IOWA COLLEGE AID

GEAR UP Iowa: ACT Initiatives and Outcomes

September 2020

1. WHY TAKE THE ACT?

The ACT exam is a critical step for students interested in attending four-year colleges and universities. Not only are test scores often required for admission, but when a student indicates interest in an institution by having ACT scores sent there, the institution can reach out to that student with information and admission support. Early contact and relationships with the college might help motivate a student to attend and aid them in navigating the steps required to successfully enroll. While the ACT is not required for community college admission in Iowa, community college students still benefit from taking the ACT, which can fulfill the requirement of a placement test. In addition, knowing their ACT score might help a student realize that they are qualified for a more selective college or university (Hoxby & Avery, 2012). Students who do not take entrance exams often underestimate their potential (Goodman, 2016).

Access to the ACT exam is frequently limited for low-income students who might not have access to information and assistance regarding fee waivers or be able to attend an exam administered on the weekend. Therefore, some states have implemented statewide ACT testing, making the exam free for students and available during the school day. Both increasing the accessibility to test sites and compelling students to take entrance exams through statewide mandatory testing are associated with positive trends in postsecondary enrollment, persistence, and completion (Bulman, 2015).

States that have implemented mandatory statewide testing increased the percentage of students who enroll in college. In Maine, mandatory ACT testing increased postsecondary enrollment by 2 to 3 percentage points (Hurwitz et al., 2015). Hyman (2017) found an increase of 0.6 percentage points in college enrollment with the adoption of mandatory statewide testing in Michigan, and that increase doubled for the lowest-income students. A study of mandatory testing in Colorado, Illinois, and Maine revealed that statewide testing changes postsecondary choices, with some evidence showing a decrease in two-year enrollments and an increase in enrollment at four-year institutions (Klasik, 2013). Goodman (2016) showed that 10 percent of students who would not take the ACT unless mandated end up enrolling in a more selective institution than they would have chosen without exam scores.

Given the benefits of taking the ACT, preparing students to take and succeed on the ACT is crucial. Students who reported feeling underprepared for their second ACT exam scored lower than students who felt prepared, regardless of the type of test preparation they received (Moore et al., 2019). While the research on test preparation services is mixed, the *What Works Clearinghouse* shows that test tutoring and coaching have a positive and significant effect on test scores. Intervention models that include a practice test followed by test-preparation services resulted in increases in the final ACT exam score (Filizola, 2008; McMann, 1994).

2. GEAR UP IOWA ACT SERVICES

GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) is a federal grant program that awards funding to states and large partnerships with the goal of increasing postsecondary attainment rates for low-income students. GEAR UP Iowa serves a cohort of students beginning in seventh grade and follows them through their first year of college following high school graduation. Students receive services such as tutoring, college and career mentoring, trips to college campuses, and, in some programs, a college scholarship.

Iowa College Aid is currently administering its second GEAR UP grant (GUI 2.0). We were awarded $11 million over the course of the grant to pay for services and staff placed in the schools. GUI 2.0 partnered with 12 school districts, each with greater than 50 percent of students eligible for free or reduced priced lunches. GUI 2.0 began with 6,535 seventh-graders in 2014-15 and added 2,583 students during ninth grade to offset attrition. The cohort of students graduated from high school in the spring of 2020.

GUI 2.0 chose to focus on ACT test preparation and administration during the students' 11th-grade year. To do this, we contracted with Cambridge Educational Services (CES) to administer a practice ACT exam and provide training and materials to schools so teachers and counselors could offer in-class lessons related to the ACT. We also required all GUI 2.0 partners to provide districtwide ACT testing.

2.1 ACT Pre-Test

Administration of the ACT practice test differed by GUI 2.0 district. Schools identified four-hour periods of time for students to take the test, with some offering it on multiple days. Tests were then sent to CES for scoring. While some districts chose to give the test to all students, others selected students to take the exam or allowed students to self-select into taking it. Typically, the larger school districts had lower levels of participation. Pre-test data was valuable for identifying deficits in student knowledge and providing targeted services to address those deficits.

2.2 ACT Test Preparation

Test preparation services were developed by CES but were designed to be provided to the students through school district teachers and other staff. CES held training sessions for school personnel on how to use the materials they provided. Training included information on how to interpret results from the practice ACT exam. The practice exam was a crucial component of the test preparation model as it identified where students were lacking in knowledge and needed to spend additional time studying. Test preparation services were then designed to target those deficits with additional curriculum and test-taking practice. GUI 2.0 students also received general test-taking tips through preparation services.

Test preparation was delivered in several formats. Here we provide a brief summary of services by district.

