MEMORANDUM   July 11, 2012

TO: School Board Members

FROM: Terry B. Grier, Ed.D.
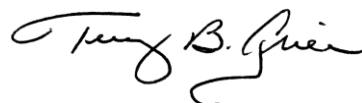   Superintendent of Schools

SUBJECT: **THE HOUSTON URBAN DEBATE LEAGUE, 2010–2011**

CONTACT: Carla Stevens, 713-556-6700

The Houston Urban Debate League (HUDL) was established in 2008 by a group of former high school and college debaters. After being granted affiliate status with the National Association for Urban Debate Leagues (NAUDL), on March 13, 2008, the Houston Independent School District (HISD) Board of Education unanimously voted to serve as a co-sponsor of a citywide debate league. The HUDL is a 503(c)(3) charitable organization that, similar to other UDLs, enters into public-private partnerships to enhance the investment of HISD in debate activities by providing financial support, mentoring, communication, and facilities that will contribute to making policy debate a mainstay in all HISD schools.

Overall, the current evaluation resulted in three main findings: (a) higher performing students may be more likely to participate in competitive policy debate; (b) after accounting for this potential selection bias, HUDL participants were more likely to have higher attendance rates, higher core course grades, and fewer disciplinary incidents than those who did not participate in debate; (c) intensity of participation in debate activities has an influence on these associations, such that students who participated in more rounds of debate had higher attendance rates, higher core course grades, and fewer disciplinary actions than those students with only marginal round participation.

Should you have any questions or require any further information, please contact me or Carla Stevens in the Department of Research and Accountability, at 713-556-6700.

_____TBG

cc: Superintendent's Direct Reports
    Chief School Officers
    School Improvement Officers
    Armando Alaniz
    Pam Evans
    Don Hernandez
    Mark Niles
    Stephen Jump

RESEARCH
Educational Program Report

HOUSTON URBAN DEBATE LEAGUE
FINDINGS RELATED TO STUDENT PERFORMANCE, 2010–2011

HOUSTON URBAN DEBATE LEAGUE
2010–2011

Executive Summary

Program Description

The mission of urban debate leagues is to make competitive debate accessible to students in urban school districts across the United States. The Houston Urban Debate League (HUDL) was established in 2008 by a group of former high school and college debaters. After being granted affiliate status with the National Association for Urban Debate Leagues (NAUDL), on March 13, 2008, the Houston Independent School District (HISD) Board of Education unanimously voted to serve as a co-sponsor of a citywide debate league (HUDL, 2009). The HUDL is a 503(c)(3) charitable organization that, similar to other UDLs, enters into public-private partnerships to enhance the investment of HISD in debate activities by providing financial support, mentoring, communication, and facilities that will contribute to making policy debate a mainstay in HISD high schools.

In May 2009, Title I stimulus funds, under the authority of the American Recovery and Reinvestment Act (ARRA), were made available to school districts. Districts then had the opportunity to allocate Title I stimulus money to specific programs. In HISD, one of these programs was HUDL. The purpose of the funding was to build, support, and sustain programs in Houston's public schools to make participation in competitive policy debate attainable to high school students in the district.

The purpose of this evaluation was to complete the assessment specified in the Title I stimulus application, submitted by HUDL. Similar to the 2009–2010 report, the 2010–2011 measures of student performance include:

- HUDL participants' course grades compared to a randomly selected group of students;

- HUDL participants compared to a randomly selected group of students in terms of attendance rates and disciplinary actions;

- How increases in HUDL participation influenced academic and professional behaviors.

Highlights

- HUDL participants in 2010–2011 were more likely to be Asian and African American and less likely to be Hispanic than the HISD random sample. No gender differences were found in the two samples in 2010–2011.

- In 2010–2011, Hispanic students had significantly higher attendance rates than African American students. The results also suggested a tendency for HUDL students to have higher attendance rates than the typical HISD student.

- African American students tended to have higher incidences of disciplinary actions than Hispanic students in 2010–2011. Furthermore, HUDL participation resulted in a decrease in the odds of receiving a disciplinary action, compared to the HISD random sample.

- In terms of 2010–2011 core course grades, females tended to have higher course grades than males. Additionally, Hispanic students had significantly lower course grades in core subjects than White students. Finally, the results indicated that HUDL participants were more likely to have higher core course grades that students from the HISD random sample.

- Among HUDL participants, the more rounds a HUDL student participated in, the more likely s/he was to have a higher attendance rate. Additionally, increased participation in debate was associated with a decrease in the odds of receiving disciplinary actions in 2010–2011. Finally, the number of rounds HUDL students participated in was positively associated with 2010–2011 core course grades.

Recommendations

1. Given its success, the HUDL program should continue to operate in HISD high schools after Title I stimulus funds have been discontinued.

2. The HUDL program is not yet offered in all of the district's high schools. In light of the positive outcomes associated with participation in the HUDL program, the program should be extended to additional high schools within HISD. Additionally, participating high schools should be encouraged to promote participation in the HUDL program to students.

Administrative Response

The Houston Urban Debate League has been in a partnership with the Houston Independent School District since 2008. Since that time the Houston Urban Debate League in conjunction with the UIL department of the Houston Independent School District has brought policy debate to 28 high schools and hundreds of students that would not have been exposed to debate. The program has revised the interest in debate and related events, providing a rigorous academic activity for over a thousand HISD students over the last 4 years. These students improved their speaking, research, writing, analytic, and note-taking skills. This increase in skills made them more successful in high school and better prepared them for college. Many of these students were not necessarily college bound before participating in the Houston Urban Debate League. These previously non-college bound students are not only attending college, they are being successful due to the skills acquired in debate.

Several factors contribute to the high grades, better attendance, and lower disciplinary actions of the student participations of the Houston Urban Debate League demonstrated in Figures 3-5 on page 7 of the report. These include the coaches' workshops, student seminars, summer institute, tournaments, school visits by the Houston Urban Debate staff, and the hard work and time by the coaches. The Houston Urban Debate League expects this trend of higher grades, higher attendance, and lower disciplinary actions to increase as the students spend more years and time in the activity. The league and the UIL department plan to expand its influence to more students over the next few years which will have the same results of higher grades, higher attendance, and lower disciplinary actions at more schools for more students.

Introduction

The mission of urban debate leagues is to make competitive debate accessible to students in urban school districts across the United States. The first Urban Debate League (UDL) was founded in the Atlanta Public School District in 1985. The goal of the Atlanta model was to encourage under-served high school students to participate in competitive debate, regardless of their race and/or socioeconomic status (Warner & Bruschke, 2001). By lowering the traditional entry barriers associated with high school debate, the Atlanta UDL encouraged participation in a national activity that allowed inner-city students to compete with students from suburban schools. The success of the Atlanta UDL prompted the Open Society Institute to use it as an archetype for their Urban Debate Initiative (Breger, 2000). The resulting Urban Debate Program was intended to provide a mechanism to support the replication of the Atlanta UDL model in urban cities across the country. Most UDLs consist of a partnership between a local school district and a private non-profit organization, with a board of directors comprised of community leaders from a variety of disciplines. There are currently 24 UDLs affiliated with NAUDL.

