Plan is a global children’s charity. We work with children in the world’s poorest countries to help them build a better future. A future you would want for all children, your family and friends. For over 70 years we’ve been taking action and standing up for every child’s right to fulfil their potential by:

- giving children a healthy start in life, including access to safe drinking water
- securing the education of girls and boys
- working with communities to prepare for and survive disasters
- inspiring children to take a lead in decisions that affect their lives
- enabling families to earn a living and plan for their children’s future.

We do what’s needed, where it’s needed most. We do what you would do.

With your support children, families and entire communities have the power to move themselves from a life of poverty to a future with opportunity.
Executive Summary

Learning outcomes and gender equality are two important issues that have recently risen up the agenda in international education development. In most cases they have been treated as two distinct, unrelated problems: one around acquisition of basic literacy and numeracy, the other around girls’ access to education. This paper looks at the intersection between the two. Using mostly Northern studies to highlight the impact of factors which impede achievement, it investigates whether girls have equal chances to learn and progress as boys once enrolled in school.

This report finds a gender gap in national exam results in favour of boys, across many developing countries, and seeks to analyse how school-based factors might impact differently on girls’ learning and attainment and ultimately lead to those observable gaps between girls and boys. It is important to identify such factors, as these gaps in learning achievement are evident at critical points: national examinations are often used to select which students progress to the next level of education.

Some key factors which can form considerable barriers to girls’ learning are outlined in this report:

• Lack of female teachers
  A common motif that emerges from research is the significant positive influence of female teachers on girls’ learning outcomes. In many developing countries, the percentage of female teachers is low and generally decreases the higher the level of education

• Teachers’ attitudes
  Girls’ progress can also be hindered by teachers’ pre-conceptions and expectations about their learning capabilities. These can be highly gendered, meaning that boys and girls experience the same class very differently

• Curricula and assessment
  Curricula which reinforce gendered stereotypes, and reliance on assessment methods which favour boys, can contribute to gaps in learning outcomes, with boys more likely to do well in multiple choice and short answer tests

• Traditional teaching methods
  Traditional teacher-led methodologies, still widely used in the South, leave little space in classrooms for collaborative learning. Research has shown that discussion and collaborative learning are linked to higher achievement, particularly for girls.

Since the Millennium Development Goals (MDGs), there have been efforts to identify and address the factors that prevent girls’ access to education. This report points to the need to ensure that girls have equal opportunities to learn once in school. Very little research has been conducted in the South which examines the differential impact of classroom factors on learning outcomes of boys and girls. The findings of this report are a starting point for further investigation and have implications for girls’ education programming, emphasising the need to focus on barriers to girls’ learning, as well as barriers to access.
Introduction

Twelve years on from the inception of the Millennium Development Goals, millions of girls have become some of the first females in their families to go to school and to learn how to read, write and count. The vast investment that has been made in constructing schools, recruiting and training teachers and providing resources has inarguably led to improvements in the number of girls who have access to basic education. By 2009, the primary school net enrolment rate for girls in low income countries had increased to 78 per cent from just 56 per cent in 1999 (UNESCO 2011).

However, this increase in access to education has not translated directly into improved opportunities for learning, particularly for girls. Learning assessment data show that the absolute level of education attainment for all students in the Global South is extremely low, particularly in sub-Saharan Africa, and that many children are leaving primary school without even basic literacy and numeracy skills (UNESCO 2011). According to the recent Africa Learning Barometer released by the Brookings Center for Universal Education, almost 30 per cent of children currently in school will learn so little that they will not be much better off than those children who never attend school (Brookings 2012) and only half of sub-Saharan Africa’s 128 million school-aged children currently attending school are likely to acquire the basic skills needed for them to live healthy and productive lives. Two in every 10 children in Standard 7 in East Africa do not have Standard 2 level literacy and numeracy competencies (Uwezo 2012); and in Mali, 90 per cent of Grade 2 students cannot read a word of connected text (Brookings 2011).