- Cedar Rapids: ACT test preparation varied by school. George Washington High School provided services in the evenings and weekends in two-hour blocks. John F. Kennedy High School made CES textbooks available to students and offered in-person tutoring and coaching on the weekends in two-hour blocks. Thomas Jefferson High School provided services separately for ESL students and allowed all students to seek assistance during lunch or free periods. At Metro High School, GUI 2.0 coaches worked one-on-one with students who opted in to test preparation. Teachers presented test-taking information in slides to all students.
- Clinton: GUI 2.0 students at Clinton High School participated in 90 minutes of test preparation each week starting in February and ending in late March.

- Columbus Junction: Teachers administered test preparation curriculum during homeroom classes for 20 minutes at least once a week for six weeks.
- Davenport: Davenport schools implemented test preparation services differently in each school. Central High School students could opt in to preparation sessions based on the results of their pre-ACT exam, led by teachers who taught the subject in need of additional practice. North High School provided materials to students who participated in small group study sessions during homeroom periods. West High School provided test preparation services on weekends and during free periods, focused on test subject material.
- Denison: Schoolwide test preparation services were administered during second-semester student seminars.
- Des Moines: At East High School, GUI 2.0 coaches and teachers met with students during homeroom periods to go over specific skills based on the pre-test. Hoover and Lincoln high schools targeted students who took the pre-test with five ACT test preparation sessions during homeroom times, one for each subject test and one covering test-taking advice. North High School planned for up to 30 hours of CES test preparation curriculum, taught by high school teachers. Roosevelt High School offered one full day of ACT test preparation curriculum, with follow-up sessions offered for four days during student seminars leading up to the final ACT exam.
- Fort Dodge: Two four-hour workshops were held on weekends in November. The first focused on reading and science, the second on English and writing.
- Marshalltown: No in-person ACT test preparation services were provided.
- Ottumwa: Three test preparation events were held, each for four hours.
- Perry: No in-person ACT test preparation services were provided.
- Sioux City: While Sioux City has three high schools—East, North, and West—all schools used the same implementation strategy for administering CES curriculum. ACT test preparation services were offered twice a week in November and December for one to two hours a session.
- Storm Lake: One test preparation session was held in March. The session was four hours long and covered material from all four ACT test sections.

2.3 ACT Districtwide Testing

GUI 2.0 worked with partner districts to implement districtwide testing for the GUI 2.0 cohort. Districtwide testing was new to nine of the 12 districts. Two—Des Moines and Columbus Junction—had previously provided districtwide testing. Denison did not offer districtwide testing but chose to give all students vouchers to pay for the ACT on their own time. GUI 2.0 staff worked with ACT and a district coordinator to register all students for the ACT to be administered in either early or late spring, including working with students who needed accommodations. The test was administered during the school day and was free for all students.

3. DATA AND METHODOLOGY

In order to summarize ACT activities completed by the GUI 2.0 cohort, we looked at participation rates by district and demographics (Section 4). We then explored the outcomes on the official ACT exam based on whether students took the pre-test, participated in in-person test preparation through CES, or both (Section 5.1). Finally, we looked at the overall ACT completion rates and the effect of districtwide testing (Section 5.2).

3.1 Data

The data used in this analysis come from several sources.

3.1.1 GUI 2.0 School Districts

To be GUI 2.0 partners, school districts were required to submit data to Iowa College Aid three times a year. In each data submission we requested current enrollment information, including demographic data and entry and exit dates (if applicable). At the end of each semester we collected data on school attendance, course enrollment, final grades, and standardized test scores. These data were linked by each student's state ID number.

Each district was also required to identify a person in the school to report on student participation in GUI 2.0 services. In some schools this person was hired specifically for GUI 2.0; in others a current employee (typically a counselor) was responsible for implementing the program. Iowa College Aid contracted with SCRIBE, a data management system that allowed contacts in the school to enter data regarding services, including the name, general category of service, date, and time spent in that activity for each student. We use this service data to identify ACT test preparation services received by GUI 2.0 students.

3.1.2 Iowa Department of Education (IDE)

We received data from the Iowa Department of Education on GUI 2.0 students annually. These data included enrollment, demographic, attendance, and standardized test information. We used this dataset to verify and fill in any missing data from the school, matched by the state ID number. This data has a one-year delay, prompting us to go directly to the schools for initial data that could be used to inform our decisions in an actionable time period.

IDE also shares data on high school seniors in Iowa with Iowa College Aid. After each senior class has graduated, Iowa College Aid receives a certified file of senior enrollment by school, including demographic variables; however, this file lacks identification of whether a student graduated. Iowa College Aid has received senior enrollment files starting with the graduating class of 2016. This information is used to compare trends in ACT completion for high school seniors in cohorts prior to the GUI 2.0 cohort (Section 5.2).