Supporting Research

According to the National Forensic League (NFL), there are three major styles of competitive debate: Lincoln-Douglas Debate, Public Forum Debate, and Policy Debate. Urban debate leagues affiliated with NAUDL focus on policy debate. NAUDL argues that, of all of the interscholastic speech activities, policy debate is the most academically rigorous. Many debate supporters argue that policy debate fosters core academic skills in literacy, critical thinking, research, communication, organization, and supporting arguments (NAUDL, 2009). Additionally, by providing an arena for students to practice simulating and evaluating competing sides of an argument, policy debate is thought to encourage civic engagement and personal advocacy (Warner & Bruschke, 2001). Finally, there is an abundance of evidence suggesting that a disproportionate number of leaders from the business world, the law, and the government are former debaters (NAUDL, 2009).

In terms of empirical evidence, Mezuk (2009) conducted a longitudinal study on the Chicago UDL from 1997 to 2006 to examine the impact of competitive policy debate on high school completion, academic achievement, and college readiness for African American male students. The sample of African American male students was compared to a random sample of students from the Chicago Public School system on cumulative grade point average, high school completion, and ACT scores (used as an indicator of college readiness). The study found that debate participants were 70% more likely to graduate and three times less likely to drop out of high school than non-participants, controlling for standardized test scores and grade point average. Similarly, debate participants had significantly higher grade point averages than non-participants. This difference was further heightened as intensity of participation increased (i.e., number of rounds). Finally, Chicago UDL participants had a greater likelihood of scoring at or above ACT benchmarks for college readiness in English and reading, but not science and mathematics, than non-participants.

Program Activities

In accordance with the goals of the HISD University Interscholastic League (UIL) Department, HUDL provides cross-curricular competitive academic debate opportunities that involve both classroom and after-school enrichment activities.

- To prepare for the 2010–2011 school year, HUDL sponsored a two-day teacher training in July of 2010 to provide professional development specific to policy debate to all participating instructors (N = 44). The training covered numerous aspects of the HUDL program.

- Participating students were also given the opportunity to attend a one-week summer debate institute, sponsored by the Texas Bar Foundation. The summer institute was designed to enable HUDL participants to collaborate with educators to develop key debate skills. During the summer of 2010, 185 students participated in the summer debate institute.

- In 2010–2011, HUDL also hosted three Saturday seminars, led by college debate teams as well as professional organizations. The seminars were developed to provide participating students additional instruction in debate theory, critical thinking, research, writing, communication, and study skills. The first seminar was attended by 316 students, the second by 254 students, and the third by 204 students.

- School debate courses were offered in 17 of the 27 schools. Lesson plans were developed by HUDL directors and included weekly lessons on topics such as public speaking, debate basics (the status quo, burden of proof, burden of rejoinder, and presumption), and building affirmative and negative cases.

- Finally, HUDL hosted and administered six two-day policy debate tournaments throughout the 2010–2011 school year. Tournaments were divided into two divisions: Junior Varsity, which was open to novice debaters and any students wanting a refresher in debate basics, and Varsity, which was open to all argumentation and any affirmative case. Junior Varsity was limited to two affirmative cases during the fall semester and four during the spring. Regular season tournaments were held at six different HISD high schools from October through February.

Program Goals and Objectives

There were three goals specified for the Title I stimulus funds used for the HUDL program. The goals of HUDL were to:

- Narrow the achievement gap for Title I high schools in HISD,

- Increase high school graduation and college matriculation rates, and

- Increase positive academic and professional behaviors. In their Title I Stimulus application, HUDL discussed a number of strategies they intended to employ to accomplish their goals.

In an effort to increase high school graduation and college matriculation rates, HUDL provided students with networking opportunities through a league mentorship program and community participation in HUDL events.

Program Cost

As in the 2009–2010 academic year, in 2010–2011 the Title I, Part A Stimulus funds, offered through ARRA totaled $504,970. Table 1 (see p. 11) lists the funding categories and their allocated amounts and percentage of the total amount funded.

Method

Participants

HUDL participants were identified through league and tournament records from the 2009–2010 and 2010–2011 academic years. Figure 1 displays HUDL participation by grade level. Based on these data, the HUDL sample consisted of 797 students, enrolled at 28 HISD high schools. To meet the necessary data requirements for the study, only those HUDL students whose 2009–2010 and 2010–2011 data could be matched with their eighth-grade data were included in analyses. The resulting 2010–2011 sample of

HUDL participants consisted of 621 students from 28 HISD high schools. Based on the school- and grade-level breakdown of the final sample of HUDL participants (see Table 2, p. 12), a comparison group, who did not participate in the HUDL, was assembled at random. The selection of students in the comparison group was restricted to the 27 high schools that participated in HUDL during the 2009–2010 and 2010–2011 school years. The comparison groups were also matched to the HUDL sample on grade level. The HISD random samples were matched to the HUDL samples for each academic year in order to account for any school- and/or grade-level differences that may have influenced the outcome variables.
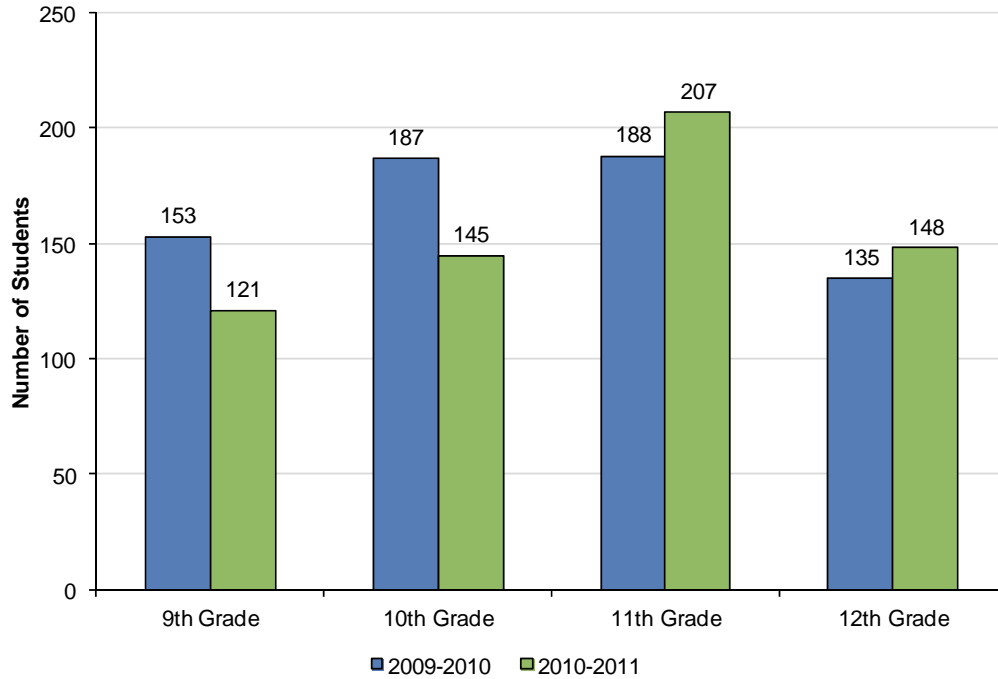
Figure 1: HUDL participation by grade level, 2009–2010 and 2010–2011

Data Collection

Student data analyzed in this report were obtained through a variety of sources. Chancery course files from 2010–2011 and the years participants were in eighth grade were all used to determine changes in academic achievement that may be attributed, in part, to participation in HUDL activities. Course grades in core subject areas: English, mathematics, social studies, and science, were obtained for all HUDL participants and all students in the comparison group. Eighth grade course grades were used to determine the amount of improvement that occurred from pre-high-school levels to the current school year. Disciplinary action counts for HUDL participants and students comprising the comparison group were obtained from the 2010 and 2011 PEIMS resubmission 425 (discipline) Records. The action reasons describe the precipitating behavior that led to the disciplinary action (e.g., in-school or out-of-school suspension). Attendance data were collected from the 2010 and 2011 PEIMS resubmission 400 (attendance) records for the respective school years. Attendance rates were calculated for HUDL participants and students in the comparison group. For data related to 2009–2010, please see attached tables.