Although poor quality in education adversely affects learning outcomes for all students, this paper is concerned with its differential impact on girls, who are often more likely than boys to be negatively impacted, in low-income countries, by the low standards of education they receive; they are less likely to progress beyond the basic education cycle and transition to secondary school, more likely to drop out and less likely to pass national examinations (Unterhalter 2005; Lloyd, Mensch and Clark 2000). The purpose of this paper is to look beyond the issues related to unequal access to education for girls and to address the inequality of experience in many schools and classrooms that continue to disadvantage girls’ learning and is a barrier to an education that truly promotes gender equality. Data from regional assessments, such as SACMEQ1 and PASEC, tell us that there is a fairly small, and mostly insignificant, gap in the attainment of boys and girls when it comes to basic skills such as literacy and numeracy. In a number of countries, girls seem to be outperforming boys, particularly in reading achievement.

However, in contrast to the data from regional learning assessments, data that is available from national examinations show evidence of much larger gender gaps in favour of boys. The regional assessments referred to in this paper focus on learning from one or two subject areas, usually literacy/language and numeracy/mathematics. National examinations, however, measure learning from the main subject areas across the curriculum. The gender gap that appears in national exam results points to the existence of factors that adversely impact on girls’ learning. It is particularly important to identify these factors as these gaps in learning achievement are evident at critical points in girls’ education: national examinations often act as gatekeeping examinations and are used to select which students can progress to the next step of the education cycle.

Methodology

Students’ learning, in absolute terms as well as how they perform in examinations, can be influenced by a number of out-of-school factors as much as those rooted in school. In many parts of sub-Saharan Africa, due to having to help out at home, girls’ study time is often reduced; their capacity to concentrate in class can also be affected due to tiredness and they may fall behind. Similarly, participation in farming or herding activities can limit boys’ study time and cause tiredness. Although this paper recognises and acknowledges the significant role that out-of-school factors can have on learning, it seeks to analyse the school-based issues around gender differences in learning outcomes, and identify those pedagogical and in-classroom factors that can negatively influence girls’ academic performance.

Much of the research around girls’ experiences of education has focused on the social, cultural, economic and political factors that interrelate to prevent girls from attending school. There has been very little research conducted in the South on the aspects of quality education that have a differential impact on girls and boys (Lloyd and Young 2009) and on what is meant by ‘girl-friendly’ education. Sex disaggregated data on learning outcomes provide a valuable tool for understanding gender inequality within schools. However, the pattern of gender differences in learning outcomes is complex and difficult to interpret (UNESCO 2011). Whilst it is acknowledged that the teaching processes within classrooms play a key role in gender differences in learning outcomes (Mia 2007), little is currently known about how classroom factors differentially affect the learning outcomes of girls and boys in developing countries.

Given the paucity of research conducted in classrooms in the South, this paper draws on academic literature, policy documents and qualitative and quantitative research studies from the USA and Europe where there has been a considerable and influential effort to understand gender differences in learning outcomes. Although social, political, cultural, and economic contexts differ widely, both between the North and South and across and within countries, it is possible to draw parallels, albeit in a limited way. Wherever possible, this paper has used research based in the context of the South to illustrate an argument and only considers issues which are pertinent to girls’ education in developing countries. This paper also analyses learning assessment and examination data. As indicated above, recent research into gender differentials has relied heavily on data from regional learning assessments (Mia 2007), which offers a complex and inconsistent picture, but generally shows girls performing better in reading and boys performing better in maths and science, though the gaps are minimal.

1 SACMEQ is the Southern and Eastern Africa Consortium for Monitoring Educational Quality and PASEC is the Programme for the Analysis of Education Systems in CONFEMEN countries.
While these regional learning assessments do measure basic skills, it is in passing national exams that students are able to progress to the next level of education. Very little analysis has been done on gender differences in national examination results. This can be partly explained by the fact that examination data are not easily comparable between countries and years, and are not readily available, requiring extensive searches through national government documentation. A baseline survey conducted by Plan (2012b) in nine different countries in the South indicated that national examinations showed a more consistent pattern of gender difference than learning assessments. In seven out of the eight countries with reliable data, there was a gender gap in favour of boys, although in some countries this gap was slight.

