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Student English Self Perceptions: Summary of Survey Responses from the Laying the Foundation Program

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ABSTRACT

Long-term persistence in STEM fields depends on students acquiring a solid foundation in math and science. Math and science achievement alone, however, does not fully account for the low persistence often seen in STEM fields. Research suggests that other factors such as students' self-perceptions can influence persistence in STEM fields. This study explored English self-perceptions of eighth and tenth graders enrolled in English. Teachers of these students participated in the Laying the Foundation (LTF) professional development program. Findings are consistent with other research which suggests that there is a relationship between student self-perceptions and interest in English.



INTRODUCTION

The underlying goals of this project were to continue the collaboration between the Alabama State Department of Education (ALSDE), the National Math + Science Initiative (NMSI) and A+ College Ready to assess the impact of Laying The Foundation-infused courses on student achievement as measured by ACT's ASPIRE assessments. The study focused on student outcomes in mathematics and ELA in grades 8 and 10, and science in grade 8 in the 51 schools.

In 2015-2016 a new cohort of teachers (Cohort VIII) joined 118 Alabama high schools in the ALSDE/A+ College Ready Program (using the Laying the Foundation lessons). The LTF initiative includes comprehensive teacher training and student support to boost enrollment and success in Advanced Placement (AP[®]) courses in mathematics, science and English, and the rigorous courses that lead up to AP. The overarching study (of which one component will be described here) was designed to explore student outcomes in the Cohort VIII schools (including feeder schools) of the LTF initiative in mathematics, English and science.

Schools invited to become ALSDE/A+ College Ready Cohort VIII Schools agreed to embrace an ambitious plan to train teachers, implement rigorous CCRS-aligned courses, establish vertical team meetings, change policies and procedures and share data to better prepare students and teachers for success in a college readiness and the AP program.

In order to gather data on implementation of the LTF curriculum we developed a set of surveys, online teacher logs as well as observation protocols. Included in these measures were a student survey designed to measure students' self-perceptions and interests. Specific versions of the surveys were created to focus on English, science and math and in this report we present descriptive analyses of the student self-perception surveys focused on perceptions about English.

The design of the self-perception survey was grounded in the expectancy-value theory of achievement motivation. This theory incorporates people's beliefs about how well they will do on the task and the extent to which they value the task (Atkinson, 1957; Eccles, Adler, Futterman, Goff, Kaczala, Meece, & Midgley, 1983; Wigfield, 1994; Wigfield & Eccles, 1992, 2000). The theory includes three interrelated constructs: ability belief, expectancy, and value. Ability belief and expectancy are both related to an individual's perceptions of how they do on a task or in a particular subject area currently (ability) or in future (expectancy). Value includes "attainment value or importance, intrinsic value, utility value or usefulness of the task and cost" (Wigfield & Eccles, 2000, p. 72). Variation in children's ability-expectancy beliefs is domain



specific (Eccles et al., 1983; Wigfield et al., 1991). For example, positive beliefs about ability beliefs and values in English are different from ability beliefs and values in art.

In studies specific to math and science, research indicates a positive association between perceived values/ability and achievement in mathematics and science (Wigfield et al., 1991), as well as participation in out-of-school mathematics and science activities (Simpkins, Davis-Kean, & Eccles, 2006), and intention to enroll in mathematics and science courses (Atwater, Wiggins, & Gardner, 1995). In other words, those students who see themselves as being good at math, or expect to do well and continue studying math, tend to have higher achievement and participation in math-related activities than those who do not see themselves so.

This particular theory of achievement-motivation informs our work through its emphasis on student beliefs about whether they can and want to learn English and whether they see themselves as having a job in the future which utilizes English-specific learning. This framework is particularly applicable to middle school students' perceptions as this is a critical time for making decisions such as which high school science courses to enroll in and in which extracurricular activities they participate (Wigfield et al., 1997).

Self-perceptions about English ability and value will also likely impact students' persistence at learning English and their choices related to career interests. Identifying and better understanding these perceptions may in turn help us successfully invite more students to learn English and consider English-related careers.