Data on debate participation were drawn from tournament records kept by HUDL staff members. During the 2010–2011 academic year, the HUDL held six tournaments. Each debate tournament consisted of five 90-minute structured rounds, during which students argued specified topics.

Data Analysis

Descriptive analyses were conducted to compare the students who participated in the HUDL to a random sample of HISD students. The statistical significance of these univariate group comparisons was determined using chi-squared tests for categorical variables (gender and ethnicity) (see Table 3, p. 13) and independent samples t-tests for continuous variables (i.e., attendance, course grades) (see Table 4, p. 13). These univariate tests were carried out to identify potential covariates to include in the primary analyses.
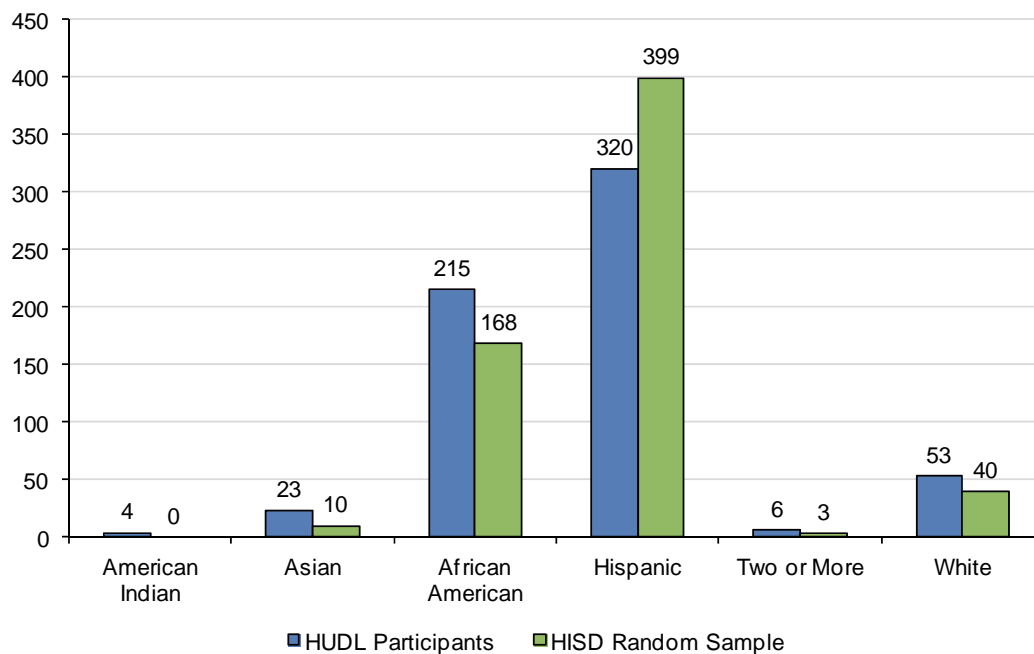
Figure 2: Ethnicity comparison of HUDL participants and HISD Random Sample, 2010–2011

Hierarchical multiple regression was used to examine the influence of debate participation on attendance rate, number of disciplinary actions incurred, and grades in core courses. The first set of analyses focused on making group comparisons between HUDL students and the random sample of HISD students. In order to estimate the influence of debate independent from any pre-existing group differences that may have led to an increased likelihood to participate in debate and the outcomes (self-selection bias), each model was adjusted for eighth grade levels of the outcome. In other words, the model examining differences between the HUDL sample and the random sample in 2010–2011 attendance rates was adjusted for students' eighth grade attendance rates. Similar to Mezuk's (2009) study, for each analysis, eighth grade levels of the outcomes were included in each model, in addition to levels reported from the 2010–2011 academic year. Eighth-grade levels of the outcomes were chosen as control variables due to the fact that HISD students are not eligible to participate in HUDL until ninth grade. Therefore, the eighth grade course grades, disciplinary actions, and attendance rates represent students' "pre-debate" behaviors (Mezuk, 2009). Details regarding the hierarchical linear regression are described in Appendix A (see p. 27).

Table 4 (see p. 13) displays the 2009–2010 and 2010–2011 means and standard deviations for eighth grade and current year attendance rates, disciplinary actions, and core course grades (English, math, social studies, and science) for the HUDL and non-HUDL students. Mean scores on the model variables were compared for HUDL participants and the HISD random sample (see Figures 3–5 for attendance rates, disciplinary actions, and core course grades). Since only high school students (grades nine through

12) are eligible to participate in the HUDL, the eighth grade estimates for attendance rate, disciplinary actions, and core course grade averages indicate the degree to which higher performing students self-select into the HUDL. As shown by Table 4 (p. 13), HUDL participants had higher eighth grade core course grades in all subjects than the HISD random sample, suggesting that higher performing students may have a preference for the activity.

Figure 3: Average course grades for HUDL participants and HISD random sample, 2010–2011

