tackle, complete, and enjoy routine school work in situ, and the rest of the scale
addressed the creativity, confidence, and emotional strength needed to manage novel challenging work. The latter domain surveys students’ three crucial mental and emotional constructs; creativity in finding ways to tackle and conquer complex assignments, emotional resilience in managing frustration when faced with difficult and ambiguous concepts, and self-regulation and organization in tackling challenging assignments (Schwarzer & Jerusalem, 1995). The survey was administered in groups or individually, with the responses self-reported. Scoring is a sum of five points per item, with a composite total of all ten items from lower to higher acculturation measured from 10-50. An example of an item is, “I can manage to complete a school task if I try hard enough.” Responses are given in a five-point Likert scale with 5 = Strongly agree; 4 = Agree; 3 = Neutral; 2 = Disagree; 1 = Strongly disagree.

**Acculturation instrument.** The Short Acculturation Scale for Hispanics (SASH) is routinely used to identify Hispanics who are low or high in acculturation based on linguistic preference (Marín, Sabogal, VanOss, Marín, Otero-Sabogal, & Pérez-Stable, 1987). The instrument includes 12 items, modified to ten without validity or reliability threats (Marin, et al., 1987), relate to three factors: (a) Language Use (b) Media, and (c) Social Relations (Marin, et al., 1987). The ten-item survey on a Likert scale has responses in such a format: 5 = English only; 4 = More English than Spanish; 3 = Both; 2 = More Spanish than English; 1 = English only. This scale correlates highly with the following validation criteria: length of residence in the U.S, ethnic self-identification, and acculturation index (Marin, et al., 1987). Item examples are, “I speak in Spanish at home.” English and Spanish versions are found in the original report (Marín, et al., 1987). However, because the study focuses on fluent English speakers, some with English dominance, the Spanish version will not be used. The Marin scale (Marin, et al, 1987) measures bidimensionally acculturation because it not only quizzes language use but also linguistic social interactions. Reliability analysis indicated that the coefficient alpha is Coefficient alpha = 0.92 (Marin et al., 1987).

**Reading FCAT DSS Scores**

Florida Comprehensive Assessment Test (FCAT, 2012) reading, and writing standardized reading tests are reliable and valid. The test is scored on five levels with level three set as proficient reader and writer. The five levels are measured by Developmental Scales Scores (DSS) in the following ranges: Level 1 (167-206); Level 2 (207-236); Level 3 (222-236); Level 4 (237-251); and Level 5 (252-283). The DDS data was used as reading scores because it gave a finer cut to the data range, instead of the Level 1-5 range.

**Data Analysis**

Nominal data was gathered using the General Self-efficacy Scale (GSE), and the Short Acculturation Scale for Hispanics (SASH) as measurement instruments. The surveys were analyzed quantitatively through Statistical Program for Social Sciences for Windows, version 21.0.0 (IBM-SPSS, 2012) to determine correlations and effects between self-efficacy, acculturation, and academic achievement mediated by reading performance.

Pearson correlations were conducted to uncover correlations between students’ perceived self-efficacy, acculturation, and reading performance. Multiple regression tests were run to predict acculturation and self-efficacy effects on academic achievement mediated through reading performance. Alpha was set at p=<.05.
**Results**

Before correlation coefficients were calculated and a multiple regression analysis conducted, the data was first examined for outliers and the extent to which they meet the assumptions of each procedure.

Demographics of the participants identified a higher percentage of males to females in the study with slightly more participants in 7th grade.

<table>
<thead>
<tr>
<th>Table 1. Demographic Characteristics of Participants.</th>
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<tbody>
<tr>
<td><strong>Demographic Characteristics of Participants (N = 104)</strong></td>
</tr>
<tr>
<td>Characteristic</td>
</tr>
<tr>
<td>Grade</td>
</tr>
<tr>
<td>7th</td>
</tr>
<tr>
<td>8th</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Boys</td>
</tr>
<tr>
<td>Girls</td>
</tr>
</tbody>
</table>

A mean of 37.67 for self-efficacy and 34.07 for acculturation represent the average of a possible 50 points with a range from 0-50, with 50 representing the highest levels of self-efficacy and acculturation. FCAT reading scores range from 162 to 283, with 222 set as proficiency reading levels.