METHODOLOGY

Packages with 40 paper copies of the student surveys were mailed to participating English teachers in the fall (2015) and spring (2016). Teachers administered and returned the surveys once complete. Of the 57 teachers with signed letters of agreement, 36 teachers returned their student surveys in the fall (63%, n = 1,322 student surveys) and 29 teachers returned student surveys in the spring (51%, n = 1,030 student surveys). The number of student surveys returned per teacher ranged from 14 to 68. On average, approximately 33 surveys per teacher were returned. Thirty-six teachers requested feedback on their fall student surveys and were sent a two-page summary (Appendix A) in February 2016.

The student surveys included questions about students' English self-perceptions (such as how much they like doing English), opportunities to learn English (such as whether they explain the meaning of text) and aspirations in English (such as whether they want to take more English courses in high school). What we report in this technical report does not include all of the items



that were included in the survey or in the two-page summary given to teachers. Instead the data included in this technical report are based on the items that were selected after initial analyses. We excluded, for example, items that did not show much variation in responses or did not correlate highly with the other variables.

Self-Perceptions: The first 10 items focused on students' English self-perceptions (Table 1). Survey items were based on the expectancy-value achievement motivation theory framework (described above) which suggests that student performance and persistence are influenced by students' beliefs in their abilities and the extent to which they value the activities in which they (Atwater et al., 1995; Simpkins et al., 2006; Wigfield et al., 1991). The original items included four response options (strongly disagree, disagree, agree, strongly agree). However, due to skewed distributions, with most students selecting disagree or agree across most items (rather than the more extreme response options), we collapsed the response options from four to two. The two response options are agree (1) which included agree and strongly agree and disagree (0) which included disagree and strongly disagree. A composite score to indicate English self-perceptions was created by summing scores on these ten dichotomous items (maximum score is 10; fall: $M = 5.87$, $SD = 2.27$; spring: $M = 5.81$, $SD = 2.34$).

Opportunity to Learn: In addition to the self-perception items, the survey included items focused on students' perceived opportunities to learn (OTL) English. The OTL English items were from the PISA student questionnaire (Table 2). Similar to the rationale for dichotomizing the self-perception items, these OTL items were also collapsed to dichotomous response options (disagree, agree). A composite score which summed the dichotomous items was used to represent student-perceived opportunities to learn English (maximum score is 10; fall: $M = 4.63$, $SD = 1.93$; spring: $M = 4.70$, $SD = 1.99$).

Student Interest in English: The three items related to students' interest in English were:

- I would like to work in a career involving English
- I would like to take more English courses in high school
- I would like to study English after high school

Similar to the rationale for dichotomizing the self-perception and OTL items, these items were collapsed to dichotomous response options (disagree, agree). A composite score to indicate interest in English was created by adding scores for these three items.

Linear regression analyses were conducted to explore the relationship between perceived opportunities to learn English, English self-perceptions and interest in English.



RESULTS

Student self-perceptions were similar in the fall and spring (Table 1). Based on the composite score for student self-perceptions, females reported more positive self-perceptions in the fall, $t(1,204) = 8.40, p < .001$, and spring, $t(903) = 6.04, p < .001$. There were no differences based on ethnicity for the fall, $t(1,204) = 1.69, p = .09$. There were statistically significant differences in the spring based on ethnicity, $t(903) = 4.40, p < .001$. However, this difference is not practically significant (not-white: $M = 6.41, SD = 1.99$, white: $M = 5.61, SD = 2.42$).

Table 1. Descriptive statistics for English self-perception items.

	Fall		Spring	
	M	SD	M	SD
I am good at English.	0.83	0.37	0.84	0.37
Compared to other students in my class, I am one of the best in English.	0.41	0.49	0.43	0.50
Compared to my other school subjects, I am better at English.	0.39	0.49	0.44	0.50
I expect to do well in English this year.	0.93	0.26	0.93	0.25
I am good at learning new things in English.	0.80	0.40	0.78	0.42
What I learn in English class is useful outside of English class.	0.73	0.45	0.73	0.44
For me, being good at English is very important.	0.82	0.38	0.80	0.40
Working on English assignments is very interesting.	0.46	0.50	0.43	0.50
I really like doing the work in English class.	0.50	0.50	0.42	0.49



Student perceived opportunities to learn were similar in the fall and spring (Table 2). There were no gender or ethnicity-based differences in perceived opportunities to learn.