3.1.3 ACT

Scores on the final exam came from ACT. We matched ACT data to IDE and school data by creating a unique identifier from first name, last name, and date of birth. We used a phonetic matching algorithm available in SAS, a statistical analysis platform utilized to analyze data, to account for slight differences in name spellings.

3.1.4 Cambridge Educational Services

CES provided practice test scores to Iowa College Aid. After each practice test was administered, tests were returned to CES for processing. A detailed report was provided to the schools and to Iowa College Aid outlining overall scores as well as exam sections where each student underperformed, allowing for targeted tutoring. CES also provided aggregate data on online test preparation usage by school but could not link each online account to an individual student.

3.2 Methodology

We used a linear regression model to determine the effects of having participated in GUI 2.0 ACT services (see Section 5.1). The sample for this analysis included only GUI 2.0 students who completed the final ACT exam. The outcome variables in these models are scores on the ACT exam, including English, math, science, reading, and composite test sections. We used demographic control variables including free or reduced price lunch status (FRPL), individualized education plan status (IEP), English learner status (ESL), gender, and race or ethnicity. We also controlled for academic aptitude prior to the implementation of ACT services using scores on the Iowa Assessment reading and math sections, taken during 10th grade. The high school each student attended in 10th grade was included in the regression as a fixed effect. Finally, the regression included three binary variables of interest indicating whether a student took the practice test, whether they received any in-person GUI 2.0 test preparation service, and a dummy variable interacting practice test and test preparation participation.

In Section 5.2 we analyzed the effect of GUI 2.0 ACT services on ACT completion rates. We used 2016 through 2020 senior class rosters provided to Iowa College Aid by IDE and matched students to ACT records on first name, last name, and date of birth. To account for minor variations in name spelling, we used a phonetic matching algorithm available in SAS. Using a logistic regression model, with whether a student completed the ACT exam as the binary outcome variable, we estimated the effect of having been enrolled in a GUI 2.0 school district in the graduating class of 2020, the year the GUI 2.0 cohort graduated. We constructed three models. The first included only the predictors of interest, GUI 2.0 district status, 2020 graduating class status, and a dummy variable interacting the two. In the second model, we included graduation year as a linear predictor. Finally, in the third model, we included the same demographic control variables as Section 5.1. For each model the average marginal effect of having graduated from a GUI 2.0 district in 2020 was calculated using the STATA package "margins."

4. GUI 2.0 ACT SERVICE PARTICIPATION

In this section we explore the level of engagement for each of our three ACT initiatives (practice testing, test preparation, and ACT completion). Table 1 breaks down participation rates by GUI 2.0 district. Of GUI 2.0 students enrolled in a partner school during 11th grade, we found that 41 percent took the ACT practice test offered through CES.

Approximately 15 percent of students participated in in-person test preparation. CES provided test preparation products that could be delivered in-person or online. Unfortunately, we had no way to identify which students participated in the online test preparation, but we do know that approximately 300 students used the online system for 2 hours on average. Two schools—Marshalltown and Perry—had no in-person test preparation; however, they did have online participation. In Marshalltown, 74 students used the online tool for approximately 2 hours, on average. In Perry, 12 students logged on for an average of 8 hours each.

Finally, through districtwide testing and fee waivers, 70 percent of GUI 2.0 students completed the ACT exam. This rate greatly exceeded our goal of 58 percent, set as a 10 percentage point increase over baseline ACT data from previous years, which showed that 48 percent of students in GUI 2.0 districts typically take the ACT.

Table 1 : Participation in ACT services by district

	Completed ACT practice test	ACT in-person test prep participation	Average hours	Completed ACT exam	GUI 2.0 population
All GEAR UP	2,841 (41%)	1,068 (15%)	6.8	4,881 (70%)	7,008
Cedar Rapids	314 (27%)	143 (12%)	2.0	829 (71%)	1,175
Clinton	74 (36%)	78 (38%)	8.0	97 (47%)	206
Columbus	40 (83%)	45 (94%)	1.4	39 (81%)	48
Davenport	464 (54%)	118 (14%)	1.2	552 (65%)	854
Denison	183 (90%)	152 (75%)	14.1	148 (73%)	204
Des Moines	296 (13%)	353 (16%)	8.9	1,706 (75%)	2,278
Fort Dodge	184 (67%)	22 (8%)	4.5	191 (70%)	274
Marshalltown	137 (37%)	0 (0%)	0	160 (43%)	371
Ottumwa	145 (49%)	22 (7%)	4.5	230 (78%)	296
Perry	157 (95%)	0 (0%)	0	142 (86%)	166
Sioux City	714 (72%)	130 (13%)	5.1	663 (67%)	990
Storm Lake	133 (91%)	<10	4.0	124 (85%)	146

When looking at ACT service participation by demographics (Table 2), we see large discrepancies. Overall, females were more likely to participate in CES services and took the ACT at higher rates.