Overall, the eighth graders had a higher average level of self-efficacy, achieved a higher average degree of acculturation, and higher average on the reading section of FCAT than the seventh graders. Boys had a higher average acculturation than girls who had a higher average level of self-efficacy and scored on average higher on FCAT reading scores.

<table>
<thead>
<tr>
<th>Table 2. Participant Characteristics.</th>
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<tbody>
<tr>
<td><strong>Participant Characteristics (N = 104)</strong></td>
</tr>
<tr>
<td>Characteristic</td>
</tr>
<tr>
<td>Self-efficacy</td>
</tr>
<tr>
<td>Acculturation</td>
</tr>
<tr>
<td>FCAT Reading Equivalent Score (DSS)</td>
</tr>
</tbody>
</table>

Table 3 and Table 4 show the results by grade level and gender. Overall, the eighth graders had a higher average level of self-efficacy, achieved a higher average degree of acculturation, and scored on average higher on the reading section of FCAT than the seventh graders. Boys had a higher average acculturation compared to girls who had a higher average level of self-efficacy and scored on average higher on FCAT reading scores.

Table 3. Means With Confidence Intervals and Standard Deviations of Seventh and Eighth Graders’ Self-Efficacy, Acculturation, and FCAT Reading Scores
<table>
<thead>
<tr>
<th>Variable</th>
<th>Seventh graders(^a)</th>
<th>Eighth graders(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95% CI</td>
<td>95% CI</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>[35.7, 39.2]</td>
<td>[36.1, 39.7]</td>
</tr>
<tr>
<td>Acculturation</td>
<td>[30.9, 33.5]</td>
<td>[34.0, 38.1]</td>
</tr>
<tr>
<td>FCAT Reading Equivalent Score</td>
<td>[217.7, 225.3]</td>
<td>[226.5, 236.7]</td>
</tr>
</tbody>
</table>

*Note. CI = Confidence interval. \(^a\)n = 53. \(^b\)n = 51.*

**Table 4**

*Means With Confidence Intervals and Standard Deviations of Self-Efficacy, Acculturation, and FCAT Reading Scores in Boys and Girls*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Boys(^a)</th>
<th>Girls(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95% CI</td>
<td>95% CI</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>[35.0, 38.5]</td>
<td>[37.1, 40.5]</td>
</tr>
<tr>
<td>Acculturation</td>
<td>[33.0, 36.3]</td>
<td>[31.4, 35.3]</td>
</tr>
<tr>
<td>FCAT Reading Equivalent Score</td>
<td>[221.3, 229.0]</td>
<td>[222.5, 233.8]</td>
</tr>
</tbody>
</table>

*Note. CI = Confidence interval. \(^a\)n = 58. \(^b\)n = 46.*

**Normality**

Because both correlation analysis and linear regression require that the normality assumption be met, the data were examined for normality. The distribution of the variables was analyzed graphically as well as numerically. Figure 1 shows a histogram and a normal probability plot for self-efficacy. In the histogram, the data appear to be normally distributed. With the exception of some of the lower scores, the values in the normal probability plot appear to align reasonably close to the straight line.
Self-efficacy had a skewness value of −.767 and a kurtosis value of .875, indicating that self-efficacy is negatively skewed and leptokurtic. Meyer, Gamst, and Guarino (2013) view values within the ±1.00 range as acceptable. Both values for self-efficacy are within the acceptable range. In conjunction with its skewness and kurtosis values and an inspection of its histogram, it was concluded that self-efficacy was distributed in an approximately normal manner and meets the normality assumption of the subsequent bivariate and multivariate procedures.

Figure 1. Histogram and normal probability plot for Self-efficacy.

Figure 2 shows a histogram and a normal probability plot for acculturation. In the histogram, the data’s distribution approximately resembles the bell shape of a normal distribution. With the exception of one outlier, all points in the normal probability plot are reasonably close to the diagonal line.
In conjunction with its skewness and kurtosis values and an inspection of its histogram, this researcher concluded that acculturation is distributed in an approximately normal manner and meets the normality assumption of the subsequent bivariate and multivariate procedures.

Figure 3 represents a histogram and a normal probability plot for the FCAT Reading Equivalent Scores. The histogram shows an approximately normal, albeit noticeably leptokurtic, distribution, and the points in the normal probability plot appear reasonably close to the diagonal line.
Figure 3. Histogram and normal probability plot for FCAT Equivalent Scores (DSS).