### Percentage of boys and girls that pass examinations

![Graph showing percentage of boys and girls that pass examinations](image)

**Figure 1: Percentage of boys and girls that pass examinations.** (Source: DFID PPA-funded ‘Building Skills for Life for Adolescent Girls’, Plan UK Global Baseline Study 2012)

Following on from this lead, this research has sought out national examination results to investigate whether the gender patterns noted in the baseline survey were apparent in other contexts.

In drawing upon a variety of data sources and from research in a number of different contexts, this paper offers a comprehensive analysis of gender differentials in learning outcomes and the extent to which factors such as the gender balance of school staff, curriculum, assessment systems and the different ways in which girls and boys learn, can contribute towards gender inequality in education: inequality of experience and of outcome.

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*Pakistan was included in the Global Baseline but no reliable data on national examinations available. Pass rates are based on data focusing on different levels of schooling in different countries; therefore it is difficult to compare across countries. Cambodia Grade 9 Junior Secondary exam; El Salvador end of year exam for Grades 7,8,9; Kenya primary school leavers’ exam (Grade 8), for which the pass mark is 250/500; Malawi primary school leavers’ exam; Mal Grade 9 exam; July 2011; Rwanda national results for primary leaving exam (Grade 6) 2010; Sierra Leone primary school leavers’ exam northern district value; Zimbabwe passing five subjects at O level Form 4 (Plan 2012b).

Statistical significance is present if the gender difference is larger than twice the size of the sampling error (Saito 2011).

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### Where are the gender gaps in learning achievement?

An analysis of sex-disaggregated data on learning outcomes from regional assessments, such as SACMEQ and PASEC, can offer a fairly positive account of the current state of girls’ achievement relative to boys. Much of the data suggests that differences that exist in achievement between girls and boys are negligible and, just as in Europe and North America, often show girls to be outperforming boys, particularly in reading. According to the 2007 SACMEQ data (Saito 2011), which examines upper primary students, girls significantly outperformed boys in reading in six countries (Botswana, Mauritius, Namibia, Seychelles, South Africa, and Zanzibar).

In two countries (Tanzania Mainland and Malawi), boys outperformed girls in reading; but in seven other countries, there was no significant difference between boys and girls. In maths achievement, girls outperformed boys in just one country (Seychelles) and boys outperformed girls in seven countries (Kenya, Malawi, Mozambique, Swaziland, Tanzania Mainland, Uganda, and Zambia). But, there was no statistically significant difference in maths achievement between boys and girls in seven other countries. In French-speaking countries in sub-Saharan Africa, the most recent PASEC reading and maths assessments show a negligible difference between boys and girls at lower primary grades, although large gaps in favour of boys start to emerge after Grade 5 (CONFEMEN 2011, in Saito 2011).

Examining the data from learning assessments at a national level often masks the extent of gaps in achievement that can occur at more disaggregated levels. An analysis of SACMEQ III data (SACMEQ 2010) showed that in rural schools gender differences in reading and maths increased between 2000 (SACMEQ II) and 2007 (SACMEQ III), whereas there was a slight improvement in gender equality in achievement in reading and mathematics in urban schools (Saito 2011). Girls in rural areas are more likely to perform worse in regional assessments than girls in urban areas, as evidenced by the following examples.

- In four countries (Kenya, Tanzania Mainland, Uganda and Zanzibar), girls in rural areas performed significantly worse than boys in reading when, in urban areas, there is either a small or no difference in favour of girls.
- In Kenya, the gap in maths achievement in favour of boys is considerably wider in rural schools than urban.
- In Tanzania Mainland and Zambia, a large gap in favour of rural boys in maths achievement changes to a small gap in favour of girls in urban areas.
It is important to re-emphasise that much of the country-level data from regional assessments suggests that there is little difference between boys’ and girls’ learning outcomes (UNESCO 2011). This demonstrates that, in terms of the literacy and numeracy skills being assessed, girls and boys have the potential to achieve similar results; that there is no inherent difference in girls’ and boys’ capacity to learn. This means that well-designed policies and programmes have the potential to reduce inequalities.