When looking at race or ethnicity, Black or African American and Native American or Pacific Islander (categorized as "Other" due to small numbers) students were least likely to participate in any ACT-related services. Interestingly, Latinx students participated in practice testing and test preparation services at rates near White students but lagged in completing the ACT.

Students with positive FRPL, IEP, or ESL statuses all participated in services and completed the ACT at lower rates than those without.

Table 2 : Participation in ACT services by demographics

	Completed ACT practice test	ACT in-person test prep participation	Average hours	Completed ACT exam	N
All GEAR UP	2,841 (41%)	1,068 (15%)	6.8	4,881 (70%)	7,008
Gender					
Female	1,481 (44%)	613 (18%)	6.6	2,476 (74%)	3,356
Male	1,360 (37%)	455 (12%)	6.2	2,405 (66%)	3,652
Race/Ethnicity					
Asian	147 (41%)	80 (23%)	7.7	308 (87%)	355
Black or African American	244 (25%)	122 (13%)	6.2	586 (61%)	968
Latinx	813 (46%)	274 (15%)	6.3	1,184 (66%)	1,781
Multiple	120 (33%)	50 (14%)	4.7	231 (64%)	359
White	1,497 (43%)	537 (15%)	5.5	2,540 (73%)	3,471
Other	20 (27%)	<10	-	32 (43%)	74
FRPL					
Yes	1,735 (34%)	693 (14%)	7.6	3,249 (65%)	5,038
No	1,106 (56%)	375 (19%)	5.4	1,632 (83%)	1,970
IEP					
Yes	226 (24%)	58 (6%)	5.9	421 (44%)	960
No	2,615 (43%)	1,010 (17%)	6.9	4,460 (74%)	6,048
ESL					
Yes	289 (31%)	140 (15%)	1.9	562 (59%)	946
No	2,552 (42%)	928 (15%)	6.2	4,319 (71%)	6,062

5. ACT OUTCOMES

In this section we present results of two analyses on the effect of GUI 2.0 services on final ACT scores and ACT completion rates.

5.1 Impact of the GUI 2.0 Practice Test and In-Person Test Preparation

When GUI 2.0 hired CES to provide practice testing and ACT preparation services, the intent was that all students would take the practice test. From practice test results, students would be directed toward services and preparation intended to improve scores on test sections that were identified as in need. This sequence of events did not occur at the rates we had hoped due to implementation challenges (see Section 6.2). Here we explore the relationship between test scores and test preparation.

We modeled final ACT exam scores using linear regression, including demographic variables and 10th-grade scores on standardized math and reading tests as independent variables. The effects of having taken the practice test, participating in test preparation, or doing both are provided in Table 3. We ran the model with scores on each of the ACT subject tests as outcomes, as well as the composite score.

Table 3: CES test preparation services and ACT scores

	English	Math	Reading	Science	Composite
Pre-ACT	.447*	.156	.456*	.581**	.408**
	(.184)	(.147)	(.203)	(.176)	(.146)
Test preparation	-.058	-.056	-.256	-.050	-.074
	(.281)	(.803)	(.309)	(.268)	(.223)
Pre-ACT and test preparation	1.317***	.416	.728	.529	.731**
	(.345)	(.276)	(.380)	(.329)	(.274)

*$p < .05$ **$p < .01$ ***$p < .001$

Table 3 shows that participating in test preparation without the practice exam did not have a significant effect on final ACT scores, in any subject test or the composite score. Meanwhile, taking a practice ACT exam did increase scores on the ACT in all subjects, except math, by about a half-point each. Students who took the practice test and participated in test preparation services experienced the largest increase in English and composite scores, at 1.3 and 0.7 points, respectively. No significant relationship was found for math, reading, or science scores.

5.2 Districtwide Testing and ACT Test-Taking Rates

GUI 2.0 districts were required to provide districtwide ACT testing during the school day to remove cost and timing barriers for disadvantaged students. Eleven of 12 districts did so, while the remaining district provided vouchers for students to take the exam outside school hours at no cost. As a result, 70 percent of GUI 2.0 students completed the official ACT exam.

To determine the impact of districtwide testing, we used a difference-in-differences analysis to compare ACT completion rates of GUI 2.0 students to those of non-GUI 2.0 schools or of earlier cohorts at GUI 2.0 schools. If GUI 2.0 had an effect, we would expect to see a rise in ACT completion rates for the GUI 2.0 cohort (graduating class of 2020). We completed this analysis at the district level; therefore, students who were not officially in the GUI 2.0 cohort (defined during ninth grade) yet enrolled in GUI 2.0 schools the same year as the cohort are included in the ACT completion rates. We used senior enrollment data from IDE, which did not indicate whether a senior graduated. If a student was enrolled multiple years as a senior, we deleted that student from all but the first year of enrollment.