IBM SPSS reported a skewness value of .571 and a kurtosis value of 1.231, indicating that the distribution of the FCAT reading scores in the sample is positively skewed and, as can be seen in the histogram, leptokurtic. Although the skewness value was within the acceptable range of ±1.00, the kurtosis value fell outside the range of ±1.00 that was recommended by Meyer et al. (2013) as a guideline. To further examine the normality of the distribution of the reading scores, two tests were conducted to test the null hypothesis that the distribution of the reading scores is normal. Both the Kolmogorov-Smirnov test ($p = .161$) and the Shapiro-Wilk test ($p = .073$) returned statistically insignificant results, thus failing to reject the null. In conjunction with its skewness and kurtosis values and an inspection of its histogram, this researcher concluded that the FCAT reading scores are distributed in an approximately normal manner and meet the normality assumption of the subsequent bivariate and multivariate procedures.

### Self-efficacy and Acculturation Effects on Reading Performance

Addressing research questions one and two:

1. What are the effects on the FCAT reading scores based on self-efficacy of second-generation middle school Hispanic students?
2. What are the effects on the FCAT reading scores based on acculturation of second-generation middle school Hispanic students?

### Pearson Correlation

Because the first two research questions concerned the correlation between self-efficacy and acculturation on FCAT reading scores, each pair of variables were examined graphically. Then, a Pearson product moment correlation coefficient was calculated to test the null hypothesis that there would be no statistically significant correlation between each pair of variables. SPSS provided a Pearson correlation coefficient of $r = .236$ for the two variables. The coefficient was statistically significant ($p = .016$) when tested against a two-tailed alternative at the 5% level. The null was rejected. Next, the relationship between acculturation and FCAT equivalent scores was examined.

SPSS returned a Pearson correlation coefficient of $r = .204$ for the two variables. The coefficient was statistically significant ($p = .038$) when tested against a two-tailed alternative at the 5% level.

Statistical results indicate there was a significant effect of self-efficacy and acculturation on reading performance. The null was rejected.

Because the gap between each pair of cumulative frequencies appeared systematic and possibly significant, two dummy variables, gender and grade, were deemed appropriate, and thus, were included. The correlations of the variables self-efficacy, acculturation, and FCAT reading scores are displayed in the correlation model in Table 5.
### Table 5. Means, Standard Deviations, and Intercorrelations for FCAT Reading Equivalent Scores and Predictor Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCAT Reading DDS Scores</td>
<td>226.46</td>
<td>16.74</td>
<td>.24**</td>
<td>.20*</td>
<td>-.09</td>
<td>.30**</td>
</tr>
<tr>
<td>Predictor variable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Self-efficacy</td>
<td>37.67</td>
<td>6.29</td>
<td>—</td>
<td>.07</td>
<td>-.16*</td>
<td>.04</td>
</tr>
<tr>
<td>2. Acculturation</td>
<td>34.07</td>
<td>6.43</td>
<td>—</td>
<td>.10</td>
<td>.30**</td>
<td></td>
</tr>
<tr>
<td>3. Gender (0 = girl, 1 = boy)</td>
<td>0.56</td>
<td>0.50</td>
<td>—</td>
<td>—</td>
<td>-.02</td>
<td></td>
</tr>
<tr>
<td>4. Grade level (0 = seventh grade, 1 = eighth grade)</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05, **p < .01, ***p < .001.

**Note.** Correlation coefficients for variables 3 and 4 are point-biserial Pearson coefficients.

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**Regression Assumptions**

Regression assumes: (a) the relationship between the dependent variable and each of the continuous independent variables is linear, (b) the error terms exhibit constant variance (homoscedasticity), and (c) the error terms are independent and normally distributed. After the regression model was estimated, analyses were performed to ensure each of the assumptions was met.

**Normality.** The assumption of normality checked with a visual examination of the normal probability plots of the regression residuals in Figure 4. The residuals fell along the diagonal with no systematic or substantial departures, indicating a normal distribution in the regression variate. Overall, all assumptions of the regression model were met, lending the regression model a reasonable degree of reliability and interpretability.
**Figure 4.** Normal probability plot and histogram of the standardized residuals.