Table 2. Descriptive statistics for English OTL items.

	Fall		Spring	
	M	SD	M	SD
My teacher asks me to explain the meaning of a text.	0.64	0.48	0.68	0.47
My teacher asks questions that challenge me to get a better understanding of a text.	0.82	0.38	0.81	0.39
My teacher gives me enough time to think about my answers.	0.73	0.44	0.74	0.44
My teacher recommends books or authors to read.	0.51	0.50	0.52	0.50
My teacher encourages me to express my opinions about a text.	0.70	0.46	0.73	0.45
My teacher helps me relate the stories I read to my life.	0.47	0.46	0.51	0.50
My teacher shows me how the information in texts builds on what I already know.	0.76	0.43	0.71	0.45



Fewer than half of the students expressed interest in a career that required some English and wanting to take more English classes after high school (Figure 1). Percentages were similar for both surveys (fall and spring). Approximately half of students who responded to the fall or spring surveys expressed interest in wanting to take more English in high school.

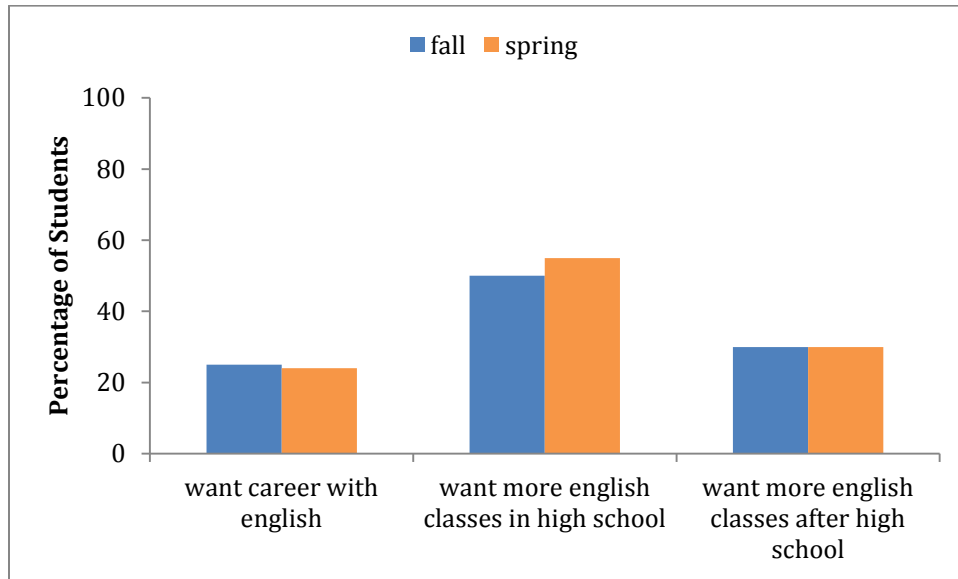


Figure 1. Self-reported student interest in English.

There were positive and significant correlations between student self-perceptions and interest in English for the fall ($r = .55$) and spring ($r = .56$) survey responses.

Regression analyses suggest that self-perceptions and opportunities to learn English relate to student interest in English (Table 3). Although these analyses do not include classroom or teacher predictors such as teacher implementation of the professional development program, these models cluster standard errors to account for the nested structure of the data.



Table 3. Summary of regression analysis predicting student interest in English based on spring data

	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Perceived opportunities	0.17	0.02	0.28**				0.04	0.02	0.08*
Self-perceptions				0.26	0.01	0.55**	0.25	0.02	0.51**
R^2	0.10			0.30			0.31		
	$F(3, 28) = 51.35^{**}$			$F(3, 28) = 118.37^{**}$			$F(4, 28) = 94.10^{**}$		

* $p < .01$. ** $p < .001$.

Additional models were run to look at the relationship for teachers with student survey data at both time points. The relationships were similar between self-perceptions and interest in English for the reduced sample of teachers. In addition, controlling for average classroom level of interest seen in the fall surveys, there was still a significant relationship in the spring between self-perceptions and interest in English.

DISCUSSION & CONCLUSIONS

Findings suggest a positive relationship between students' English self-perceptions and interest in English. Students' perceptions of themselves in English may influence whether they want to learn more English in the future and ultimately pursue careers in English.