Figure 1 shows ACT completion rates for GUI 2.0 and non-GUI 2.0 districts over time. If the GUI 2.0 program was the only influencing factor, we would expect that pre-intervention, GUI 2.0 and non-GUI 2.0 schools would show similar trends in completion rates. Figure 1 shows a gradual increase for both GUI 2.0 and non-GUI 2.0 schools from 2016 to 2018. In 2019, ACT completion rates drop for non-GUI 2.0 districts but continue to rise for GUI 2.0 districts. GUI 2.0 attempted to change the entire school culture regarding college. If it was successful, the 2019 ACT completion rates might be starting to show a GUI 2.0 effect.

Figure 1: ACT completion rates

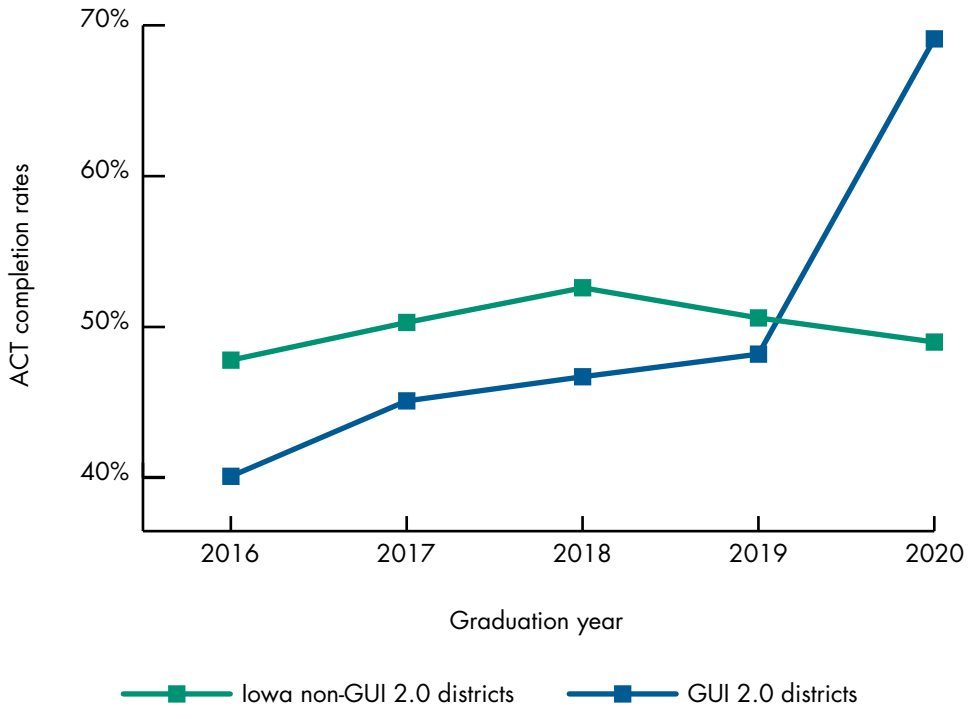


Table 4 lists the results from the logistic regression models run on the outcome variable of whether a student took the ACT exam. The design of the three models follows an analysis of GEAR UP outcomes by Bowman et al. (2016). Model 1 considered three binary predictor variables: enrollment in a GUI 2.0 district, graduation in 2020, and graduation in 2020 from a GUI 2.0 district. Model 2 added the linear trends in graduation year, and Model 3 included demographic control variables. All three models included school of enrollment as a fixed effect. In each model, the average marginal effect of graduation from a GUI 2.0 school in 2020 was approximately 27 percentage points.