**Regression Results**

The results of the estimated regression model are presented in Table 6.
Regression Analysis Summary for Variables Predicting FCAT Reading Equivalent Scores of Seventh and Eighth Graders

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy</td>
<td>0.56</td>
<td>0.25</td>
<td>.21</td>
<td>2.22</td>
<td>.029</td>
</tr>
<tr>
<td>Acculturation</td>
<td>0.31</td>
<td>0.25</td>
<td>.12</td>
<td>1.21</td>
<td>.228</td>
</tr>
<tr>
<td>Gender (boy)</td>
<td>-2.07</td>
<td>3.16</td>
<td>-.06</td>
<td>-0.65</td>
<td>.515</td>
</tr>
<tr>
<td>Grade level (eighth grader)</td>
<td>8.58</td>
<td>3.23</td>
<td>.26</td>
<td>2.66</td>
<td>.009</td>
</tr>
</tbody>
</table>

Note. $R^2 = .16$ ($N = 104$, $p = .002$).

Thus, the estimated regression model was:

$$FCAT_{read} = 191.99 + 0.56\text{self efficacy} + 0.31\text{acculturation} - 2.07\text{boy} + 8.58\text{eighth grade}$$

Self-efficacy, acculturation, gender, and grade level were used in a standard regression analysis to predict FCAT reading equivalent scores of seventh and eighth graders. The prediction model was statistically significant, $F(4, 99) = 4.589$, $p = .002$, and accounted for approximately 16% of the variance of FCAT reading equivalent scores ($R^2 = .16$, Adjusted $R^2 = .122$). FCAT reading equivalent scores were primarily predicted by self-efficacy, acculturation, and grade level, and to a lesser degree by gender. The marginal effects of self-efficacy and grade level were statistically significant at an alpha of .05. Therefore, the null hypothesis, that self-efficacy would have no statistically significant effect on FCAT reading scores, was rejected.

Because the marginal effect of acculturation on FCAT reading scores was not statistically significant at the 5% level, the null hypothesis was retained; there would be no statistically significant effect on FCAT reading scores by acculturation.

Summary of Research Questions and Hypotheses

Research question 1 was: What are the effects on the FCAT reading scores based on self-efficacy of second-generation middle school Hispanic students?

H10: There will be no statistically significant effects on the FCAT reading scores based on self-efficacy of second-generation middle school Hispanic students.

There were statistically significant effects on the FCAT reading scores based on self-efficacy of second-generation middle school Hispanic students. The null hypothesis was rejected.

Research question 2 was: What are the effects on the FCAT reading scores based on acculturation of second-generation middle school Hispanic students?

H20: There will be no statistically significant effects on the FCAT reading scores based on acculturation of second-generation middle school Hispanic students.
There were statistically significant effects on the FCAT reading scores based on acculturation of second-generation middle school Hispanic students. The null hypothesis was rejected.

Research question 3 was: How is self-efficacy a predictor of academic achievement based on reading proficiency in second-generation middle school Hispanic students?

H30: Self-efficacy will not be a predictor of FCAT reading scores of second-generation middle school Hispanic students.

The prediction model was statistically significant. Self-efficacy was a predictor of academic achievement based on reading proficiency. The null hypothesis was rejected.

Research question 4 was: How is acculturation a predictor of academic achievement based on reading proficiency on second-generation middle school Hispanic students?

H40: Acculturation will not be a predictor of FCAT reading scores of second-generation middle school Hispanic students.

Because the marginal effect of acculturation on FCAT reading scores was not statistically significant at the 5% level, the null hypothesis was retained.

**Discussion of the Results**

In support of previous studies on the tandem connection between self-efficacy and academic performance (Abara & Lokena, 2010; Bandura, 1997; Dweck, 2008), this study yielded results to further support the original hypothesis that self-efficacy would be a correlate and in the regression model a predictor of reading performance. Acculturation also proved to be a significant correlate in reading performance, albeit weak, supporting previous studies that suggested cultural adaptation enhances school experiences and leads to increased academic performance (Berry, Phinney, Sam & Vedder, 2006; Kramer, 2010).