Data available from national examinations in the South often show evidence of a gap in achievement between boys and girls. For example, Plan UK’s baseline study into girls’ education in predominantly rural areas (Plan 2012b) found that in seven out of eight cases where data was available, girls under performed in national examinations in comparison to boys.

In the SACMEQ 2007 Grade 6 reading assessment, girls scored slightly higher than boys in Kenya and Zimbabwe. However, Plan UK’s baseline report into girls’ education in its programme areas provided evidence that the national examination pass rate for girls was lower than for boys in both countries.

In Kenya, a study of learning outcomes in informal neighbourhood schools (Epari et al 2008: 12) showed that, despite near gender parity in candidates sitting the Kenya Certificate of Primary Education (KCPE) examination (a gatekeeping exam for transition to secondary school), girls consistently underperformed relative to boys. According to the study, 46 per cent of boys who sat the 2006 KCPE in the study’s informal neighbourhoods passed, compared to just 29 per cent of the girls who sat the exam. Not only did fewer girls pass the exam than boys, but the study also shows boys to have passed with consistently higher marks than girls, with only 12 per cent of girls obtaining the highest marks compared with 28 per cent of boys.

In the KCSE examinations, taken at the end of secondary school to gain entry to tertiary education, results again show a significant gap in achievement between boys and girls. The 2010 KCSE examination results show that of those sitting the examination, 55 per cent were boys and 45 per cent were girls. 30 per cent of boys sitting the KCSE exam obtained a mean grade of C+ or above whereas only 23 per cent of girls sitting the exam obtained a mean grade of C+ or above (KNEC 2011). Partly as a result of the underachievement of girls at this significant stage of their education, only 29 per cent of students enrolled at university in Kenya are girls (UNESCO-NCST 2010).

A similar pattern has been found in other sub-Saharan countries: in Tanzania, despite performing slightly better than boys in the Uwezo learning assessment (Uwezo 2010), girls’ pass rate in the national primary school leaving examination in 2009 was significantly lower than boys’ (43.2 per cent compared to 55.6 per cent) (URoT MoEVT 2010).

A widening of the gender gap between primary and secondary school is another pattern that emerges from national assessment data. In Sierra Leone’s 2010 National Primary School Examination (taken in Grade 6), the pass rate for girls was 73 per cent and for boys 76 per cent – a gap of three percentage points. In the Basic Education Certificate Examination (taken in Grade 9), the pass rate for girls was 39 per cent and for boys 47 per cent – a gap of eight percentage points (MoEST 2011).

In Ethiopia’s General Secondary Education Certificate Examination, taken at the end of Grade 10, there is an 18 percentage point gap between the boys’ pass rate of 50 per cent and girls’ pass rate of 32 per cent (MoE Ethiopia 2010).

The international data, which suggest that gender differences in achievement are small, can be contrasted with data available from national examination results, which demonstrate a wider gap between boys and girls, particularly at secondary school level. It is important to recognise the significance of these gender gaps in attainment because they appear in high stakes examination results and at critical points in education, where girls’ failure to achieve can result in their failure to transition to the next step of the education cycle. As this paper is grounded on the basis that girls and boys have the same academic potential, it seeks to understand how school-based factors, such as teachers’ gender and attitudes, curriculum and methods of learning and assessment, might differentially impact on girls’ learning and attainment and ultimately lead to those observable gaps between girls’ and boys’ exam results.

This paper does recognise the myriad of social, cultural, political and economic out-of-school factors, such as domestic chores, gender norms and societal expectations that impact on girls’ learning. When girls enter a classroom, they are often already at a disadvantage (UNESCO 2011). However, these factors are beyond the scope of this paper.

Some of the in-school factors explored are: female teachers, changing attitudes and expectations, gendered curriculum, gendered assessment and gendered learning.
Female teachers

A common motif that emerges from the literature on girls’ education is the significant influence that female teachers can have both in encouraging more girls to enrol in school and in improving learning outcomes. Female representation in teaching decreases significantly the higher the level of education. In South and West Asia, the proportion of teachers who are female decreases from 46 per cent in primary schools to 35 per cent in secondary schools. In sub-Saharan Africa, the decrease in female representation in secondary schools is even greater, with 43 per cent of teachers female at primary school level but just 29 per cent at secondary level (UNESCO 2011).