Figure 4: Attendance rates for HUDL participants and HISD random sample

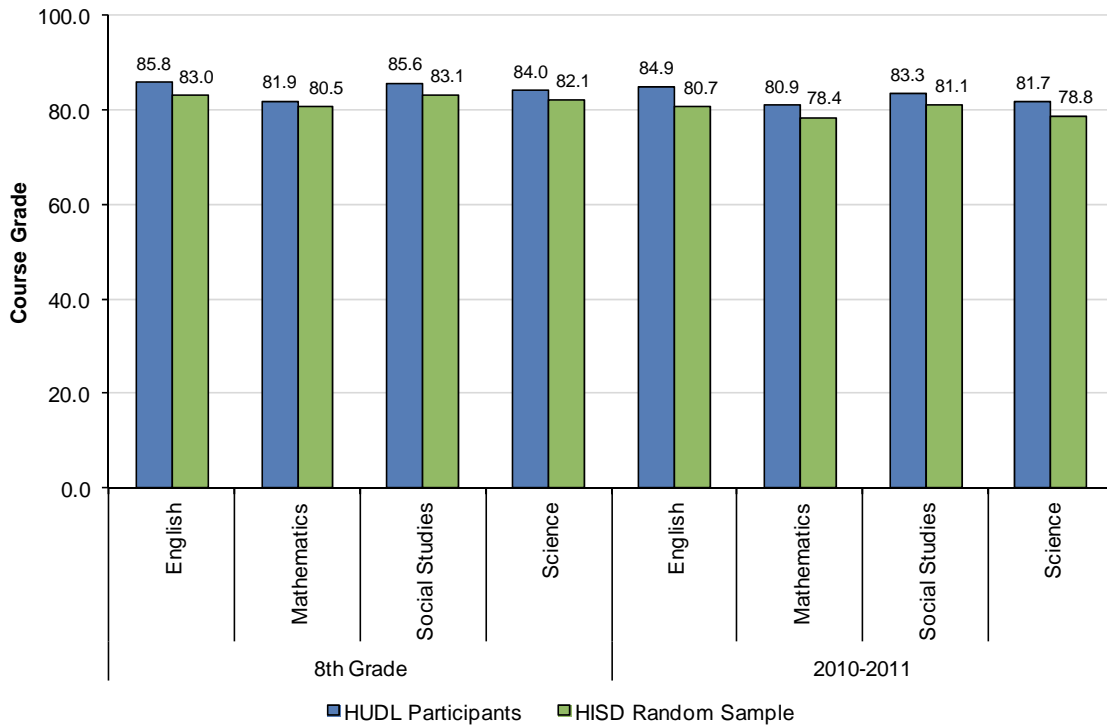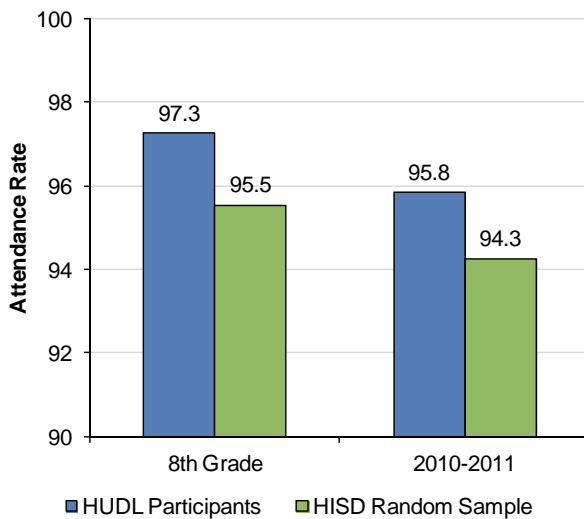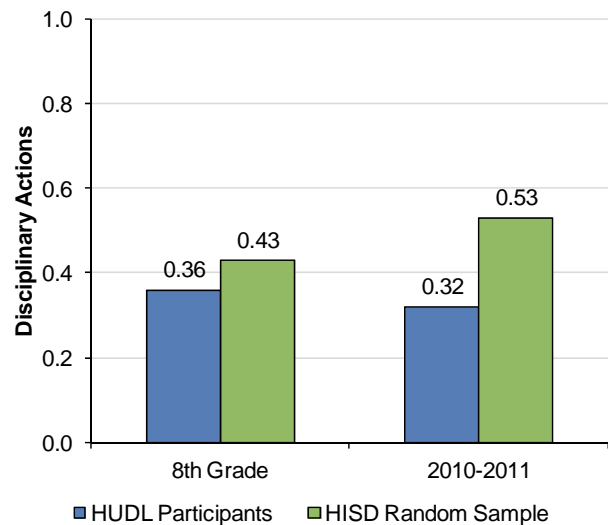**Figure 5: Average number of disciplinary actions for HUDL participants and HISD random sample**

Data Limitations

To meet the necessary data requirements for the study, only those HUDL students whose 2010–2011 data could be matched with their eighth grade data were included in analyses. The resulting sample of HUDL participants consisted of 621 students from 28 HISD high schools. Therefore, 176 (22.1%) students were excluded from the analyses. As a result, the findings may not be generalizable to students that are new to the district.

Results

How did HUDL participants' course grades compare to a randomly selected group of students?

- It was predicted that, as in 2009–2010, HUDL participation would have a positive influence on 2010–2011 core course grade averages. These findings suggest that, as in 2009–2010, in 2010–2011 Hispanic students had lower course grades in core subjects than White students. Additionally, females had higher course grades in core subjects than males. Not surprisingly, there was a strong positive relationship between eighth-grade and 2010–2011 core course grade averages. Finally, after controlling for all covariates and initial levels of core course grades, the inclusion of a variable for HUDL participation resulted in a small to moderate, significant increase in the amount of variance explained in 2010–2011 core course grade averages (see Table 6, p. 15).

How did HUDL participants compare to a randomly selected group of students in terms of attendance rates and disciplinary actions?

Attendance Rates

- It was predicted that participation in the HUDL would be associated with higher attendance rates. The findings suggest that ethnicity, gender, eighth-grade attendance, and HUDL participation reliably predict 2010–2011 attendance rates. Overall, covariates suggest that higher 2010–2011 attendance rates were significantly higher among Hispanic students than African American students and eighth-grade attendance had a strong positive relationship with 2010–2011 attendance. Finally, HUDL students tended to have higher attendance rates than the typical HISD student (see Table 8, p. 17).

Disciplinary Actions

- The last piece of the hypothesis, stated above, predicts that HUDL participation will lead to a decrease in disciplinary actions. Of primary interest, HUDL participation significantly decreased the odds of receiving one or more disciplinary action by 29.7 percent. Thus, as Table 10 (p. 19) illustrates, controlling for the covariates and initial level, HUDL participation distinguishes between students who received a disciplinary action in 2010–2011 and those who did not, but the distinction is not a very strong one.

How did increases in HUDL participation influence academic and professional behaviors?

- The third research question asked how increases in the intensity of HUDL participation would influence course grades, attendance rates, and disciplinary actions. It was hypothesized that, when the sample is restricted to HUDL students only, increased participation in the HUDL would be associated with increased attendance rates, decreased disciplinary actions, and increased core course grades. To test this hypothesis, three separate hierarchical multiple regression models were conducted. Across all three models, gender and ethnicity (dummy coded, with Hispanic as the reference category) were entered in the first step, to remove the effect of these covariates. Next,

eighth-grade levels of the outcomes were added. Finally, a variable representing the number of debate tournament rounds the student participated in was included.

Core Course Grades

- Controlling for the other predictors, the number of rounds HUDL students participated in was positively associated with 2010–2011 core course grades (see Table 12, p. 21).

Attendance Rates

- Of particular interest, after controlling for the two covariates (ethnicity and gender) and initial level (eighth-grade attendance rate), the number of rounds a student participated in resulted in a small, but significant increase in R^2 (see Table 14, p. 23).

Disciplinary Actions

- Interpretations of individual variables suggest that students who received one or more disciplinary actions in eighth grade were three times more likely to receive one or more in 2010–2011. Finally, as round participation increased, the odds of receiving one or more disciplinary actions in 2010–2011 decreased by three percent (see Table 16, p. 25).

Discussion

The current program evaluation resulted in three main findings: (a) higher performing students may be more likely to participate in competitive policy debate; (b) after accounting for this potential selection bias, HUDL participants were more likely to have higher attendance rates, higher core course grades, and fewer disciplinary incidents than those who did not participate in debate; (c) intensity of participation in debate activities has an influence on these associations, such that students who participated in more rounds of debate had higher attendance rates, higher core course grades, and fewer disciplinary actions than those students with only marginal round participation.

The findings from the current study are consistent with Mezuk's (2009) results. Namely, as in the Mezuk study, the current report suggests that competitive debate may preferentially attract students who are more academically oriented. In the current comparison between HUDL participants and a random sample of HISD students, it should be noted that the mean differences in eighth-grade core course grades, while significant, were not necessarily substantial, and may be the product of the large sample sizes included in the study. Similarly, the finding that participation in debate is associated with higher attendance rates, higher core course grades, and fewer disciplinary actions is also consistent with the Mezuk study. As in that study, given the significance of these findings even after accounting for eighth-grade levels of the indicators suggests the possibility that debate participation may have an independent effect on the outcomes.