**Self-efficacy.** Although the 10-item GES (Schwarzer & Jerusalem, 1995) is usually averaged across two broad learning domains, the first three items addressed the ability to tackle, complete, and enjoy routine school assignments, with the rest of the scale addressing student mental constructs such as creativity, confidence, and emotional strength needed to manage novel challenging work. The three constructs were creativity in finding ways to tackle and conquer complex assignments, emotional resilience and confidence in managing frustration when faced with difficult and ambiguous concepts, and self-regulation and organization in tackling challenging assignments, all of which are essential in succeeding academically (Schwarzer & Jerusalem, 1995). Because the scale focused on mental constructs in facing learning challenges in seven out of the 10 items, the results were weighted toward mental construct items; thus, higher scores translated into greater creativity, managing emotions during learning, and self-regulation and organization. Thus, self-efficacy played an apparent role in the students’ high reading scores. On analyzing the data, it became apparent the students with the lowest levels of self-efficacy scored low on the creativity, confidence, and emotional strength needed to manage novel challenging work, although their scores on the first three items that addressed the ability to tackle, complete, and enjoy routine school assignments were not low. This may be based on the premise that the students in this study used creativity, confidence, and emotional strength to help
synthesize and evaluate abstract concepts, and to manage complex emotions such as frustration when facing novel challenges. This supports research by Abara and Lokena (2010).

Conversely, some participants had higher scores on the first three items but revealed higher scores in the creativity, confidence, and emotional strength needed to manage novel challenging work items. These factors seem to indicate merely tackling, completing, and enjoying a simple task are not the greatest influencers of academic performance, as the levels of creativity, emotional resilience, and self-regulation may be the greatest predictors and correlates of academic achievement. Performing academic tasks transacted at the level of evaluation and synthesis of complex concepts at the critical thinking level demonstrates the highest level of learning, corroborating the premise that learning occurs at the synthesis and creativity level where students take risks in coming up with novel concepts. This is supported by Bloom’s revised taxonomy (Anderson & Krathwohl, 2000).

As it relates to this sample of students, the students with the highest FCAT scores were better readers at the level of evaluating, inferring, and making complex connections during reading. This is to be expected because proficient readers can make connections between words in the text to form abstract concepts and mental pictures and make connections between what they read and life’s experiences to synthesize a new idea. Proficient readers can draw conclusions and infer from a text, and engage in comparing and contrasting during reading. Other skills, such as predicting events in a text, discriminating between main ideas and supporting details, and retelling information from text in summarized form are indications of complex thinking during the process of reading. Therefore, the study corroborated the connection between critical thinking during reading and high reading performance.

**Acculturation.** Even though the literature on acculturation and academic performance points to strong connections between language use and reading performance (Berry et al., 2006; Bridgeland, Balfanz, More & Friant, 2010; Cabrera, 2008), this study found no statistically significant results in the regression model; thus, in the regression model acculturation was not a predictor of reading performance. However, there was a statistically significant, although weak, positive correlation between acculturation and reading performance.

Acculturation correlated positively with reading performance, although the marginal effect of acculturation on FCAT reading scores was not statistically significant in the regression model. The first three items address the domain of the main language used in basic interpersonal interactions at school and with family members. The rest of the items address language used in social and social media interactions.

Acculturation measures that focus only on basic interpersonal language use; it does not measure students’ cognitive language proficiency, failing to give an accurate measure of how a students perform on a standardized reading test. The survey was used with the assumption that English interpersonal language proficiency is the currency used to negotiate meaning. Because the participants had attended school in the United States since before the third grade, they were proficient in interpersonal English language use for everyday communication and school interactions, interacting bilingually in home and school settings. However, the scale did not measure students’ ability to negotiate language in academic settings. Thus, the acculturation variable proved to have a weak positive correlation with reading performance and failed to be a
statistically significant predictor in the regression model. The available acculturation instruments, although appropriate for a correlation study, do not survey the crucial difference between the two domains; interpersonal and academic of language use.

Because linguistic acculturation scales failed to reveal significant findings it may be inferred that other variables, such as academic language proficiency, engaging in sustained reading outside school, homework supervision from parents, and teachers skilled at teaching bilingual students, may be of influence in reading performance. Other factors affecting acculturation may be academically based, with the possibility that factors such as feeling accepted in school by teachers and peers, comfort with one’s own culture, anxiety caused by living in two worlds (i.e., home and school cultures), and attitudes toward the host culture may play an indirect role in Hispanic students’ academic achievement.

