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RELATIONS BETWEEN TEACHERS’ CHARACTERISTICS AND DIFFERENCES IN ACADEMIC ACHIEVEMENT AMONG UGANDAN PRIMARY SCHOOLS

S. P. HEYNEMEN

Recent research survey from industrial societies has cast a note of empirical skepticism into the presumed relationship between the characteristics of teachers and the academic performance of their pupils. However, when the same questions are asked in a non-industrial society two facts add a new perspective to the discussion. First, teacher training, measured by grade of salary, may not be capable of expressing any notable impact, not because it is unrelated to achievement, but because its equitable distribution between schools creates only minimal variance. Second, despite minimal variance in mean training and lack of relationships with teacher socio-economic status, the quality of a teacher in the English language is a consistently significant correlate of pupil academic achievement. Both of these have the effect of lending a renewed impetus to the efforts of influencing the academic achievement of pupils by concentrating upon specific skills of their teachers.

Each year in Uganda, disappointing Primary Leaving Examination results have given rise to efforts to attach the cause to school teachers. In 1972, for example the national press frequently reported the censures which administration officials gave to teachers within their districts.1 Typical were the comments made by the Assistant Inspector of Schools in Mubende District who was reported in the Uganda Argus as having attacked teachers for having adopted a ‘relaxed attitude’ towards their work and at the same time hit at those teachers who regard teaching as a job they do simply to earn a living .... He emphasized that teaching is a vocation and the best reward to a teacher is to see that a child a teacher taught holds a responsible position in the country. He concluded by urging teachers to double their efforts.2

Teachers are often laden with expectations for influencing children in excess to what is possible. In addition to instilling academic knowledge, it is common to expect them to set personal examples of moral conduct, to transfer the current appropriate attitudes called for by government and religious agencies, and to demonstrate large quantities of love and support. “Teaching”, the principal of the National Teachers’ College once said, “is a special type of professional parenthood which calls for inexhaustible patience and special love for young people.”3

Because of these varied expectations, teachers can be held responsible for a gamut of outcomes, and it is not surprising that when a direct problem, like low PLE results, is discussed, teachers can fill a vacuum as popular
scapegoats. Thus it is within this political context that I set out to measure precisely what empirical evidence does exist to link the characteristics of teachers to the performance of their pupils.

There are few who would doubt that teachers play a significant role in influencing particular students. Few can reflect upon their own educational experiences without remembering a teacher of importance in the formulation of his personality. However, I am not primarily concerned with the effects of teachers on attitudes; this aspect of teacher impact is not at issue. What interests me is exploring the impact of teachers on cognitive achievement, thereby testing the path of others who lay blame on teacher training, or pay or other characteristics, but without any statistical evidence to even connect them with low scores.

To test this question, I took a sample which considered of a random selection of 67 primary schools from five of the most diverse districts (North and South Karamoja, West Buganda, Bugisu and Toro), and all three urban areas in Uganda (Kampala/Entebbe, Mbale/Tororo, and Jinja). These schools represent 10.7% of all the schools, and 12.9% of all the teachers from the sample districts.4

I elicited information from each teacher personally by visiting every school and requesting that each complete a questionnaire. Though originally written in English, fast and accurate translators were always available for those who needed assistance. Teachers were not allowed to compare reactions or to supply assistance among themselves. Subsequently, their responses were tabulated and combined for each school, the rationale being that if pupil achievement scores were to be affected by teacher characteristics, they would be affected not just by their P7 teacher, but by the characteristics of all the teachers at any given school.

TEACHERS AND ACADEMIC ACHIEVEMENT

Studies in industrial societies over the last decade have made it necessary for educators to examine the assumption of the importance of teachers in influencing achievement. There is presently a real issue as to the significance of measurable teacher characteristics in accounting for the variance in pupil achievement, and it is important to note how little actual evidence there is for the impact of teachers on pupil achievement compared to other variables. The Equality of Educational Opportunity Study, for example, held that the influence of teachers was slight.5 And in reporting the findings to another context, Mosteller and Moyihan mention that

A list of variables concerning such matters as teacher's scores on a vocabulary test, their own level of education, their years of experience showed little relation to the achievement of white students, but some for Negroes and increasingly with higher grade levels. Even so, none of these effects was large; the differences between school variance was so little to begin with, dividing it up, parcelling it out between this factor and that, produced results unimpressive at best, and demoralizing at worst.6
Other studies lend support to a weak relationship between teacher characteristics and achievement, but Rossi, in his review of the whole achievement literature, reports that