These findings should be interpreted cautiously, given potential study limitations. First, while eighth-grade levels of the outcomes were controlled for in the regression analyses, there are most likely other influential factors that were omitted from the models. Second, although all of the findings were significant, the addition of debate participation into the models only added a relatively small proportion of variance explained, above and beyond the control variables. The significance of the findings may have also been due, in part, to the large sample. Despite these limitations, the results from this study provide evidence that participation in the HUDL has a number of positive effects on both academic and professional outcomes for students.

References

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Mezuk, B. (2009). Urban debate and high school educational outcomes for African American males: The case of the Chicago Debate League. *Journal of Negro Education, 78,* 290-363.

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Warner, E., & Bruschke, J. (2001). 'Gone on Debating:' Competitive academic policy debate as a tool for empowerment. *Contemporary Argumentation and Debate, 22,* 1–21.

Table 1. Budget Breakdown of Stimulus Funds by Category: 2010–2011	
Funding Category	**Allocated Amount**
Personnel	$326,687
Contracted Services	$32,000
Materials and Supplies	$101,249
Other Operating Costs	$45,034
Total	**$504,970**

School	2009–2010 Grade					2010–2011 Grade				
	9th	10th	11th	12th	Total	9th	10th	11th	12th	Total
Austin High School	0	3	11	2	16	2	2	24	16	44
Carnegie Vanguard	8	12	24	18	62	13	2	5	6	26
Challenge High School	3	14	4	1	22	2	2	6	1	11
Chávez High School	0	1	1	4	6	0	0	0	0	0
Contemporary Learning Center High School	2	3	4	2	11	0	0	2	5	7
Davis High School	3	2	10	1	16	19	3	4	11	37
East Early College High School	8	16	7	9	40	16	3	13	4	36
Eastwood Academy for Academic Achievement	2	10	5	8	25	2	8	13	4	27
Furr High School	0	4	14	7	25	0	0	4	13	17
High School for Law Enforcement and Criminal Justice	0	9	9	2	20	6	37	7	2	52
Houston Academy for International Studies	13	13	4	0	30	11	15	16	6	48
Houston Math, Science & Tech. Center	0	0	0	0	0	0	11	3	0	14
Jones High School	0	0	0	0	0	0	0	2	0	2
Kashmere High School	0	0	0	0	0	2	4	1	2	9
Lee High School	0	0	0	0	0	0	1	1	5	7
Madison High School	1	0	6	6	13	1	2	6	9	18
Milby High School	13	4	2	1	20	0	6	4	1	11
North Houston Early College High School	16	16	0	0	32	19	11	15	0	45
Reagan High School	0	6	15	4	25	0	5	9	10	24
Scarborough High School	1	3	4	2	10	0	3	2	4	9
Sharpstown High School	0	3	6	22	31	1	3	8	6	18
Sharpstown International School	39	26	10	0	75	5	8	5	1	19
South Early College	15	0	0	0	15	0	0	0	0	0
Sterling High School	6	6	10	14	36	5	5	18	15	43
Waltrip High School	2	2	6	10	20	1	1	7	5	14
Washington High School	7	4	1	1	13	0	2	3	0	5
Westbury High School	0	0	7	12	19	0	3	5	6	14
Westside High School	10	27	7	1	45	15	5	15	8	43
Wheatley High School	0	0	0	1	1	0	0	0	0	0
Worthing High School	0	0	10	6	16	1	0	4	2	7
Yates High School	4	3	11	1	19	0	3	5	6	14
Total	**153**	**187**	**188**	**135**	**663**	**121**	**145**	**207**	**148**	**621**

Table 2. Final Study Sample* for the Houston Urban Debate League by School and Grade, 2009–2010 and 2010–2011

*To be included in the study sample, participants had to have available 8th grade data.

Table 3. Gender and Ethnicity Comparisons Between HUDL Sample and HISD Random Sample, 2009–2010 and 2010–2011

| | 2009–2010 | | | | | | 2010–2011 | | | | | |
| | HUDL Participants | | HISD Random Sample | | | | HUDL Participants | | HISD Random Sample | | | |
	N	%	N	%	Total	χ^2	N	%	N	%	Total	χ^2
Gender												
Female	391	59.0	334	50.3	725		346	55.7	323	52.0	669	
Male	272	41.0	330	49.7	602	10.07*	275	44.3	298	48.0	573	1.71
Ethnicity												
American Indian or Alaska Native	0	0.0	1	0.2	1		4	0.6	1	0.2	5	
Asian or Pacific Islander	23	3.5	17	2.6	40		23	3.7	10	1.6	33	
African American	237	35.7	174	26.2	411		215	34.6	168	27.1	383	
Hispanic	342	51.6	406	61.1	748		320	51.5	399	64.3	719	
Two or More	0	0.0	0	0.0	0		6	1.0	3	0.5	9	
White	61	9.2	66	9.9	127	17.23*	53	8.5	40	6.4	93	26.75*

*$p < .01$

Table 4. Comparison of Descriptive Characteristics of HUDL Sample and HISD Random Sample, 2009–2010 and 2010–2011

| | 2009–2010 | | | | | 2010–2011 | | | | |
| | HUDL Participants | | HISD Random Sample | | | HUDL Participants | | HISD Random Sample | | |
	Mean	S.D.	Mean	S.D.	t	Mean	S.D.	Mean	S.D.	t
8th Grade										
Attendance Rate	97.00	3.68	96.84	3.54	0.77	97.25	2.98	95.54	5.49	2.81*
Disciplinary Actions	0.50	1.19	0.57	0.38	-1.08	0.36	1.04	0.43	1.23	-1.04
English Grades	85.80	7.64	83.22	8.41	5.63*	85.76	7.32	82.98	8.19	8.26*
Mathematics Grades	81.97	7.79	80.66	8.13	2.84*	81.86	9.69	80.53	7.70	2.69*
Social Studies Grades	85.63	7.86	83.14	7.93	5.61*	85.61	7.27	83.13	8.43	5.49*
Science Grades	83.71	8.15	81.86	7.79	4.08*	84.01	7.92	82.13	7.31	4.35*
Academic Year										
Attendance Rate	95.73	5.28	94.56	7.71	3.22*	95.83	5.76	94.25	8.02	3.99*
Disciplinary Actions	0.35	1.03	0.47	1.31	-1.95	0.32	0.97	0.53	1.46	-2.97*
English Grades	83.86	7.49	81.02	7.98	6.40*	84.92	9.79	80.73	9.85	9.28*
Mathematics Grades	81.98	8.77	79.46	9.28	4.62*	80.87	9.37	78.43	9.73	4.81*
Social Studies Grades	83.53	7.27	81.39	8.25	4.19*	83.30	9.09	81.09	9.35	5.24*
Science Grades	82.37	8.09	79.83	8.26	5.08*	81.68	8.68	78.76	9.04	6.06*

*$p < .01$

Table 5. Bivariate Correlation Coefficients for Model Variables, 2010–2011						
	8th Grade			2010–2011		
	Attendance Rates	Disciplinary Actions	Core Course Grades	Attendance Rates	Disciplinary Actions	Core Course Grades
8th Grade						
Attendance Rates	1.00					
Disciplinary Actions	-.26[*]	1.00				
Core Course Grades	.26[*]	-.32[*]	1.00			
2010–2011						
Attendance Rate	.39[*]	-.31[*]	.41[*]	1.00		
Disciplinary Actions	-.25[*]	.26[*]	-.27[*]	-.35[*]	1.00	
Core Course Grades	.24[*]	-.23[*]	.54[*]	.52[*]	-.36[*]	1.00