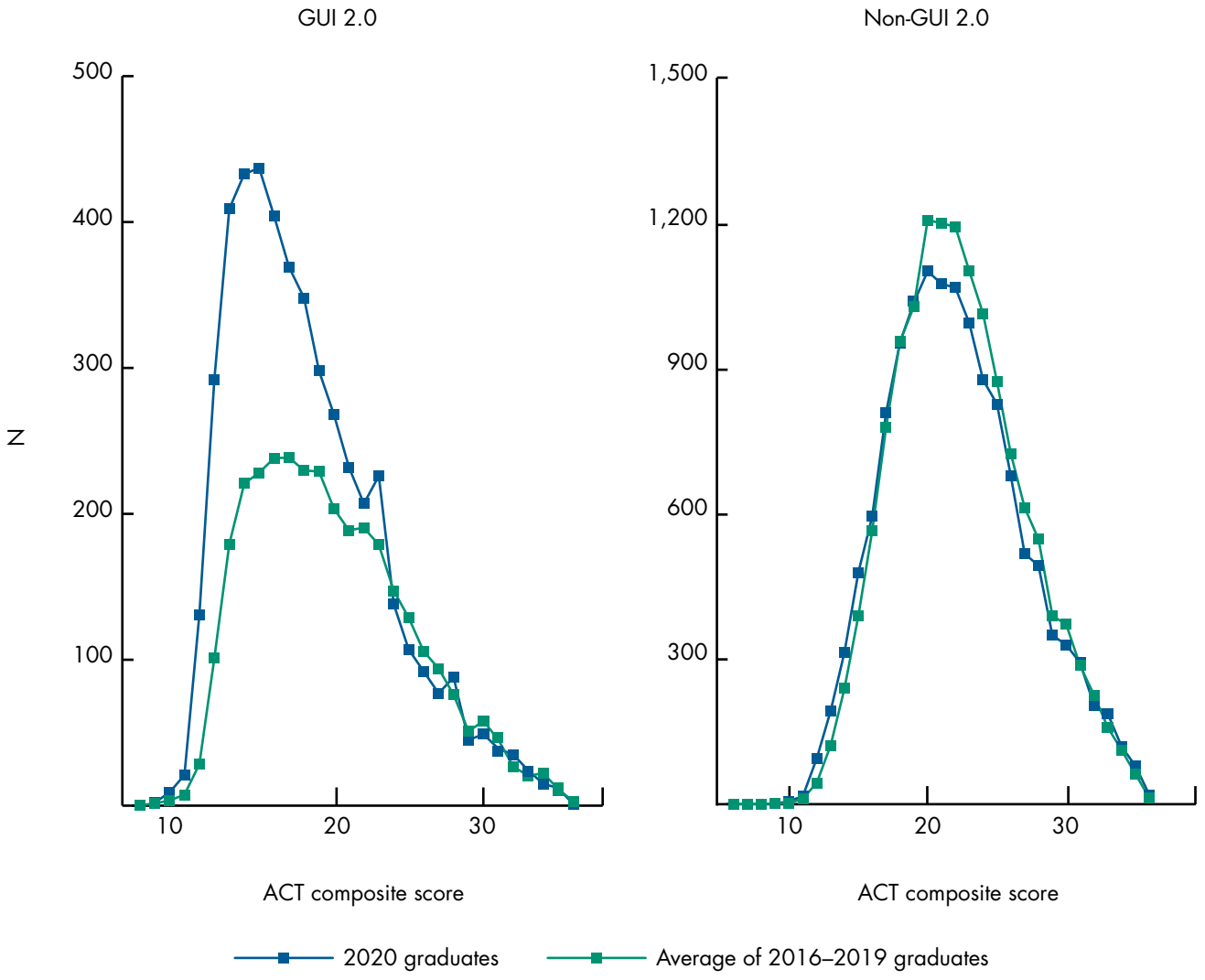
Table 4: GUI 2.0 status and ACT completion

	Model 1	Model 2	Model 3
GUI 2.0 district	-1.105*** (.163)	-1.097*** (.163)	-.391* (.183)
Class of 2020	-.069*** (.014)	-.204*** (.019)	-.313*** (.020)
GUI 2.0 district x class of 2020	1.150*** (.033)	1.148*** (.033)	1.390*** (.041)
Average marginal effect (GUI 2.0 district x class of 2020)	**.265*** (.007)**	**.265*** (.007)**	**.269*** (.008)**
Graduation year (linear)		.054*** (.005)	.062*** (.005)
Asian			.368*** (.038)
Black			-.351*** (.029)
Latinx			-.445*** (.023)
Multiple races or ethnicities			-.119*** (.034)
Native American			-.707*** (.100)
Pacific Islander			-.742*** (.137)
FRPL			-1.237*** (.013)
ESL			-1.067*** (.043)
IEP			-2.206*** (.025)
Female			.575*** (.011)

*$p < .05$ **$p < .01$ ***$p < .001$

Given that GUI 2.0 clearly increased the proportion of students in GUI 2.0 districts who completed the ACT, it is interesting to consider which students were impacted. The distributions of scores for GUI 2.0 and non-GUI 2.0 districts are shown in Figure 2. The average of the pre-intervention graduating classes is compared to the 2020 graduating class in both cases. For the non-GUI 2.0 districts, the distribution of scores remains roughly constant, though the total number of students completing the exam drops slightly. For GUI 2.0 districts, we see that the peak of the 2020 graduating class score distribution shifted toward lower scores, while the number of students taking the ACT at the higher end of the score distribution remained about the same as pre-GUI 2.0 years. The ACT scores for students typically admitted to Iowa's four-year public institutions fall between 21 and 28. With districtwide testing, approximately 100 more students from GEAR UP schools fall into that ACT range than the previous four years, on average.

