COLLEGE READINESS

Using EPAS™ to Evaluate School-Based Intervention Programs: GEAR UP

Introduction

In this brief, we examine how the ACT's EPAS™ (Educational Planning and Assessment System) can be used to evaluate school-based intervention programs. Specifically, we consider the evaluation of the federal government's Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP), an initiative designed to increase the college awareness and college readiness of students at low-income middle schools and high schools.

What is EPAS?

Composed of three integrated programs—EXPLORE®, PLAN®, and the ACT® test—EPAS is a longitudinal assessment system that measures student readiness in English, mathematics, reading, and science along a continuum of college readiness benchmarks. EPAS allows teachers, counselors, and students to track academic progress from eighth through twelfth grades on skills directly related and linked to college preparation.

The knowledge and skills measured by the ACT are closely aligned with success in college. The higher a student's score on the ACT, the more likely that student is to be college ready, to achieve higher grades in college, and to persist to a college degree. EXPLORE and PLAN are early measures of college readiness in the eighth and tenth grades, respectively, and provide scores that are reported on the same score scale as the ACT.

In conjunction with assessing academic progress, EPAS helps students plan for their future by providing information on careers that match their interests and skills. Encouraging students to think about possible careers early on allows them to plan more effectively for the academic courses they will need to achieve their career goals.

The GEAR UP Program

GEAR UP provides discretionary grants to schools and partnerships for the purpose of increasing the readiness of low-income students to attend and succeed in postsecondary education. The grants are up to six years in length and provide services to a cohort of students who are then followed from middle school through high school. The services vary by school; some examples include tutoring and mentoring, programs to increase awareness of college admissions processes, programs to inform students about collegiate curriculums and relevant high school coursework, summer learning programs, and courses

for parents to improve their involvement and help with student planning. Because GEAR UP services vary across schools, we would expect the relevant outcomes to vary by school also. For example, if the goal of the program is to educate students about the college admissions process, then meaningful outcomes might be taking college-preparatory courses, having college plans, and taking a standardized admissions test at the appropriate time. For programs that target specific academic skills (e.g., tutoring in math), achievement test scores may be the most appropriate outcome. A reasonable question to ask is whether a school or partnership can show that their GEAR UP program is having the desired effect. In other words, are there changes in the relevant outcomes that can be attributed to the GEAR UP program?

EPAS as the Basis for Evaluation

Evaluations of school-based intervention programs typically entail comparisons of schools (and students) who received the intervention to those who did not. A sound evaluation plan therefore requires collecting data on relevant outcomes and background characteristics of students and schools. To measure the effect of the intervention program, the data must be collected both before the program is initiated (baseline data) and during or after the intervention takes place (follow-up data). ACT's EPAS is ideally suited for the evaluation of school-based intervention programs related to academic achievement, educational and career plans, and overall college readiness for the following reasons:

- Baseline (EXPLORE) and follow-up (PLAN and/or ACT) measures are available so that changes in outcomes attributable to intervention programs can be assessed.

- The EXPLORE, PLAN, and ACT assessments measure the same constructs at different time points, allowing for meaningful comparisons over time.

- EPAS assessments include reliable measures of academic achievement directly related to college readiness standards.

- EPAS data include important measures of students' educational plans and vocational interests.

- Data collected through EPAS include a wide variety of background factors such as parents' educational level and race/ethnicity, which may be controlled for in analyses or used for analysis of specific groups within the population.

- Evaluations can be performed on student-level data, on school-level data (by aggregating student-level data), or both.

Evaluation of the GEAR UP Program

ACT used EPAS data to evaluate the GEAR UP program. We compared changes in academic readiness and college intent for a sample of nearly 13,000 students from more than 250 GEAR UP schools to a comparable sample of nearly 12,000 students from 250 non–GEAR UP schools. We used data from ACT's EXPLORE and PLAN programs to measure students' academic

readiness and college intent at grades 8 and 10, respectively. In addition to comparing GEAR UP and non–GEAR UP schools directly, we also used a statistical model that controls for the poverty level of the schools. This was done because GEAR UP schools, by definition, are schools with very high poverty levels.

In these ways, we were able to measure the degree to which GEAR UP affects change between grades 8 and 10. Growth between these two grades is crucial for college readiness, because many students set their future educational courses during this period. Data from the ACT (grade 11 or 12) were not used, because most of the students we studied had not yet finished eleventh grade. However, in the future, the evaluation could be extended by also considering these data. Extending the evaluation to eleventh and twelfth grades would be especially meaningful because the data would then include students' college preferences as well as final measures of academic achievement in high school.