There are several limitations of these findings. First, we were not able to link student responses in the fall and spring. Thus, while the fall and spring samples come from the same population of Alabama teachers who participate in the professional development program, the students of those teachers might change from the fall to the spring. This limits our ability to discuss growth or change between the fall and spring. To attempt to address this limitation, we ran analyses for teachers with student responses in both the fall and spring (and found similar relationships between the variables) but we do not have student-level information to compare how the same students responded in the fall and spring.

Second, we were also not able to link student responses to administrative and student outcome data. Without this information, we could not validate student reports of gender, ethnicity, or student achievement. We were not able to confirm whether students who reported a particular ethnicity are also categorized similarly in the district administrative records. We were also not able to confirm whether students who reported that they were good at English were actually



the same students who received high grades in English or who had high scores on standardized English achievement measures. In addition, we were not able to confirm how students interpreted the survey items (for example, through cognitive interviews or classroom observations). Without being able to validate the data, the self-report nature of the study data is limiting.

Finally, although we statistically adjusted for differences between classrooms, these analyses do not include classroom or teacher-level characteristics that might help explain the variation between classrooms. This is due in part to the low completion rates compared to other classroom measures (such as teacher surveys, logs, observations). This limits our ability to attribute differences in student interests to specific teacher characteristics (such as how well the teacher implemented the professional development program).

Despite these limitations, self-perceptions should be considered when trying to understand the context in which the professional development is implemented. For example, teachers who are teaching English in a classroom where a greater proportion of students report high self-perceptions in English might have a different classroom environment than teachers who are teaching English in a classroom where a larger proportion of students report low self-perceptions. Self-perceptions might have indirect relationships with important student outcomes such as achievement and persistence in STEM careers. Since teachers have influence on both learning activities and students' sense of self as a English learner, these results underscore the importance of preparing teachers to foster student desire to learn more English in the future.



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February 11, 2016

Dear Amanda,

Thank you for your participation in the study conducted by the Alabama State Department of Education (ALSDE), A+ College Ready and the National Math + Science Initiative (NMSI) to assess the impact of the Laying the Foundation lessons in your classroom.

As part of the study, you administered surveys to students in your English courses in the fall. The surveys included questions about your students’ English self-perceptions (such as how much they like doing English), their opportunities to learn English (such as how frequently they express their opinions about text) and their aspirations in English (such as whether they want to take more English courses in high school). We are in the process of analyzing data collected in the fall but wanted to provide you with brief, initial results for your students.

We averaged scores from your students’ responses across items for each of the three areas (English self-perceptions, opportunities to learn English, English aspirations). For the ten items related to English self-perceptions, students provided responses that indicated whether they strongly agree (4), agree (3), disagree (2) or strongly disagree (1) to items such as, “I am good at English” or “I like doing English.” The maximum possible score is 4 for each question.