Perhaps the strongest impression these researchers make is that the teacher's contribution to his students' achievement, in the short run, are minimal. Thus we find that indices of teaching experience correlated with student achievement around +.2 at the maximum and are often zero or slightly negative. Similar small correlations are obtained with measures of the quality and the amount of teacher training. In sum, no clear pattern of findings emerges from the research on this topic. We may conclude that the teacher's contributions to his students' achievement do not arise directly out of his background, training, sex, or marital status.8

Though the results of teacher characteristics on pupil achievement in the United States and Western Europe are, at best, equivocal, I felt that the absence of television and other electronic stimuli might elevate teachers into having a more significant impact in a non-industrial society.

SOME DESCRIPTIVE ASPECTS OF UGANDAN PRIMARY TEACHERS

Compared to teachers in the United States with geographical mobility and high rates of turnover, Ugandan teachers seemed the more stable. Of the sample, the mean age was 32. Sixty-six per cent were male; 67 per cent had taught for more than five years; 40 per cent for more than ten years. Thirty per cent had even taught for more than five years within the same school.

The typical teacher appeared to be very much a 'local boy' or girl 'who made good', one who knew the community with the intimacy of someone born nearby. In fact, nearly four out of ten were situated in a school within five miles of the village where they were born. Some teachers complained that teaching close to their birthplace caused them status problems, for it was difficult to take command of parents or to mobilize community leaders who had known them as little children. Nevertheless, of the profession itself, teachers had little complaint. In local terms, it was a very prestigious and well-paid occupation, the salaries of teachers having been raised several times after independence. Seventy-five per cent said that they never wished to leave the teaching profession. When asked if they thought they received sufficient "respect" in being a professional teacher, 65 per cent said "yes".

Because the teaching profession was the first large-scale occupation in the Ugandan modern sector, recruitment tended to closely reflect the social characteristics of the larger peasant society.9 For example, ninety-three per cent of the teachers' mothers and 56 per cent of the teachers' fathers had never earned a salary at any time in their lifetimes. Eighty-one per cent of the teachers' fathers were unskilled labourers or peasant farmers. Thus, there is a sizeable disparity between the schooling of the teachers' parents and the schooling of the teachers themselves (Table 1).
Table 1

Parental Education of Teachers in Ugandan Primary Schools
(N = 598)

<table>
<thead>
<tr>
<th></th>
<th>No Schooling</th>
<th>Few Years Only</th>
<th>Finished Primary School</th>
<th>Primary School and Training</th>
<th>Attended Senior Secondary School</th>
<th>Finished Senior Secondary School</th>
<th>Senior Secondary School and Training</th>
<th>Attended University</th>
<th>Non-Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers</td>
<td>55.0</td>
<td>28.4</td>
<td>7.7</td>
<td>4.0</td>
<td>1.3</td>
<td>.7</td>
<td>.7</td>
<td>0</td>
<td>2.1</td>
</tr>
<tr>
<td>Fathers</td>
<td>35.5</td>
<td>31.8</td>
<td>11.5</td>
<td>12.4</td>
<td>2.7</td>
<td>1.2</td>
<td>3.0</td>
<td>.5</td>
<td>1.5</td>
</tr>
</tbody>
</table>
Thirty-five per cent of the fathers had never attended any school. Eighty-three per cent of the mothers and 76 per cent of the fathers had never finished primary school, therefore completing less schooling than their professional offspring. It is not irrelevant to note that an excess of two-thirds had risen in socio-economic status from that of their parents. Thus, teachers who entered the 1972 sample tended to be drawn not only from the locale surrounding the school where they were teaching, but from the very heart of the non-schooled peasant population.

THE AMOUNT OF SCHOOLING AND TEACHER LICENCE GRADE AS INFLUENCES ON SCHOOL ACHIEVEMENT

Each school had seven grades, and unless it had double streams, seven teachers as well. Very few schools had a headmaster who was also expected to teach a class as well as administer. Teachers often exchanged classes with each other—whenever one was sick, or when better English-speaking teachers concentrated on the youngest as well as the oldest. For example, though non-English speakers were usually relegated in infant classes (grades 1-3), the headmaster often took their English lessons.