Discussions during a 2012 e-forum on gender equality in education hosted by IIEP and which involved academics, educators, researchers and development practitioners from around the world, provided anecdotal evidence that the presence of female teachers in a school helps to create a more ‘girl-friendly’ and supportive learning environment in which girls’ needs and perspectives are more likely to be addressed and given value. Some participants in the discussion highlighted the symbolic importance of a school in which the gender balance of the staff reflected the gender balance of the student population and provided an environment of which girls felt as much a part as boys (IIEP 2012).

The presence of female teachers in school has not only been positively linked with increased enrolment and retention of girls in school: there is also evidence of a link between female teachers and higher test scores (Lloyd and Young 2009). For example, Joseph and Wodon’s study found that female teachers led to a two-three per cent increase in test scores in Ghana’s National Education Assessment tests (Joseph and Wodon 2012; see also UNESCO 2005; Krieg 2005). Also in Ghana, a study of female teachers’ experiences in poor rural areas showed that low self-esteem among girls was a key factor preventing them from achieving higher levels of education, but that the presence of female teachers acting as role models helped to improve this (Casely-Hayford 2007). It is worth noting that there is often a considerable shortage of female teachers in disadvantaged rural areas, which, significantly, is also where the largest gender gaps in learning outcomes often occur.

Statistical studies in North America (Dee 2007), South Asia (Kingdon and Rawal 2010; Chudgar and Sankar 2008; Aslam and Kingdon 2007) and French-speaking sub-Saharan Africa (Michaelowa 2001) have demonstrated a link between teachers of the same gender as their students and improved learning outcomes. Rawal and Kingdon’s study found that student achievement was higher when a teacher shared their students’ religion, caste and gender. Pointing to the role-model effect, the authors suggest that the mutual understanding and identification between teachers and students that arises from sharing certain demographic characteristics encourages students to be more engaged, behave more appropriately, make more effort and perform better in school. With regards to gender, students who are taught by teachers of the same gender as themselves perform better than those taught by the opposite gender (Rawal and Kingdon 2010: 16). However, the impact of other demographic similarities on student achievement, such as caste and religion, is even more significant than the impact of gender.

Rawal and Kingdon’s study raises the question of the extent to which teachers’ demographic distance from students can lead to negative attitudes toward students. They found that general caste teachers had significantly more negative attitudes than scheduled caste and scheduled tribe (SC/ST) teachers toward the intelligence and interest in learning of SC/ST children. The study also found that male teachers were significantly more likely to believe that male students were more capable and interested in mathematics (Rawal and Kingdon 2010: 32).

The links between teacher gender, teachers’ attitudes and student achievement have also been examined by Thomas Dee in the USA. In ‘A Teacher Like Me’ (2005), Dee examines how two demographically different teachers perceived the same student and found that racial, gender and ethnic dynamics consistently have an impact on teachers’ perceptions of student performance (Dee 2005). Dee’s 2007 study further examined the role of teacher gender in student achievement and found that assignment to an opposite gender teacher lowered student achievement by four per cent.

The positive statistical relationship between female teachers and improved female achievement can be further analysed by examining the ways in which male and female teachers differ in terms of their classroom teaching practices and in the attitudes they have towards students’ learning ability. Like Rawal and Kingdon’s study in India, Dee’s US-based study found that teachers’ gender had affected other measures of student engagement, such as teacher perceptions of student ability and student engagement with the teacher’s subject, which were even greater than the effect on achievement. Female students were more likely to look forward to a subject, feel more comfortable asking questions and think that a subject was useful for their future if that subject was taught by a female teacher. This was particularly significant for science and maths, where the impact of female teachers led to girls’ attitude towards these subjects improving significantly (Dee 2007: 548).

Chudgar and Sankar’s study (2008) examined the relationship between teacher gender and student achievement in five Indian states and also found differences between male and female classroom management practices and attitudes toward student ability, with female teachers less likely to emphasise the need for strict discipline and to use fear to maintain discipline; female teachers were also far more likely to agree that all children are capable of learning (Chudgar and Sankar 2008: 635). It should be noted, however, that none of these variables were significant enough to be linked to student learning outcomes.