[*]$p < .01$

Table 6. Hierarchical Multiple Regression Predicting 2010–2011 Course Grades	Step 1				Step 2				Step 3			
	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2
Ethnicity (vs. Hispanic)												
American Indian or Alaska Native	-.226	.402	-.016	<.001	-.244	.333	-.017	<.001	-.327	.329	-.023	.001
Asian or Pacific Islander	.538	.162	.094**	.009	.240	.134	.042	.003	.196	.133	.034	.002
African American	-.088	.057	-.044	.002	-.023	.047	-.012	<.001	-.052	.047	-.026	.001
Two or More	.207	.318	.018	<.001	-.153	.264	-.013	<.001	-.178	.261	-.016	<.001
White	.417	.098	.121**	.014	.201	.082	.059*	.005	.180	.081	.052*	.004
Gender	-.241	.051	-.132**	.018	-.089	.043	-.049*	.004	-.087	.042	-.047*	.003
8th Grade Attendance					-.610	.026	-.564**	.316	-.587	.026	-.543**	.272
HUDL Participation									.229	.043	.125**	.029
R^2	.04				.35				.36			
F for change in R^2	9.37**				565.95**				28.67**			

*$p < .05$, **$p < .01$.

- Table 6 displays B, $SE\ B$, β, and sr_i^2 for the regression equation predicting (square root of) 2010–2011 core course grades (see Table 7 for 2009–2010 results, p. 16). As seen in 2009–2010, R for regression was significantly different from zero at each step. After step three, with the inclusion of all covariates and predictors, model estimates suggest that over one-third of the variance ($R^2 = .36$) in (square root of) 2010–2011 core course grades was predicted by ethnicity, gender, (square root of) eighth-grade core course grades, and participation in the HUDL (F (8, 1,224) = 86.43, $p < .001$).

Table 7. Hierarchical Multiple Regression Predicting 2009–2010 Core Course Grades												
	Step 1				Step 2				Step 3			
	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2
Ethnicity (vs. Hispanic)												
American Indian or Alaska Native	-.234	.195	-.033	.001	-.138	.152	-.020	.001	-.128	.151	-.018	.001
Asian or Pacific Islander	.145	.032	.128**	.017	.022	.025	.019	.001	.021	.025	.018	.001
African American	-.019	.012	-.047	.002	-.003	.009	-.007	< .001	-.007	.009	-.016	< .001
White	.133	.019	.203**	.039	.040	.015	.061**	.006	.041	.015	.062**	.006
Gender	-.041	.011	-.106**	.012	-.002	.008	-.006	< .001	< .001	.008	-.002	< .001
8th Grade Core Course Average					.585	.021	.641**	.396	.573	.021	.629**	.382
HUDL Participation									.029	.008	.076**	.009
R^2	.07				.44				.45			
F for change in R^2	19.48**				790.79**				12.05**			

*$p < .05$, **$p < .01$.

Table 8. Hierarchical Multiple Regression Model Predicting 2010–2011 Attendance Rates												
	Step 1				Step 2				Step 3			
	B	*SE B*	*β*	sr_i^2	*B*	*SE B*	*β*	sr_i^2	*B*	*SE B*	*β*	sr_i^2
Ethnicity (vs. Hispanic)												
American Indian or Alaska Native	-.060	.171	-.010	<.001	-.065	.144	-.011	<.001	-.080	.144	-.013	<.001
Asian or Pacific Islander	<.001	.069	<.001	<.001	-.044	.058	-.018	.001	-.053	.058	-.022	.001
African American	-.130	.024	-.155**	.023	-.065	.021	-.077**	.008	-.070	.021	-.083**	.009
Two or More	-.218	.136	-.046	.002	-.017	.114	-.004	<.001	-.025	.114	-.005	<.001
White	.017	.042	.011	<.001	.020	.035	.014	<.001	.015	.035	.010	<.001
Gender	.023	.022	.030	.001	.022	.018	.029	.001	.024	.018	.031	.001
8th Grade Attendance					.650	.029	.544**	.296	.645	.029	.540**	.293
HUDL Participation									.040	.018	.052*	.003
R^2	.03				.32				.32			
F for change in R^2	5.79**				512.24**				4.78*			

*$p < .05$, **$p < .01$.

- Table 8 presents the unstandardized regression coefficients (*B*), the standard error terms for the unstandardized regression coefficients (*SE B*), the standardized regression coefficients (*β*), and the squared semipartial correlations (sr_i^2) for the model estimating (log of) 2010–2011 attendance rates (see Table 9 for 2009–2010 results, p. 18). As seen in 2009–2010, in 2010–2011, *R* for regression was significantly different from zero at the end of each step. After step three, with all control variables and the HUDL variable entered into the equation, $R^2 = .32$, $F (8, 1,218) = 71.01$, $p < .001$. The R^2 value of .32 suggests that nearly one third of the variability in (log of) 2010–2011 attendance rates was predicted by gender, ethnicity, (log of) eighth-grade attendance rate, and HUDL participation.

- After step 1, with gender and ethnicity in the equation, $R^2 = .03$, $F_{inc} (6, 1,220) = 5.79$, $p < .001$. After step 2, with (log of) eighth-grade attendance rate added to the prediction of (log of) 2010–2011 attendance rate, with gender and ethnicity, $R^2 = .31$, $F_{inc} (1, 1,219) = 512.24$, $p < .001$. After step 3, with HUDL added to the prediction of (log of) attendance rate by gender, ethnicity, and (log of) eighth-grade attendance rates, $R^2 = .32$, $F_{inc} (1, 1,218) = 4.78$, $p < .05$.

Table 9. Hierarchical Multiple Regression Model Predicting 2009–2010 Attendance Rates												
	Step 1				Step 2				Step 3			
	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2
Ethnicity (vs. Hispanic)												
American Indian or Alaska Native	-.031	.256	-.003	< .001	-.007	.215	< .001	< .001	.008	.215	.001	< .001
Asian or Pacific Islander	.103	.042	.068*	.004	.046	.035	.030	.001	.041	.035	.027	.001
African American	-.075	.016	-.134**	.017	-.036	.013	-.065	.006	-.041	.013	-.073**	.007
White	.016	.025	.019	< .001	.037	.021	.042	.002	.036	.021	.041	.002
Gender	.018	.014	.034	.001	.022	.012	.042	.003	.025	.012	.048*	.003
8th Grade Attendance					.431	.018	.541**	.294	.429	.018	.538**	.293
HUDL Participation									.037	.012	.071**	.007
R^2	.03				.31				.32			
F for change in R^2	7.43**				547.22**				9.39**			

*$p < .05$, **$p < .01$.

