Most teachers in junior high schools (JHS) are male, particularly in rural regions of the country. While male and female teachers have similar qualifications, public school teachers hold higher official qualifications than their private counterparts.

There is a positive correlation between teachers’ academic and professional qualifications and student exam performance. All other things equal, students taught by teachers with at least a diploma¹ are expected to perform better than students taught by teachers whose highest qualification is a Senior Secondary Leaving Certificate (SSLC) or lower.

Teachers’ gender impacts students’ exam performance in the Basic Education Certification Examinations (BECE) in different ways. For example, there is a positive correlation between an increase in the proportion of male teachers in a school and boys’ exam performance. For girls, this relationship varies by subject. Further research is required to understand how and why teacher gender might influence student learning.

Schools with female head teachers outperform their male-led counterparts in BECE exams, particularly in English.

¹ ‘Academic qualifications’ are degrees or certificates that are non-teaching-related. ‘Professional qualifications’ are teaching credentials obtained from an accredited teacher training institution. More specifically, the professional diploma obtained by basic-schooling teachers is usually the three-year Diploma in Basic Education, obtained from accredited institutions called ‘Colleges of Education.’
Ghana has made tremendous progress in increasing access to education for all children. Gross enrolment rates (GER) are over 100 per cent at the primary level and over 85 per cent for JHS. Access to senior secondary education has also increased, notably since the Ghana Ministry of Education launched free senior high school access for all. Nevertheless, significant challenges remain and learning levels in Ghana are low. For instance, a 2018 representative national assessment of grade 4 students showed that only 19 per cent were proficient in mathematics, and nearly half had below minimum competency levels. That said, some Ghanaian schools beat the odds, outperforming their peers with similar resources even in disadvantaged areas. By identifying these positive deviant schools and good practices related to their success, important lessons can be learned to improve the quality of education in Ghana, in line with the Education Sector Plan 2018–2030.

Junior high school teachers in Ghana

JHS teachers are primarily male, particularly in rural areas. Only a quarter of JHS teachers are women, which is substantially lower than the 45 per cent of primary teachers who are female. Female teachers are more likely to work in urban areas – they comprise 29 per cent of the urban workforce compared to 19 per cent of the rural workforce. Female teachers are also more likely to work in public schools – 26 per cent of teachers in public schools are female compared to 18 per cent in private schools. This gender distribution in the workforce has remained relatively constant over the years.

Male and female teachers have similar professional and academic qualifications, with female teachers having slightly higher qualifications. In 2020/21, most teachers of both genders had at least an academic diploma with a significant minority having only a SSLC or lower qualification. There was more variation in professional credentials – more female teachers had at least a professional diploma, and a significant minority of both genders only had an education certificate.

6 ‘Academic qualifications’ are degrees or certificates that are non-teaching related. In contrast, a ‘professional teaching qualification’ is a teaching degree or diploma whose curriculum aims to impart subject matter knowledge and pedagogical skills.
7 Statistics computed for teachers for whom data were available. Data were unavailable for 27 per cent of teachers in the system.
Public school teachers hold higher official qualifications than their private school counterparts. Similarly, teachers in rural schools (most of which are public) have higher official qualifications, on average. This is consistent with the trend in many low- and middle-income countries, where public school teachers require more qualifications than private school teachers.

There are regional variations in teacher qualifications, primarily associated with the location and school characteristics of the region. For instance, only 39 per cent of teachers in Greater Accra hold at least a professional diploma (compared to the national average of 70 per cent). However, this is influenced by the high proportion of private schools in this region (67 per cent), where teachers have lower official qualifications. Table 1 summarizes teacher qualifications across various dimensions.

**Teacher qualifications and student performance**

There is a positive correlation between teachers’ academic and professional qualifications and improved student performance. All other things equal, students perform better when taught by teachers with at least a diploma compared to those whose highest qualification is the SSLC or lower. Increasing the proportion of teachers with a professional diploma from the prevailing 70 per cent to 100 per cent is associated with a slight improvement of 0.2–0.4 raw BECE points (0.02–0.03 standard deviations [SD]) across subjects. Similar improvements are expected when teachers with higher academic qualifications teach students.

Across subjects, teacher qualifications are particularly strongly associated with student performance in urban and private schools. This is likely driven by the lower professional qualifications among teachers in private schools – only 19 per cent hold a diploma compared to 92 per cent in public schools. Similarly, urban schools contain fewer officially qualified teachers compared to rural schools – 58 per cent in urban schools versus 81 per cent in rural schools – which is driven by a higher number of private schools in urban areas. Hence, in some ways, there is greater scope for growth in baseline teacher skills in private and urban schools, highlighting the importance of the professional teaching degree.