4 The caste system in India accords different social status and social meaning to different group of people. Individuals belonging to Scheduled Castes or Scheduled Tribes, previously known as ‘Untouchables’, have historically been socially, economically and politically marginalised despite the implementation of reservation systems. Individuals belonging to the General Caste, also known as ‘Forward Caste’, are from castes who do not benefit from the reservation system.
There is some difficulty with relying on female teachers to act as role models as a way of motivating girls to enrol and achieve in school when female teachers themselves are often subject to the same prejudices and discrimination as their female students. This can often serve to reinforce gender stereotypes rather than enable girls to challenge them.

Within many schools, it is common for female teachers to be allocated to lower primary grades or ‘soft’ subjects that carry lower status and can often relate to ‘nurturing’ abilities that also serve to reinforce gender roles. Women teachers are also often excluded from positions of policy and decision making and marginalised from training and professional development opportunities. With so many teachers assigned to teaching the lowest grade levels, girls in the upper grades of secondary school have few elite role models to help them aspire to academic achievement.

Addressing the shortage of women who occupy positions of leadership in schools could be an effective way of addressing this challenge. A female head teacher, for example, can represent an inspiring and motivating role model for girls and can demonstrate to boys, girls, teachers and the community that women can be equally professional and perform as well as men (IIEP 2012). Given the shortage of female teachers, particularly in secondary schools, it is unsurprising that there is a significant gender imbalance in the distribution of school head teachers, particularly in rural communities. However, the gender balance of head teachers does not reflect the gender balance of teachers in schools with a significant bias in most countries toward the allocation of male head teachers, particularly in rural areas. Gender inequality in positions of management in schools can have implications that impact on teachers and students (both boys and girls). Female teachers may lose motivation if they see that there are additional barriers to their ability to develop their careers. Such inequality may also send a message to students and teachers that women are not capable of holding positions of leadership (SACMEQ 2010).

Female teachers help to encourage girls to enrol in school in a number of ways. Given the not infrequent occurrence of the sexualisation of adolescent girls by male teachers and students, the presence of female teachers can aid in counteracting the over-masculinisation of the school environment and, especially in more conservative communities, allow parents to feel more comfortable about sending their teenage daughters to school. Studies in South Asia have indicated that mothers feel more comfortable talking to female teachers and that female teachers are more likely to be perceived as ‘sincere’ (UNESCO 2006).

It should also not be assumed that just because a teacher is a woman, she is able or even willing to create an environment that is more conducive to learning for girls or that she will automatically provide extra support for girls (UNESCO 2006). Conversely, it is not the case that male teachers are unable to also effectively encourage and support girls’ learning. Indeed, it is imperative that through training and accountability mechanisms all teachers – male and female – are supported and encouraged to provide all learners, irrespective of age, ethnicity, caste, religion or learning ability, with an inclusive and supportive child-friendly learning environment that caters to all needs. Indeed, an examination of the conditions under which teachers work can show factors such as status, training and employment conditions to contribute more to improved learning outcomes than teacher gender (Plan 2012a: 80). Improving teacher training can help teachers to create classrooms in which all students feel confident and supported; it can be argued that while this may be a longer process, in the long-run it is gender transformative rather than entrenching gender differences further.
Changing attitudes and expectations

Teachers’ pre-conceptions and expectations about their students’ learning capabilities can also be highly gendered and can differentially motivate students; they can mean that boys and girls experience the same class very differently; and, ultimately, act as a critical factor in achievement (Eurydice 2010). In both Northern and Southern contexts, research has demonstrated deeply embedded gendered assumptions that attribute girls’ academic success to hard work and diligence and boys’ to natural ability and flair (Rawal and Kingdon 2010; Elwood 2005; Skelton 2006). In Rawal and Kingdon’s study (2010: 34), three-quarters of all teachers (both male and female) believed that boys were more capable at maths than girls. Lloyd, Mensch and Clark’s study of primary schools in Kenya (2000) revealed that 20 per cent of teachers (the majority of whom were male) preferred teaching boys and that 32 per cent did not believe that maths was an important subject for girls to study.