Table 10. Parameter Estimates for Logistic Regression on 2010–2011 Disciplinary Actions									
	Block 1			Block 2			Block 3		
	B	*Wald* χ^2	*Odds Ratio*	*B*	*Wald* χ^2	*Odds Ratio*	*B*	*Wald* χ^2	*Odds Ratio*
Ethnicity (vs. Hispanic)									
American Indian or Alaska Native	-19.83	<.001	<.001	-19.87	<.001	<.001	-19.72	<.001	<.001
Asian or Pacific Islander	-.81	1.76	.44	-.81	1.70	.44	-.73	1.37	.48
African American	.50	11.20	1.66**	.39	6.29	1.48*	.43	7.61	1.54**
Two or More	.45	.30	1.57	.51	.36	1.66	.57	.46	1.77
White	-.91	5.68	.40*	-.78	4.10	.46*	-.73	3.61	.48
Gender	.33	5.25	1.39**	.25	2.82	1.28	.23	2.50	1.26
8th Grade Disciplinary Actions				1.09	45.81	2.98**	1.08	44.18	2.94**
HUDL Participation							-.35	5.55	.70*
Nagelkerke R^2	.04			.09			.10		
χ^2 for change in R^2	31.63**			43.91**			5.59*		

*$p < .05$, **$p < .01$.

- Table 10 shows regression coefficients, Wald statistics, and odds ratios for each predictor (see Table 11 for 2009–2010 results, p. 20). According to the Wald criterion, as in 2009–2010, ethnicity, gender, eighth-grade disciplinary actions, and HUDL membership all reliably predicted 2010–2011 disciplinary actions.

- As mentioned above, both eighth-grade and 2010–2011 estimates for disciplinary actions were converted into dichotomous variables, with zero representing no disciplinary actions and one suggesting that the student received one or more disciplinary actions. A hierarchical logistic regression analysis was performed to assess the prediction of whether or not a student received a disciplinary action during the 2010–2011 school year, first on the basis of demographic predictors (ethnicity and gender), then after the addition of a predictor indicating whether or not the students received a disciplinary action in eighth-grade (initial level), and finally, after the inclusion of a predictor indicating whether or not the students participated in HUDL.

- A test of the model fit (discrimination among groups), with all covariates and predictors, against a constant-only model was statistically significant, χ^2 (8, N=1,242) = 81.13, $p < .001$, suggesting that the predictors, as a whole, reliably distinguish between students who received no disciplinary actions in 2010–2011 and those who received one or more disciplinary actions in 2010–2011. The variance in disciplinary actions accounted for by the predictors is small, however, with Nagelkerke's R^2 = .10. Additionally, classification was unimpressive, with only 6.8 percent of students who received one or more disciplinary actions in 2010–2011 correctly predicted.

Table 11. Parameter Estimates for Logistic Regression on 2009–2010 Disciplinary Actions									
	Block 1			Block 2			Block 3		
	B	Wald χ^2	Odds Ratio	*B*	Wald χ^2	Odds Ratio	*B*	Wald χ^2	Odds Ratio
Ethnicity (vs. Hispanic)									
American Indian or Alaska Native	22.45	< .001	< .001	22.82	< .001	< .001	22.70	< .001	< .001
Asian or Pacific Islander	-.76	1.98	.47	-.55	1.04	.58**	-.52	.90	.60
African American	.54	13.90	1.72**	.42	7.85	1.53**	.46	9.28	1.59**
White	-.98	8.16	.37**	-.89	6.47	.41*	-.88	6.31	.42*
Gender	.46	10.97	1.59**	.37	6.79	1.45**	.34	5.58	1.41*
8th Grade Disciplinary Actions				1.20	64.77	3.33**	1.21	64.85	3.35**
HUDL Participation							-.33	5.14	.72*
Nagelkerke R^2	.06			.13			.13		
χ^2 for change in R^2	47.47**			63.09**			5.18*		

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

Table 12. Hierarchical Multiple Regression Predicting 2010–2011 Core Course Grades in the HUDL Sample												
	Step 1				Step 2				Step 3			
	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2
Ethnicity (vs. Hispanic)												
American Indian or Alaska Native	-.127	.453	-.011	<.001	-.036	.374	-.003	<.001	-.100	.362	-.009	<.001
Asian or Pacific Islander	.415	.198	.085*	.007	.108	.164	.022	.001	.139	.160	.028	.001
African American	-.144	.080	-.075	.005	-.091	.066	-.048	.003	-.085	.064	-.045	.003
Two or More	.117	.406	.012	<.001	-.180	.335	-.018	<.001	-.194	.325	-.019	.001
White	.253	.132	.079	.006	.149	.109	.046	.003	.158	.106	.049	.004
Gender	-.162	.074	-.089*	.008	-.056	.061	-.031	.001	-.068	.059	-.037	.002
8th Grade Core Course Grades					.626	.037	.568**	.321	.585	.036	.530**	.299
Round Participation									.017	.003	.205**	.062
R^2	.03				.34				.38			
F for change in R^2	3.02**				289.25**				40.11**			

*$p < .05$, **$p < .01$.

- Table 12 illustrates the regression model predicting (square root of) 2010–2011 core course grades for HUDL participants (see Table 13 for 2009–2010 results, p. 22). As in 2009–2010, R was significantly different from zero at the end of each step. After step three, with all covariates and predictors in the equation, $R^2 = .38$, $F\ (8, 608) = 47.04$, $p < .001$, indicating that over one-third of the variance in (square root of) 2010–2011 core course grades can be explained by gender, ethnicity, (square root of) eighth-grade core course grades, and the number of rounds participated in. Moreover, the addition of the round participation variable to the demographic covariates and (square root of) eighth-grade course grades, resulted in a significant increase in the amount of variance explained in (square root of) 2010–2011 core course grades.

Table 13. Hierarchical Multiple Regression Predicting 2009–2010 Core Course Grades in the HUDL Sample												
	Step 1				Step 2				Step 3			
	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2
Ethnicity (vs. Hispanic)												
Asian or Pacific Islander	.155	.043	.143[**]	.021	.022	.033	.020	.001	.027	.032	.025	.001
African American	-.032	.017	-.078	.006	-.017	.013	-.042	.003	-.017	.012	-.041	.003
White	.102	.028	.148[**]	.021	.024	.021	.035	.002	.027	.021	.039	.003
Gender	-.035	.016	-.086[*]	.008	-.008	.012	-.020	.001	-.015	.012	-.038	.003
8th Grade Core Course Grades					.608	.027	.675[**]	.448	.598	.027	.663[**]	.448
Round Participation									.003	.001	.142[**]	.038
R^2	.06				.48				.50			
F for change in R^2	10.22[**]				501.15[**]				24.37[**]			

[*]$p < .05,$ [**]$p < .01.$

Table 14: Hierarchical Linear Regression Predicting 2010–2011 Attendance Rates in the HUDL Sample												
	Step 1				Step 2				Step 3			
	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2
Ethnicity (vs. Hispanic)												
American Indian or Alaska Native	-.109	.177	-.025	.001	-.066	.152	-.015	<.001	-.078	.151	-.018	<.001
Asian or Pacific Islander	.098	.077	.051	.002	.056	.067	.029	.001	.059	.066	.031	.001
African American	-.102	.031	-.137**	.017	-.059	.027	-.079*	.008	-.059	.027	-.078*	.008
Two or More	-.268	.159	-.068	.005	-.075	.137	-.019	<.001	-.088	.136	-.022	.001
White	.017	.052	.014	<.001	.040	.045	.032	.001	.040	.044	.032	.001
Gender	.039	.029	.055	.003	.029	.025	.040	.002	.028	.025	.039	.002
8th Grade Attendance					.591	.040	.510**	.262	.573	.041	.494**	.248
Round Participation									.003	.001	.101**	.014
R^2	.03				.29				.30			
F for change in R^2	3.47**				215.13**				8.58**			

$^*p < .05,\ ^{**}p < .01.$

- As illustrated in Table 14, the results of the hierarchical multiple regression predicting (log of) 2010–2011 attendance rates revealed that ethnicity, (log of) eighth-grade attendance, and intensity of participation (number of rounds participated in) reliably accounted for nearly one third of the variance in (log of) 2010–2011 attendance rates (see Table 15 for 2009–2010 results, p. 24).