Figure 2: Distribution of ACT scores before and after GUI 2.0



6. ACCOMPLISHMENTS, CHALLENGES, AND RECOMMENDATIONS

To better understand successes and pitfalls of ACT preparation and testing efforts during 11th grade, we undertook two efforts to elicit feedback from GUI 2.0 coaches and school personnel directly involved. At the end of 11th grade, school staff were surveyed on accomplishments and opportunities for improvement for the purpose of annual reporting to the U.S. Department of Education. We reviewed these responses and extracted all mentions of ACT-related activities. In addition, we administered a separate, specific survey of school personnel most closely involved in the administration of ACT activities to determine the nature of services provided, materials used to support student performance, student participation in services, and logistical issues around communication, attitudes toward services, program support, and implementation of services. Responses from both surveys were combined and examined for accomplishments, challenges, and recommendations for future implementation of ACT preparation activities. Finally, procedural challenges and successes experienced at the administrative level of Iowa College Aid are included below.

6.1 Accomplishments

Not surprisingly, the most frequent success noted by school personnel was the increased number of students who took the ACT. Many respondents expressed great excitement about the large gains in number of students taking the ACT, as well as noting that without the GUI 2.0 effort many of their students would not have completed the ACT. The second most frequent accomplishment involved school personnel witnessing individual students improve their test performance. Specifically, respondents described students who actively engaged in test preparation services and experienced improvement from the practice test to the actual ACT. This outcome also elicited tremendously positive reactions from teachers, counselors, and GUI 2.0 coaches.

Several respondents reported positive experiences with the CES test preparation training and materials. One stated "We trained 7 content area teachers on the CES test and how to utilize that for test prep for the ACT," and another said, "The training was good and easy to follow." Others noted, "Several teachers were very excited to help facilitate prep" and "They were very helpful in helping us understand the tools and creating a plan to access them in our environment." Conversely, a couple of respondents noted that the study book was overwhelming to their students and that they used test prep materials from previous years.

The opportunity to take the pre-ACT or an ACT practice test was a success noted by several respondents. Giving students a preview of the ACT and the opportunity to identify gaps were the most common examples. One person noted, "The students were able to get refreshers in English, Math, Science, and Reading." Another stated in regard to the practice test, "This event alone increased the expectations for the students and their families."

Several other positive outcomes were noted by staff. One person described how their students were more confident as they approached the ACT. Another stated that their students expressed greater expectations for themselves with respect to how they would perform on the ACT and that these expectations were backed up by their actual performance. Finally, another person indicated that after taking the ACT several students engaged in different conversations around what efforts they would need to make to get into college and how to take more challenging coursework during senior year.

6.2 Challenges

By far the most frequently cited challenge was lack of student engagement in ACT preparation activities. Multiple respondents indicated great excitement from students and reported that many students signed up for services (Saturday tutoring sessions, after-school sessions, optional opportunities offered during flex or open times during the day), but the actual number who followed through was much lower. One person described students' attitude that studying for a few days

before the actual exam was all that was required and that spending time on practice tests and studying areas of weakness months in advance did not seem necessary. Not surprisingly, several respondents noted that students who did attend these offered events tended to experience improvement in their scores.

A few respondents indicated that lack of support among others in the building was a challenge, including teachers and administrators not being excited or emphasizing ACT preparation activities. One person who expressed lack of support noted that administrators were often putting out "fires" that got in the way of supporting testing and test prep efforts. As noted below, quite a few school personnel expressed excitement and demonstrated support for these efforts, but this was not a universal experience for GUI 2.0 coaches and counselors.

Having enough time to spend on ACT preparation activities during the school day was mentioned as a challenge by some respondents. This problem was exacerbated by delays in Iowa College Aid's ability to approve a contract with CES. Instead of being offered prior to the start of 11th grade, the practice test occurred after the school year started and school schedules were finalized, leaving little room for test preparation services. Had the data from the pre-test been available sooner, there would have been data to support the need for ACT test preparation. Interestingly, one person stated that there was sufficient time to spend on prep but that commitment to the intervention was lacking among some staff.

6.3 Future Recommendations

Build support for ACT prep and districtwide testing. There were two different responses with respect to support for these activities. Some respondents reported a great deal of support from teachers, counselors, and administrators for providing ACT prep activities during or after school as well as facilitating testing at school during the week. In addition, several respondents noted that these efforts have been or were likely to be sustained after the GUI 2.0 cohort completed 11th grade. At the same time, others noted that a lack of building-wide support was a challenge. Future endeavors should devote time to creating a culture and districtwide practices that promote college access activities such as the ACT.