Results

The results of the evaluation suggest that, compared to students from non–GEAR UP schools, students from GEAR UP schools perform slightly better with respect to changes in academic readiness and college intent from grade 8 to grade 10. This is true also after controlling for poverty level. Specifically:

- Students from GEAR UP schools had greater changes in overall academic performance from grade 8 to grade 10 (Table 1).

Table 1: Changes in Mean Composite Score

Mean Composite Score	GEAR UP	Non–GEAR UP
EXPLORE (8th grade)	14.53	14.56
PLAN (10th grade)	16.36	16.32
Change	+1.83	+1.76
GEAR UP increase	+0.07	
After adjustment for poverty level	+0.16	

- Students from GEAR UP schools were more likely to be on target to be ready for college in English (Table 2) and reading (Table 3).

Table 2: Changes in Percentages of Students Meeting English Benchmark

Meeting English Benchmark	GEAR UP	Non–GEAR UP
EXPLORE (8th grade)	56.7%	58.2%
PLAN (10th grade)	64.5%	63.6%
Change	+7.8%	+5.4%
GEAR UP increase	+2.4%	
After adjustment for poverty level	+3.5%	

Table 3: Changes in Percentages of Students Meeting Reading Benchmark

Meeting Reading Benchmark	GEAR UP	Non–GEAR UP
EXPLORE (8th grade)	32.5%	34.3%
PLAN (10th grade)	36.6%	35.1%
Change	+4.1%	+0.8%
GEAR-UP increase	+3.3%	
After adjustment for poverty level	+5.7%	

- Students from GEAR UP schools were slightly more likely to take the college-preparatory high school core curriculum at grade 10 (Table 4) and have college plans at grade 10 (Table 5).

Table 4: Difference in Percentages of Students Taking High School Core Curriculum

Taking High School Core Curriculum	GEAR UP	Non– GEAR UP
	52.3%	49.5%
GEAR UP increase	+2.8%	
After adjustment for poverty level	+2.1%	

Table 5: Changes in Percentages of Students Having College Plans

Having College Plans	GEAR UP	Non–GEAR UP
EXPLORE (8th grade)	89.1%	89.1%
PLAN (10th grade)	87.9%	86.6%
Change	-1.2%	-2.5%
GEAR UP increase	+1.3%	
After adjustment for poverty level	+1.2%	

Recommendations

Based on our analysis, the following are some suggestions for evaluating GEAR UP programs:

1. Tailor the analysis to the intervention. For example, if the goal of the program is to educate students about the college admissions process, then meaningful outcomes might be taking college prep courses, having college plans, and taking a standardized admissions test at the appropriate time. For programs that target specific academic skills (e.g., extra help with reading), achievement test scores may be the most appropriate outcome. Generally, the most appropriate outcomes will vary by GEAR UP program.

2. Follow students across time. This allows students and groups of students to show that they are indeed improving, and allows students to serve as their own baseline.

3. Track students' participation level in GEAR UP programs. Supplementing our analysis with data about the level of GEAR UP participation for each student, and the type of intervention each student received, will likely better isolate the effects of GEAR UP programs and make their evaluation more meaningful.

4. Track students' long-term outcomes. The true test of GEAR UP's value occurs when students leave high school and have the opportunity to enroll in college. If possible, GEAR UP evaluators should track long-term outcomes, including college enrollment, retention, and degree completion, for the students that attended GEAR UP schools.

5. Use a control group. Comparing outcomes for students from GEAR UP schools to a control group is an attractive study design, as long as the control group is similar with respect to the other factors that affect students' college readiness. Possible control groups include:

- *The school itself.* By comparing outcomes for students prior to the establishment of a GEAR UP program to those who come after, the GEAR UP effects can be measured. The strength of this approach is that school-level differences are naturally eliminated (as long as the school does not undergo extensive changes during the study period). Data must be collected for several years and care taken that GEAR UP effects are not confounded with other changes that may occur over time.

- *A similar school.* By matching on a set of relevant variables, a similar school or schools can be selected for comparison. While this might be difficult for an individual school, ACT's EPAS provides a rich source of data across thousands of schools.

Conclusion

With its reliable measures of students' academic achievement, educational and career plans, vocational interests, and background characteristics, ACT's EPAS helps program evaluators conduct powerful and meaningful analyses of changes in students' readiness for college. EPAS is therefore a rich source of longitudinal data for the evaluation of school-based intervention programs.

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