**Implications**

The common ground among educators and policy makers is that reading proficiency is the foundation of academic achievement (Chapman & Tunmer, 2011). Because Hispanics are among the least educated ethnic group with research suggesting Hispanic youth begin schooling with handicaps such as weak literacy skills (Bridgeland et al., 2010), educational programs should address these handicaps through early interventions at the start of the students’ schooling.

**Research-based Teacher Training**

Because federal and state agencies can draw from many funding sources to conduct exhaustive research and outline research-based initiatives for the effective teaching of specific populations, it is important that federal and state education departments become proactive in funding research on how to increase academic and cognitive skills in Hispanic students. Hitherto, federal and state teacher training programs have placed heavy emphasis on pedagogical teaching methodologies and teacher behaviors as a means to increase student achievement. However, based on the findings, teacher training institutions and education courses must provide a greater knowledge base to teachers on cognitive and affective processes that promote learning in students, such as self-efficacy and acculturation.

**Early Literacy**

Hispanic children enter elementary school with gaps in vocabulary and beginning literacy in the English language. Oral language adaptation from Spanish to English is one of the most challenging facets of acculturation. This lack of oral language sets these students back compared to their peers who begin reading with oral language in place.

One way to address the lack of early literacy skills is for federal and state departments to provide funding for early childhood education centers staffed with personnel trained in teaching children who enter pre-K without oral English language. This is supported by data reported by the Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 (ECLS-K, Pew Hispanic Center, 2012), which studied the effects of different types of pre-K literacy interventions. Once again, the constant in improving the academic achievement of Hispanic students is addressing higher order cognition and metacognition (i.e., thinking about learning). Thus, an implication for the profession is to address the language and literacy needs of Hispanic students early with preschool and pre-K programs.
Professional Practice

Because self-efficacy proved to be a predictor of reading performance in the regression model and self-efficacy and acculturation correlated with reading performance, it is important that educational practitioners devote instructional time to develop self-efficacy systematically and explicitly, and tend to acculturation challenges in Hispanic students.

Self-efficacy is not a fixed outcome but can be increased, nurtured, and strengthened by teachers through consistent application of the four primary sources of self-efficacy. These primary sources are mastery experiences (i.e., the more they practice, the more they improve); modeling (i.e., the more shown them, the better they learn, and the better chance of comprehension); social persuasion (i.e., if told they can do it, maybe they can); and managing physiological arousal (i.e., relax before this test). As proposed by Bandura (1997), internal and mental workings in the student are the genesis of the learning trajectory, and with repeated successful episodes following mastery experiences in learning, students’ confidence increases.

Instructional and Metacognitive Practices

Instructional practices and schools that foster self-efficacy and build cultural identity in Hispanics include affirming the reality that a student can function well socially and academically in two cultures. This can be done by:

- Teaching using metacognitive modeling (i.e., discussing what is happening in the mind of the student during learning) by the teacher voicing and framing thoughts are effective ways of increasing confidence in tackling learning. Giving students the opportunity to think about what they will do or learn, how they think the new information will help them, how this information could be important (or not) for their lives, and how they can prepare to receive the new information are ways for students to own their learning experience.
- Providing opportunities for small group instruction so teachers can get a personalized sense of how students are thinking and feeling, and allowing teachers to get to know their students not as impersonal scores on a standardized test, but as individuals with rich experiences to share. Small group instruction and cooperative learning facilitate communication, particularly when the academic tasks call for creativity and problem solving. In addition, small group interaction, especially of heterogeneous student ability, lowers learning anxiety and is a safe place for Hispanic students to take risks in communicating opinions, increase thinking in complex manner, and express opinions.
- Building background knowledge without assumptions of what students should know by connecting content with existing knowledge and real life situations and cultural experiences. Allowing students to share their cultural experiences and information about their country of origin in small groups or whole class affirms their ancestry and may reduce peer opinion anxiety.

In the end, the biggest challenge in the implementation of new practices concerning Hispanic students is to allow enough time for the profession to put into practice new approaches to teaching these students as delineated above. Likewise, building sufficient rapport with Hispanic families and strong school-home connections is an endeavor that requires time before
these families feel part of the school community. In this regard, educators must be prepared to allow time for the initiatives to yield desired results.

REFERENCES