Emphasize flexibility of test prep services. Several respondents described successes in offering varying types of services as well as a wide variety of modalities for supporting students. Some respondents described success with more engaging test prep materials found on ACT.org. Others noted that opportunities during school, after school, and on Saturdays were helpful, particularly among students who chose to attend. Several noted success around integrating brief activities such as 5-minute test tips or review items into regular class meetings as a way to deliver content to students (for example, "We saw our best success when we had teachers incorporate ACT prep activities into regular class time").

Increase student engagement. Given that student utilization of offered services was the biggest challenge identified by staff, future efforts should emphasize the importance and value of preparing for and completing the ACT. Messaging for the ACT could begin earlier in the program to increase students' perception that the ACT is a normal part of the college preparation process. The GUI 2.0 program has demonstrated strong outcomes in increasing students' expectations that they will complete college after high school. Additional efforts to inform students about the importance of the ACT in this process might increase engagement. In addition, GUI staff should begin planning even earlier to engage school personnel in determining what types of activities are more likely to engage students in their specific setting.

Expand students served. One respondent indicated directly, and several others implied indirectly, that the students who most need ACT prep services—likely first-generation or lower socioeconomic status, possibly students of color—were less likely to take part in services. This issue is also reflected in Table 2, which shows lower participation rates for minority and low-income students. Given the goal of GEAR UP Iowa to specifically support underserved students, future efforts should include messaging that encourages all students to participate in services and challenges school staff to ensure that every student in the building hears the message that taking the ACT is for them.

7. CONCLUSIONS

There is no doubt that GUI 2.0 had a large effect on the number of students who completed the ACT. This was done by requiring GUI 2.0 partners to offer districtwide ACT testing that occurred during the school day and was free for students. Access to the ACT not only helped students accomplish a step that is important for college enrollment, but also allowed students to see their potential. For instance, an additional 100 students tested as eligible to attend a Regent university in Iowa, compared to the past few years.

In addition to providing access to the ACT exam, GUI 2.0 helped students succeed by administering a practice test, which improved scores by approximately half a point. The largest effects were seen when students took part in both the pre-test and the test preparation services, with a typical gain on the composite score of 0.7 points. Unfortunately, few students participated in both the pre-test and test preparation due to issues with scheduling and a lack of enthusiasm, either among school staff or among students.

Our recommendation for future emphasis on the ACT is to start planning early. If GEAR UP Iowa develops flexible, engaging test preparation services and starts conversations with school personnel from the beginning, students will have the potential to benefit significantly from exposure to ACT material.

8. REFERENCES

Bowman, N. A., Kim, S., Ingleby, L., Ford, D. C., & Sibaouih, C. (2018). Improving College Access at Low-Income High Schools? The Impact of GEAR UP Iowa on Postsecondary Enrollment and Persistence. Educational Evaluation and Policy Analysis, 40(3), 399–419. https://doi.org/10.3102/0162373718778133

Bulman, G. (2015). The effect of access to college assessments on enrollment and attainment. *American Economic Journal: Applied Economics, 7*(4), 1 -36.

Filizola, E. (2008). The effect of a test preparation course on the SAT scores of students at Saint Joseph Academy (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3309546)

Goodman, S. (2016). Learning from the test: Raising selective college enrollment by providing information. *Review of Economics and Statistics, 98*(4). 671-684.

Hoxby, C. M., & Avery, C. (2012). The missing "one-offs": The hidden supply of high-achieving, low income students. *National Bureau of Economic Research Working paper 18586,* National Bureau of Economic Research.

Hurwitz, M., Smith, J., Niu, S., and Howell, J. (2015). The Main question: How is 4-year college enrollment affected by mandatory college entrance exams? *Educational Evaluation and Policy Analysis, 37*(1), 138-159.

Hyman, J. (2017). ACT for all: The effect of mandatory college entrance exams on postsecondary attainment and choice. *Education Finance and Policy, 12*(3), 281-311.

Klasik, D. (2013). The ACT of enrollment: The college enrollment effects of state-required college entrance exam testing. *Educational Researcher, 42*(3), 151-160.

McMann, P. K. (1994). The effects of teaching practice review items and test-taking strategies on the ACT mathematics scores of second-year algebra students (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 9423737)

Moore, R., Sanchez, E. & San Pedro, S. (2019). College Entrance Exams: How Does Test Preparation Affect Retest Scores? Iowa City, IA: ACT.

475 SW Fifth St., Suite D | Des Moines, IA | 50309-4608
877-272-4456 | IowaCollegeAid.gov |info@iowacollegeaid.gov

3008 REV 10/20