Using High School and College Data to Predict Teacher Candidates' Performance on the Praxis at the Unibetsedåt Guåhan/University of Guam

IES Institute of Education Sciences
REL PACIFIC Regional Educational Laboratory

Why this study?

Policymakers and educators in Guåhan (Guam) are concerned about the persistent shortage of qualified K–12 teachers. Unibetsedåt Guåhan (University of Guam, UOG) staff believe that more students from Guåhan are interested in becoming teachers, but that prospective teacher candidates find it challenging to pass the Praxis® Core Academic Skills for Educators (Praxis Core) test, a key requirement for entering the teacher preparation program at the School of Education. To help more students from Guåhan succeed on the test and prepare for entry into the teacher preparation program, this study examined which student background and academic preparation characteristics predict passing the Praxis Core test and its individual subtests: math, reading, and writing.

This study analyzed two groups of students who enrolled as first-time, degree-seeking, full-time students at UOG between fall 2012 and fall 2017 and attempted a Praxis subtest at least once within three years of enrollment at UOG. The first group consisted of 128 students who graduated from one of six Guåhan public high schools. The second group consisted of 216 students and included the students in the first group, with the addition of students who may not have graduated from a Guåhan public high school.

High School Factors[1]

- High school graduation year.
- High school attended.
- Gender.
- Pell Grant status.[2]
- Ethnicity.
- Primary language spoken at home.
- Cumulative high school grade point average.
- Attendance rate across high school mathematics and English courses.
- Total high school mathematics and English credits.
- Total high school Advanced Placement (AP) and honors mathematics and English credits.
- Grade 9–12 mathematics and English course grades by semester.

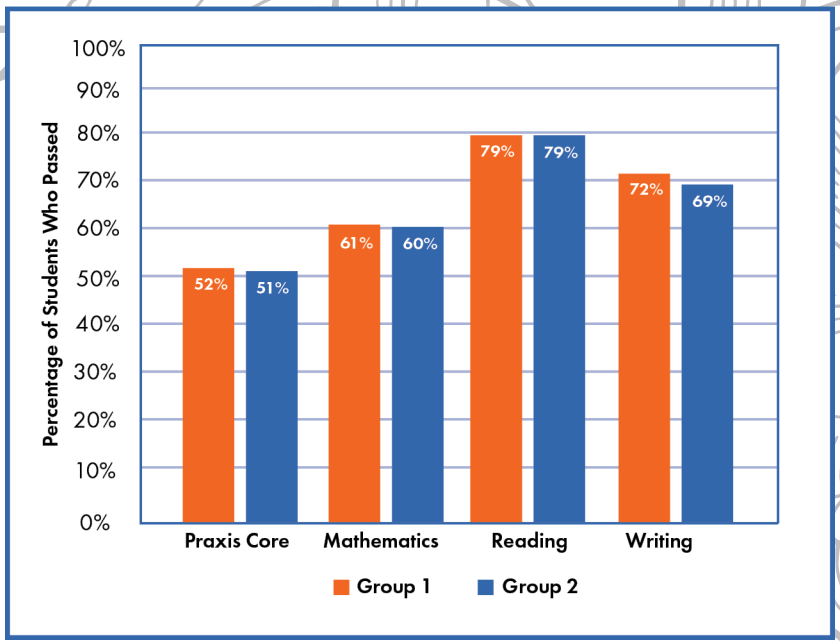
College Factors[3]

- Gender.
- Ethnicity.
- Pell Grant status.
- Course grades in courses required for admission to the UOG School of Education.[4]

Findings

Praxis Test Results

- More than half of students from both groups (52% of Group 1 and 51% of Group 2) passed the Praxis Core test within their first three years.
- Students were more likely to pass the Praxis reading or writing subtests than the Praxis mathematics subtest.



Praxis Core Test

High School Factors

- Students were more likely to pass the Praxis Core test if they had earned any Advanced Placement (AP) or honors credits in mathematics.

College Factors

- UOG students who did not receive a Pell Grant had a higher overall pass rate on the Praxis Core test than students who received a Pell Grant.
- Of the students who did not receive a Pell Grant, students who earned at least a B in first-year college English had a higher overall pass rate on the Praxis Core test.

Mathematics Subtest

High School Factors

- Students were more likely to pass the Praxis mathematics subtest if they had earned any Advanced Placement (AP) or honors credits in mathematics.

College Factors

- Male students at UOG were more likely to pass the Praxis mathematics subtest than female students.

Reading Subtest

High School Factors

- Students were more likely to pass the Praxis reading subtest if they had earned a grade of 92 or higher in the second semester of the grade 10 English course at a Guåhan public high school.

College Factors

- Male students at UOG had a higher pass rate on the Praxis reading subtest than female students.
- Among female students at UOG, those who did not receive a Pell Grant performed better on the reading subtest than those who did.

Writing Subtest

High School Factors

- Students were more likely to pass the Praxis writing subtest if they had earned a grade of 103 or higher in the second semester of the grade 10 English course at a Guåhan public high school.

College Factors

- UOG students who earned a grade of A in Human Growth and Development had a higher passing rate on the Praxis writing subtest than students who earned a lower grade.

Reflection Questions for Educators and Policymakers on Guåhan

Course grades and other student and academic factors in high school and college are associated with pass rates on the Praxis Core test. **How can UOG use this information to target supports to students who may be at risk of not passing the Praxis Core test?** UOG may consider creating an early warning system to identify whether students who enroll in prerequisite education courses are at risk of not passing the Praxis Core test.

The study identified several high school and college courses in which high grades are associated with higher pass rates on the Praxis Core test and some of the subtests. **To what extent are these courses themselves beneficial to passing the Praxis Core test? To what extent is the curriculum aligned with the content of the Praxis Core test?**

Students were overall less likely to pass the Praxis mathematics subtest, but students who had earned any AP or honors math credits in high school were more likely to pass this subtest than their peers who had not earned any AP or honors math credits. **What are some potential reasons for lower pass rates on the math subtest?**

Female students and Pell Grant recipients in the study were less likely to pass the Praxis mathematics subtest when compared to male students and to students who had not received a Pell Grant, respectively. Why might these differences exist? **What supports can be provided to Pell Grant recipients and female students to assist them in passing the Praxis Core test?**

Notes

1. These factors were used with group 1 students.
2. The federal Pell Grant is designed to assist students from low-income households and was used in this study as a proxy for socioeconomic status.
3. These factors were used with group 2 students.
4. The list of courses includes: Basic Mathematical Applications (MA 110), Introductory College Algebra (MA 115), Introductory Statistics (MA 151), Freshman Composition (EN 110), Writing for Research (EN 111), Introduction to Teaching (ED 110), Human Growth and Development (ED 201), Fundamentals of Communication (CO 210).

To access the published REL study, visit: https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4651

Donahue, T., Rentz, B., Santos, M., Aguon, A. C., & Arens, S. A. (2021). *Using high school and college data to predict teacher candidates' performance on the Praxis at Unibetsedåt Guåhan (University of Guam)* (REL 2021–104). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Pacific. https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4651