As a general measure of a school's teacher quality, I summed the total years of schooling for each teacher and then calculated a school mean. This figure was then tested against mean level of pupil achievement between schools. The resulting correlation coefficient was actually a negative −.112, but statistically insignificant (p<.381).

I thought that perhaps this summary measure (total years of schooling) failed to distinguish differences between the teachers who came from academic secondary schools from those who came from teacher training institutions. Because of the academic nature of the PLE, I wondered if distinctions could be made between academic secondary and teacher training college experience, suspecting that primary schools with an abundance of teachers with secondary school experience might perform better.

These distinctions in schooling were accounted for by noting each teacher's "licensure grade"; the government status category used as a salary scale. Teacher status grades range from Grade I's who were, in 1972, paid anywhere between 132 and 276 Ugandan pounds (U.S. $317-662) year, to Grade V's who were paid anywhere between 570 and 1,080 Ugandan pounds (U.S. $1,368-2,572)/year. Teachers with no training were classified as Grade I; with training but no secondary school Grade II; with secondary school, Grade III; further training, Grade IV; and Higher School Certificate, university, or training at the special National Teacher's College, Grade V.

A mean was calculated for each school's teacher status and then compared with mean school achievement. The resulting correlation of −.09 (p.<.528), however, added no further understanding to achievement than did the gross mean number of years of schooling.
TEACHING EXPERIENCE, ENGLISH LANGUAGE EXPERIENCE, AND ENGLISH LANGUAGE COMPETENCE

Next, attention was turned to the length of experience, questioning whether schools with more experienced teachers would have higher achievement scores. Though schools contained a relatively wide standard deviation of 1.9 years on an average of 3.6 years of teaching, a correlation of −.03 indicated that the average length of teaching experience does not lead us to a better understanding of school achievement.

I thought it possible that the frequency of spoken English in the childhood homes of teachers might distinguish itself as distinct from formal English competence. For example, teachers who were raised in homes where English was spoken more frequently, might, as separate from their grammatical knowledge, feel more at ease teaching in English and, in turn, transfer academic knowledge to the students better and more efficiently. However, the correlation of −.198 with a statistically insignificant level of p<.116, indicated very little relationship.11

In an attempt to assess individual competence in the English Language, each teacher was asked to respond to seven multiple-choice questions designed and presented by the present researcher (Table 2). All teachers, including the non-English-speaking (‘vernacular’) Grade I’s, were obliged to respond to the English questions; no translation was permitted. A question left unanswered was coded as incorrect. Varying from a low of 13.2 to a high

| TABLE 2 |
| SIX ITEMS ELICITING A RESPONSE FROM UGANDAN TEACHERS IN THE ENGLISH LANGUAGE |

Please circle the answer which you think is correct English.

1. (1) I reached at the place. (2) I reached at the place. (3) I arrived at the place. (4) none is correct.

2. The word concur means:
   (1) to hamper
   (2) to chastise
   (3) to help
   (4) to agree
   (5) none is correct

3. My brother is so sick———
   (1) when he cannot even stand up.
   (2) to send me a postcard.
   (3) that he cannot work.
   (4) but my uncle is well.

4. You didn’t use the butter……...
   (1) did you?
   (2) didn’t you?
   (3) don’t you?
   (4) none is correct.

5. Every so often I take Peter’s bicycle accidentally because it looks…. to my
   own.
   won.

6. In the heat of mid-day, ice……
   (1) melts
   (2) spoils
   (3) fails
   (4) cooks
   (5) none is correct.

7. In court, John, the defence witness… the testimony of the prosecution’s witness.
   (1) refused
   (2) lied
   (3) told
   (4) denied
   (5) none is correct.
of 82.6 in the percentage responding correctly (Table 3) the questions elicited a range sufficient to construct a measure of variable English-Language ability among teachers.