Table 15: Hierarchical Linear Regression Predicting 2009–2010 Attendance Rates in the HUDL Sample												
	Step 1				Step 2				Step 3			
	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2	B	$SE\ B$	β	sr_i^2
Ethnicity (vs. Hispanic)												
Asian or Pacific Islander	.072	.051	.055	.003	.037	.043	.028	.001	.040	.043	.030	.001
African American	-.068	.020	-.135**	.017	-.025	.017	-.050	.003	-.025	.017	-.049	.003
White	-.025	.033	-.030	.001	.010	.028	.012	< .001	.011	.027	.019	< .001
Gender	.050	.019	.102**	.011	.036	.016	.074*	.008	.037	.016	.064*	.006
8th Grade Attendance					.412	.024	.555**	.310	.408	.024	.550**	.307
Round Participation									.002	.001	.086**	.011
R^2	.03				.33				.34			
F for change in R^2	5.58**				292.93**				7.19**			

*$p < .05$, **$p < .01$.

Table 16. Parameter Estimates for Logistic Regression on 2010–2011 Disciplinary Actions in HUDL Sample									
	Block 1			Block 2			Block 3		
	B	*Wald χ^2*	*Odds Ratio*	*B*	*Wald χ^2*	*Odds Ratio*	*B*	*Wald χ^2*	*Odds Ratio*
Ethnicity (vs. Hispanic)									
American Indian or Alaska Native	-19.63	<.001	<.001	-19.79	<.001	<.001	-19.56	<.001	<.001
Asian or Pacific Islander	-19.54	<.001	<.001	-19.54	<.001	<.001	-19.58	<.001	<.001
African American	.43	3.54	1.53	.29	1.56	1.34	.28	1.43	1.33
Two or More	1.35	2.10	3.85	1.32	1.87	3.75	1.41	1.96	4.10
White	-.44	.90	.65	-.34	.54	.71	-.37	.63	.69
Gender	.32	2.13	1.38	.24	1.18	1.28	.26	1.28	1.29
8th Grade Disciplinary Actions				1.20	24.19**	3.33	1.12	20.52**	3.07
HUDL Participation							-.03	7.92**	.97
Nagelkerke R^2	.05			.11			.13		
χ^2 for change in R^2	18.45**			22.89**			9.00**		

*$p < .05$, **$p < .01$.

- Table 16 presents the results from a hierarchical logistic regression to predict 2010–2011 disciplinary actions among HUDL participants (see Table 17 for 2009–2010 results, p. 26). Nagelkerke's R^2 was significantly different from zero at the end of each step. A test of the full model with all covariates and predictors against a constant-only model was statistically significant, χ^2 (8, N=617) = 50.34, $p < .001$, suggesting that overall, the predictors reliably distinguished between students who received no disciplinary actions in 2010–2011 and those who received one or more. Additionally, a comparison of the model with all predictors except round participation against the full model with all variables included indicates that the addition of the round participation variable to the equation results in a significant increment in the model's ability to distinguish between the two groups. Overall, classification was not impressive. On the basis of gender and ethnicity alone, correction classification rates were 100 percent for students with no disciplinary actions and zero percent for students with one or more disciplinary action; the overall correction classification rate was 82.8 percent. The addition of eighth-grade disciplinary actions resulted in a slightly better correction classification rate of 83.0 percent, compared to step one. Round participation did not add anything to the ability to distinguish between the two groups.

Table 17. Parameter Estimates for Logistic Regression on 3009–2010 Disciplinary Actions in HUDL Sample									
	Block 1			Block 2			Block 3		
	B	Wald χ^2	Odds Ratio	B	Wald χ^2	Odds Ratio	B	Wald χ^2	Odds Ratio
Ethnicity (vs. Hispanic)									
Asian or Pacific Islander	-1.32	1.64	.27	-1.15	1.22	.32	-1.22	1.36	.30
African American	.73	11.72**	2.07	.56	7.27**	1.81	.59	6.99**	1.80
White	-.45	.98	.64	-.38	.66	.69	-.40	.73	.67
Gender	.22	1.16	1.25	.19	.75	1.20	.24	1.26	1.27
8th Grade Disciplinary Actions				1.29	35.13**	3.64	1.26	33.01**	3.53
HUDL Participation							-2.04	4.98*	.97
Nagelkerke R^2		.05			.13			.14	
χ^2 for change in R^2		20.74**			34.21**			5.53*	

*$p < .05$, **$p < .01$

APPENDIX A
DETAILED DESCRIPTION OF DATA ANALYSIS

To estimate the influence of differing levels of debate participation on the outcome variables, intensity of debate, or frequency of round participation was examined by restricting the sample to only students who participated in HUDL during the 2010–2011 academic year. Hierarchical multiple regression was used to determine how increased participation in HUDL events affected course grades, disciplinary actions, and attendance rates reported during the 2010–2011 school year. Similar to the models described for the group comparisons, the models used to analyze the influence of intensity of debate participation were adjusted for eighth grade levels of each of the outcome variables.

No specific hypotheses were advanced regarding the potential effects of gender and ethnicity on the model variables. However, given that Mezuk (2009) found both variables to have a significant effect on debate outcomes, they were examined as potential covariates to include in the primary analyses. As evident from Table 3 (p. 13), compared to the typical HISD student, HUDL participants were more likely to be female, more likely to be African American, and less likely to be Hispanic (Figure 2).

To examine the multicollinearity assumption for regression analyses, bivariate correlations (see Table 5, p. 14) among the variables were calculated. An initial look at the correlation table revealed that eighth grade English, mathematics, social studies, and science, as well as 2010–2011 English, mathematics, social studies, and science, were very highly correlated with one another. Given the potential for violations of the multicollinearity assumption, course grades were averaged across each time point (eighth grade or 2010–2011) to represent overall core course grades in eighth grade and core course grades in 2010–2011.

Results of an evaluation of assumptions led to the transformation of the variables to reduce skewness, reduce the number of outliers, and improve the normality, linearity, and homoscedasticity of residuals. Logarithmic transformations were applied to both eighth-grade and 2010–2011 attendance rates and a square root transformations were applied to course grades. Eighth-grade and 2010–2011 disciplinary actions were positively skewed without transformation, and negatively skewed with it, possibly due to the predominance of zeroes. As such, both were converted to dichotomous variables (0 = no disciplinary actions, 1 = one or more disciplinary actions).

In response to the first and second research questions, which asked how HUDL participants compared to a random sample of HISD students in terms of core course grades, attendance, and disciplinary actions, it was hypothesized that participation in the HUDL would be associated with increased attendance rates, decreased disciplinary actions, and increased core course grades. To test this hypothesis, three separate hierarchical multiple regression models were conducted. Across all three models, gender and ethnicity (dummy coded, with Hispanic as the reference category) were entered in the first step, to remove the effect of these covariates. Next, eighth-grade levels of the outcomes were added. Finally, a dichotomous variable representing whether or not students participated in the HUDL (0 = HISD random sample, 1 = HUDL participant) was entered into the model.