**Table 1: Variation in teacher qualifications by gender, location and school type**

<table>
<thead>
<tr>
<th>Teacher has…</th>
<th>Gender</th>
<th>Location</th>
<th>School type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Rural</td>
</tr>
<tr>
<td>at least a professional diploma</td>
<td>77%</td>
<td>70%</td>
<td>81%</td>
</tr>
<tr>
<td>at least an academic diploma</td>
<td>67%</td>
<td>64%</td>
<td>70%</td>
</tr>
</tbody>
</table>

**Teacher gender and student performance**

Student exam performance varies by teacher gender and by student gender. Figure 1 shows how boys’ and girls’ BECE exam performance varies depending on the teacher gender composition in a school, all other things equal.

The proportion of male teachers in JHS is positively correlated with boys’ exam performance. For girls, exam performance is either negatively correlated or broadly uninfluenced by the proportion of female teachers, depending on the subject. These trends could be driven by various underlying characteristics or differences in how female and male teachers interact with the education system and are not necessarily a reflection of teacher effectiveness based on gender. They are also unrelated to teacher qualifications, which are similar across male and female teachers (see Table 1). Further research is needed to unpack the reasons behind these trends.

There are subject-specific variations in how teacher gender influences girls’ and boys’ exam performances. In mathematics, girls’ and boys’ scores are equally impacted by teacher gender. In both cases, students are predicted to perform almost three raw points higher in schools with all male teachers compared to schools with all female teachers.
In English, girls’ scores are unaffected by teacher gender, yet the proportion of female teachers negatively (albeit marginally) affects boys’ scores. For example, boys are predicted to perform one raw point (0.1 SD) higher in a school with all male teachers compared to those with all female teachers. In Ghanian languages, boys’ scores are negatively correlated with the proportion of female teachers in a school to a greater extent than girls’ scores. For example, boys are predicted to perform 2.2 raw points (0.15 SD) higher in schools with all male teachers than in those with all female teachers, whereas, for girls, this difference is only 0.8 raw points (0.06 SD).

Schools with a female head teacher perform marginally better in exams, particularly in English. Compared to schools with male head teachers, such schools performed 0.3–0.4 raw points (0.02–0.03 SD) higher in BECE exams across subjects. This trend is strongest in rural schools where only 11 per cent of head teachers are female. For example, in mathematics, schools with female head teachers score 0.7 raw points higher than their male counterparts in rural schools, but in urban schools, this difference is only 0.1 raw points. Differences between rural and urban schools may arise for a variety of reasons. Fewer head teachers in rural schools are female and it could be that these are exceptional leaders who have risen to the head teacher level despite facing barriers, or it could be that they leverage different management practices. Overall, a similar trend is seen in other countries, including many participating in the DMS positive deviance research.\(^9\)

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\(^8\) The association between two variables (in this instance, exam performance and teacher gender) is often standardized to facilitate comparability across different studies and samples. Comparison is possible because standardized values are unitless. For example, it may be possible to compare results from this study to a similar study in a different country if they both report results in standard deviations and have samples with similar distributions. Each variable in the regression analysis (such as exam scores, student characteristics, teacher characteristics or school characteristics) is standardized by subtracting the variable’s mean from the observed value and then dividing by the variable’s standard deviation (spread of data). Regression analysis is then run on these standardized values.

\(^9\) Specifically, in Côte d’Ivoire, there is a positive correlation between female head teachers and promotion rates in public primary schools. In Mali and Togo, there is a positive correlation between female head teachers and the promotion rate in primary schools for girls only. In Madagascar, there is a positive correlation between female head teachers and promotion rates for girls only, but schools with female head teachers also have a positive correlation with exam success for all students.
About the Data Must Speak research on positive deviant schools

The DMS research on positive deviant schools in Ghana was developed jointly by the Ghana Ministry of Education, the Ghana Education Service, local partners, the United Nations Children’s Fund (UNICEF) Ghana country office, and UNICEF Innocenti – Global Office of Research and Foresight. This global research is being implemented in 14 countries in Africa, Asia and Latin America. It is co-funded by the Jacobs Foundation, the Knowledge and Innovation Exchange (KIX) programme of the Global Partnership for Education/International Development Research Centre, the Hewlett Foundation, the Norwegian Agency for Development Cooperation, the Schools2030 programme (led by the Aga Khan Foundation) and UNICEF internal resources.

Series of policy briefs

This brief is the second in a series of documents produced as part of the DMS research in Ghana. It aims to inform dialogue on educational policies in Ghana and other countries. The complete research collection, including a report analysing the factors influencing Ghanaian school performance and detailed technical tables from which the results presented herein are derived, can be accessed here.

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