\textit{TABLE 3}
RESPONSES TO SEVEN QUESTIONS OF ENGLISH USAGE:
PER CENT RESPONDING CORRECTLY \quad (N=598)

<table>
<thead>
<tr>
<th>Question</th>
<th>82.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>80.8</td>
</tr>
<tr>
<td>Question</td>
<td>73.4</td>
</tr>
<tr>
<td>Question</td>
<td>66.6</td>
</tr>
<tr>
<td>Question</td>
<td>50.7</td>
</tr>
<tr>
<td>Question</td>
<td>48.2</td>
</tr>
<tr>
<td>Question</td>
<td>13.2</td>
</tr>
</tbody>
</table>

The mean score for each school, when compared with mean school achievement, resulted in a zero-order correlation of .307 (p<.01), and identified an association stronger than all previous characteristics tested.

PARENTAL EDUCATION

Next, attention was turned to the education of the teacher’s parents. The schooling of the teacher’s mother and father (Table 1) was combined, averaged by school, and then compared with school achievement. However, the coefficient of \(-.135\) (p<.289) indicated a weak but statistically insignificant relationship between teacher parental education and mean school achievement.

Table 4 presents a review of the six measures of teacher characteristics and their zero-order correlations with mean school achievement.

\textit{TABLE 4}
MEAN SCHOOL TEACHER CHARACTERISTICS AND THEIR CORRELATIONS WITH MEAN SCHOOL ACHIEVEMENT \quad (N=67)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Years of Schooling</td>
<td>-.112 (N.S.)</td>
</tr>
<tr>
<td>Teaching Status Grade</td>
<td>.09 (N.S.)</td>
</tr>
<tr>
<td>Frequency of English in the Childhood Home</td>
<td>-.198 (N.S.)</td>
</tr>
<tr>
<td>Teaching Experience</td>
<td>-.03 (N.S.)</td>
</tr>
<tr>
<td>Parental Education</td>
<td>-.135 (N.S.)</td>
</tr>
<tr>
<td>English Language Competence</td>
<td>.307 (p 01)</td>
</tr>
</tbody>
</table>

It is apparent that there is only one teacher measure which is significantly associated with achievement. The quality of teacher’s English is the most outstanding measured characteristic. The amount of training teachers receive, teaching status grades, teaching experiences, parental schooling, and the frequency of English spoken in the childhood home have no significance impact upon mean achievement of their primary school. If teachers make any difference to a school’s academic achievement, it is most likely expressed through the quality of their English language ability.
EXPLORING THE NON-RELATIONSHIPS

But why didn't teacher status or length of training, or experience have some measurable effect on achievement, particularly in a society where academic secondary schooling is so narrowly diffused? I suspected that the lack of any statistical relationship with mean school achievement had something indirectly to do with the distribution of teacher quality between schools. Though the lack of strong statistical correlations between teacher characteristics and school achievement in the United States and Western Europe has been attributed to the lack of between school variance, Schiefelbein has argued that variance between schools is much greater in non-industrial societies. If this is so, the impact of teacher characteristic should be that much more pronounced. Since, with the exception of the level of English-language ability, teacher characteristics do not seem to affect school achievement in Uganda to any greater extent than they do in industrial societies, it might be profitable to focus attention on how teachers are assigned to schools and ask whether or not a great deal of variance exists.

To get an idea of a typical school, I calculated the average of each teaching status-grade in each school and then calculated the mean for the sample as a whole (Table 5). About 62 per cent of a 'typical' teaching staff consisted of Grade II teachers; 12 per cent Grade III, and about 16 per cent Grade I. Nine per cent consisted of licenced teachers e.g.: a Cambridge School Certificate graduate (four years secondary school) awaiting the results of his examinations.

<table>
<thead>
<tr>
<th>Grade I</th>
<th>Grade II</th>
<th>Grade III</th>
<th>Licenced(^a)</th>
<th>Grades IV and V</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.6</td>
<td>61.5</td>
<td>12.4</td>
<td>9.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

\(^a\)No teacher-training or uncompleted training—may legally teach only temporarily.

The most highly-qualified Grade IV and Grade V teachers were very rare. Less than two per cent of the nation's teachers were in these two categories combined. The key to the measured effects of teacher quality seems to lie in the distribution of Grade III's. The goal of every primary school is to acquire a Grade III teacher. Though there is a relative scarcity, it is not uncommon for headmasters to request a new one yearly. Because Grade III's are a product of the expansion of secondary school facilities in the 1960's, their existence and distribution have been a result of recent administrative policy. Though bargaining occurs over teacher placement, a definite pattern has emerged since 1964 and the government control of primary education that took place at that time.