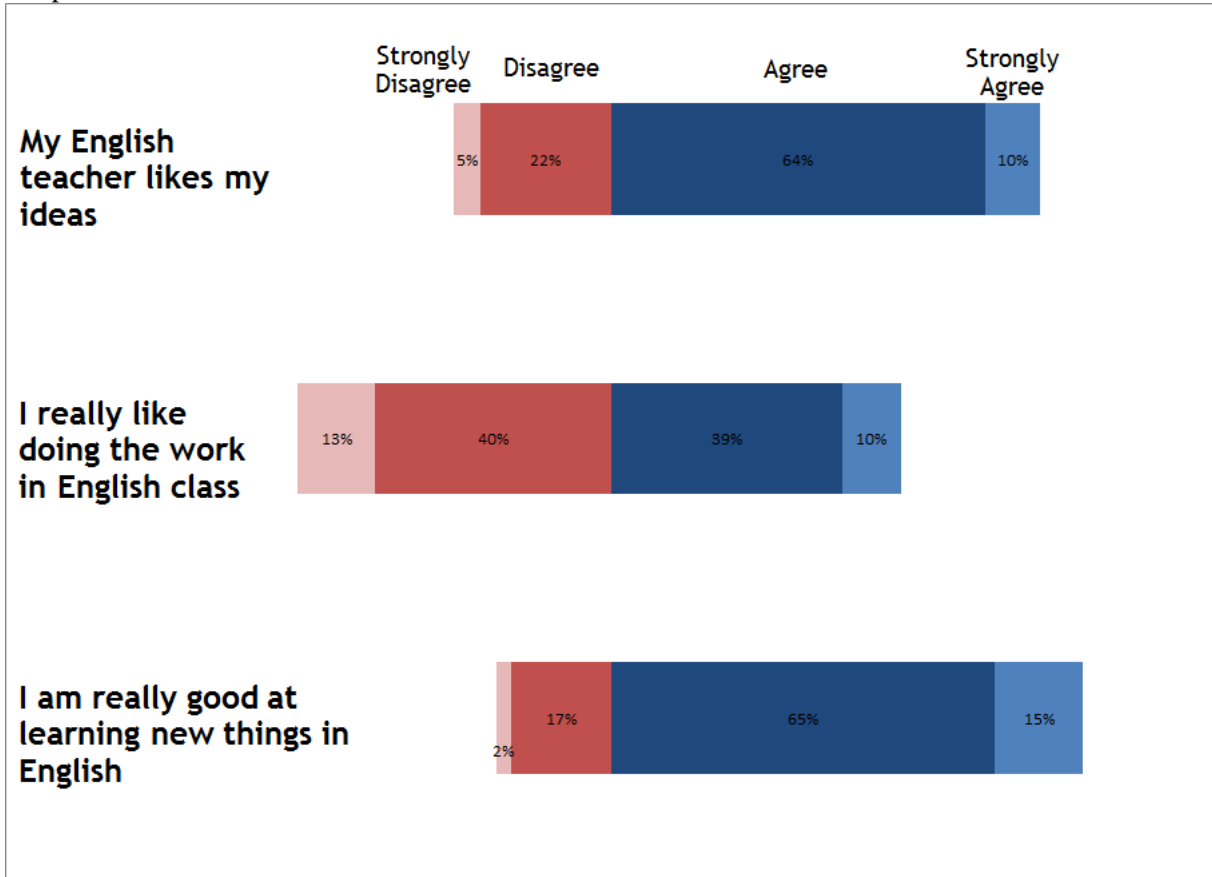
Students with higher scores indicated more positive English self-perceptions, and those with lower scores indicated less positive English self-perceptions. We calculated an average score based on student responses to all ten items. We created similar average scores for items related to the other two areas (seven items related to opportunities to learn English and three items related to English aspirations). Below is a summary table describing your average student survey responses and the overall average for all students in Alabama who completed the survey.

	<i>Your Students</i> (<i>n = 27</i>)		<i>Alabama Students</i> (<i>n = 1,326</i>)	
	<i>Mean</i>	<i>Standard Deviation¹</i>	<i>Mean</i>	<i>Standard Deviation</i>
<i>English Self-Perceptions</i>	2.65	0.565	2.76	0.49
<i>Opportunities to Learn English</i>	2.91	0.71	2.88	0.60
<i>English Aspirations</i>	1.85	0.77	2.15	0.76

¹The standard deviation is a measure of the spread of the student responses. A higher standard deviation indicates greater range in student responses. A lower standard deviation indicates less range in student responses.

English Self-Perceptions

The figure below describes how 1,326 Alabama students responded to three of the ten English self-perception items.



Relationship to Other Areas

There is a relationship between English self-perception scores and scores on the other two areas (opportunities to learn English and English aspirations). Students with more positive English self-perceptions were more likely to express interest in taking more English courses in high school and work in a career involving English. Students with less positive English self-perceptions were less likely to want to take more English courses in high school or to work in a career involving English. In addition, students with more opportunities to learn English were also more likely to express positive English self-perceptions.

The survey responses were anonymous (we could not identify how individual students responded) and will not be used to evaluate your teaching. Instead, consider this information about your students' English perceptions that could be used as another indicator to better understand your students. If you have any questions, please contact Marsha Ing (marsha.ing@ucr.edu), or Julia Phelan (julia.phelan@ucla.edu). Thank you for helping with this effort. We appreciate your assistance.

Sincerely,

Julia Phelan, Ph.D.