

# Smith, Troy

## Determinants of School Success: Performance in Secondary Schools in Mukono, Uganda

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In recent years, test scores and school performance have become hot topics in the United States. The US federal government recently set up school standards and established ways for students and parents to leave “failing” schools for better performing ones. While the United States has just begun applying the theories of competitive economics to the education system, several countries throughout the world have been dealing with such a system for some time. Uganda, in particular, has an array of both private and public schools, with success based on standardized test scores. A school’s student test scores influence its continued existence as new students are attracted to schools with higher test scores. These students, in turn, pay fees bringing in revenue for the school. In such a test-based system, identification of factors influencing performance becomes strategically critical. Using the context of Ugandan schools to learn more about successful school performance, this research identifies and examines some factors that may contribute to school success in Uganda.

### **The Model**

This research looked at two factors that were thought to influence school performance in Ugandan schools. Many other factors could have been considered but lack of time and resources was prohibitive. The first measure, “school development,” looked at the correlation between the age of the school and the school’s performance on the national exams. It was hypothesized that older, more developed schools were likely to have better teaching practices, more advanced administrative structure, more comfortable learning environments, and more resources. All of these things were thought to influence knowledge acquisition and lead to higher test scores. The second factor examined was “important resources.” This was a qualitative measure of what resources or other determinants of success were subjectively important to individual Ugandan headmasters as mentioned in the interview process.

### **Methods**

Sample and Data Collection. As a research assistant on the BYU Uganda International Volunteers Program in the summer of 2002, I collected quantitative and qualitative data from headmasters of Ugandan secondary schools in Mukono, under the direction of Dr. Julie M. Hite. This data consists of demographic survey data, network survey data and ethnographic interviews with headmasters of fifty secondary schools (both public and private) in the Mukono District of Uganda. The initial 37 schools were selected through theoretical sampling by their participation in previous GIS research that located the schools and their actual geographical location. A second wave of 13 schools was selected based on the frequency the schools were named on a network survey by the initial sample of headmasters.

In addition, performance of secondary schools was measured by national examinations, which are given to all students upon completion of Form 4 and Form 6 every year in November. The exams are standardized throughout the country and are administered by the Uganda National Examinations Board (UNEB). Unfortunately, test scores were available for only 35 of the fifty schools where data was collected and I adjusted my study accordingly. Two measurements of school performance on these exams were constructed. Since many schools didn’t have candidates for the Form 6 tests, I examined only performance on the Form 4 exams. Also, since every school had a different number of candidates taking the exams, I used only percentages instead of absolute numbers of those who passed. The first measure was constructed by taking the percentage of all students who passed with a 1, the highest score given on

the exam (the exam is graded on a scale of 1-4 but if someone fails they are given a 9). The second measure is the percentage of students who passed the exam with a 2 or better. Although the first four schools remain unchanged under the two different measures, many other schools changed relative position depending on which measure was used.

## Data Analysis

I used this preexisting and archival data to examine the influence of these factors on student performance on nationally administered standardized tests. Qualitative analysis, facilitated using NVivo, a qualitative data analysis program, helped to identify patterns across the schools that suggested the relative importance of each of the factors in school performance.

## Findings

Although the oldest school had the highest percentage of students passing under both measures of school success, age was found to be less correlated with success than had been hypothesized. The average age of a school in the study was 16.24 years, but the oldest school was 100 years old and two of the schools had only existed for one year (only 34 schools were used in this analysis because one school refused to answer the age question). Two of the top four schools were five years old or less and one of the bottom schools was over thirty years old. Under the first measure of school success, an extra year in existence was found to raise test scores by .3%. Under the second measure, an extra year in existence was found to raise the percentage of students passing with a score of 1 or 2 by .2%. Unfortunately, both regressions suffered from issues of autocorrelation and the first regression showed signs of heteroskedasticity which could be corrected in future studies.

In each of the interviews, headmasters were asked about factors that contributed to the success of their school. Teachers were found to be overwhelmingly the most important resource. Twenty-nine of the thirty-four (one school didn't have data available on resources) headmasters mentioned teachers as one of the leading determinants of the success of their school. According to one headmaster, "...the most important resource is the human resource, the people we work with. That one is the most important resource because you may have books, you may have buildings, you may have anything, but when...the people are not committed, then your success is definitely limited."<sup>1</sup>

Physical resources such as textbooks, laboratory equipment, classrooms, and other buildings were the second most mentioned determinant of success. Other determinants of success, listed in order of importance were financial resources (money), management and administration, students, outside donations, discipline, government support, land, the environment of the school, and the reputation of the school and/or headmaster.

When resources are correlated with performance on standardized tests, the most successful schools put more weight on teachers and financial resources while those with lower test scores stress the importance of teachers relatively less and stress physical resources much more than financial resources. The top five schools under both measures of success mentioned teachers as one of their most important resources.

## Implications

This study describes data on what factors influence school performance, as measured by student standardized tests in Mukono, Uganda. Since schools must compete for students to stay in business, there is a direct relationship between test performance and the long-term viability of a school. While this study focuses on a specific geographical region, these findings could provide a starting point for examining factors of school success in other regions of Sub-Saharan Africa and in other countries. With the current

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<sup>1</sup> Interview 4-44, July 4, 2002, Mukono, Uganda.

worldwide interest in education and improving school performance, further studies of this nature should be done to inform discussion as to the relative importance of factors that influence this important investment.