Only four schools in my sample (three of these in urban areas) had a Grade III teacher assigned to any class other than P7. Essentially, Grade III
teachers are assigned to P7. If a school did not yet have a Grade III teacher for its P7 class, it could be given a higher priority for the next Grade III assignment. Grade III teachers are publicly attractive additions to a school's appearance and reputation, and headmasters who hear of schools receiving the benefit of a Grade III, will be quick to complain until they themselves are placed on a list for the next placement. Grade III's are rarely found except singly within a school. Their distribution has, up to the time of the survey, been relatively equitable. It will not be common to find a Grade III teaching classes other than P7 until all primary schools have a Grade III teacher.17

Typically, the remaining teaching staff would consist of a Grade I teacher for P1 or perhaps P2 (with English being taught by the P7 teacher), and Grade II teachers in P3 to P6. No new Grade I teachers were entering the system, and efforts were being made to allow them to retire quickly and quietly. Grade I teachers, who were unqualified in English, were much older. Though there were none in urban districts, no rural school was without at least one, and none had more than two. Thus, outside of urban areas (81 per cent of the sample) the distribution of teacher quality, as measured by teacher status-grade, was reduced to the question of whether a school had one Grade I teacher or two; one Grade III teacher or none. Clearly the variance was small.

Because teacher placement is government controlled, differentials in school or community wealth, influence, or effort do not easily influence the pattern of teacher allocation. If schools were able to pay teachers at individual rates, certainly more clustering of teacher grades would be in evidence. However, with government setting salaries and allocating teachers on a national scale, no school aided by government, was endowed with solely top-graded teachers; nor were there any shackled with solely non-trained or non-English-speaking Grade I's.

Consequently, within the range of quality commonly available in Uganda, I found teachers to be spread rather evenly among schools. Because of the absence of market forces which could influence teacher distribution, the variance between schools in mean teacher status-grades appeared minimal. Thus, the small standard deviation in teacher grade of .9 out of a 7 point rang was not probably due to these two factors: the scarcity of Grades III, IV, and V in all primary schools, and relative equity in the distribution of Grade I to III by governing authorities.

In turn, this equality of allocation has resulted in extinguishing the potential effect on achievement attributable to measured differences in personnel between schools. However, despite the lack of variance of teacher-status grades, the ability of a school's teachers to understand the English Language manages to express itself upon the achievement scores of the pupils under their influence. In sum, if the school-group effect of teachers upon academic achievement is taken as the criterion, the 'quality' of Ugandan teachers is better expressed by their level of English language ability than their training, their experience, or their salaries.
Since the Primary Leaving Examination is written in English, and the primary school (above P3) and all teacher training is presented in the English medium, it is not surprising that among the many criteria of teacher quality, the one outstanding characteristic relating to achievement is that of their ability in English. Being a multi-linguistic society, Uganda must rely upon the English language for fast, efficient communication internally and with the rest of the world. Within her own boundaries, she must rely upon English not only for its wealth of technical information, but because of its relative political neutrality. Thus the English language, particularly the teaching of the English language to teachers, promises to remain of very critical importance to future school achievement.

FOOTNOTES

10. Like the pattern in most Western European nations, those selected for teacher training institutions in Uganda are those who perform more poorly on academic tests. Thus, after the best-scoring 9.8 per cent of the graduating P7 class had already been selected for academic senior secondary schools, the lower-scoring .9 per cent would find their way into a Grade II teacher training college (1972).
11. The fact that 76 per cent of the teachers indicated that English was spoken “never” or “very seldom” in their childhood home is further indication that the vast majority had been drawn from peasant backgrounds at a time when primary schooling was a less common experience. But in addition to the lack of variance in exposure to the English language the lack of any observable relationship could be due to the tendency to speak the mother language in the home—even among individuals capable of speaking English.
12. Peter Rossi, "Social Factors in Academic Achievement."
15. There were, in 1972, 20 Grade II training colleges and only 7 Grade III colleges.
16. Buddo Jr. Virika (Fort Portal), Walukuba Estate (Jinja) and Arya Mehta (Kampala).
17. Prevented from a national study restricts generalizations concerning the distribution of Grade III teachers between all districts in Uganda. The assertion of their equitable spread applies to between school variance within the five districts and three urban areas within the purview of the sample.