Girls were characterised as ‘lazy’ and ‘weak’. The study showed a significant link between a teacher’s positive attitude toward the importance of maths for girls and the likelihood of a girl staying in school (as above 2000: 140) and a link between boys being favoured in class with a higher chance of girls dropping out of school. The study concluded that school environments were discouraging to girls. An evaluation of a USAID-funded project in Malawi also revealed teachers’ negative perceptions of girls where girls were characterised as ‘dull’ and ‘second rate students’ (Kendall 2006: 6).

Teachers’ low expectations of students’ academic abilities can lead to students’ lower expectations of themselves, and low confidence, and ultimately lead to underachievement in the classroom and in exams. The 2006 PISA assessment data reported that girls were less interested in maths and had less confidence and motivation than boys who, in reality, only performed slightly better (USAID 2008). Some countries, including Rwanda (MoE 2008) and Zimbabwe (MoWAG and CD 2009), have implemented ‘affirmative action’ initiatives to address girls’ underachievement in education and to increase access to higher education for girls. In Rwanda, affirmative action is one of the key activities of the Girls’ Education Policy to increase girls’ access to and participation in secondary and higher education. One of the suggested affirmative actions is to ‘consider supplementary points to girls or use a lower cut-off point for their entry into higher education’ (MoE 2008: 14). Strategies such as this could be successful in contributing to closing the statistical gap in access to education between boys and girls; however, they legitimise the position that girls are unable to compete with boys and demotivate girls who are made aware that they are not expected to perform as well as boys.

Teachers play a critical role in forming students’ understanding of gender roles and their own gender identity. Teachers have the opportunity to enable students to think critically about and challenge the gender stereotypes that they are confronted with. Teachers’ own understanding of their gender role is also influential and can contribute to either maintaining or breaking gender stereotypes within schools (Eurydice 2010). In the USAID project evaluation of an education project in Malawi, gender stereotypes were constantly reinforced by teachers who assigned high status chores such as time-keeping and ringing the school bell to boys whereas girls were assigned domestic chores such as sweeping the classroom floor and fetching water (Kendall 2006). Importantly, this kind of chore will take girls out of the classroom during class time, which can convey a message to girls that they do not belong or that their time in class is not of value or importance.

Teachers’ own biases toward boys and girls can be reflected through unconscious behaviours that treat students differentially both in the classroom and in the wider school environment. Even teachers who believe that they treat students equally can be observed interacting differently, and inequitably, with male and female students (Magno and Silova 2007). Some studies have found that in mixed classrooms, teachers are more likely to place a greater importance on boys’ learning, are more likely to pay them more attention and interact with them, both positively and negatively, through chastisement, criticism, praise, questions or feedback (Magno and Silova 2007; Stromquist 2007; Eurydice 2010). The outcome of such differential treatment is to encourage passivity and conformity in female students and place greater value on the independence and individuality of male students (Golombok and Fivush 1994; Eurydice 2010). Boys are allowed to behave in ways that may be judged naughty because it is seen as natural and girls are expected to undertake the ‘caring’ role by looking after others and cleaning up the classroom. Teachers perceive girls to be more malleable and cooperative and boys to be more confident and capable. Even when girls are seen as better students, as they are by science teachers in Malta, the reason given is behavioural rather than cognitive or intellectual, ie that girls are more meticulous in their work and ‘study harder’ than boys (Eurydice 2010; Elwood 2005).

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5 WEDO Program for International Student Assessment, the OECD’s world education ranking report
Gendered curriculum

The curriculum is a formal testament of the knowledge and values that a school or education system chooses to convey. Although most curricula materials have begun to address gender issues in some form, very few explicitly address gender equality. Paechter (2000) points out that most curricula materials imply certain gender assumptions; for example that ‘power’ or ‘high status’ subjects, such as maths and science, will attract male students and females will be attracted to languages and ‘soft’ subjects that have a lower status (Aikman 2003). Thus, the ‘official’ curriculum conveys and portrays what is ‘appropriate’ for boys and girls to do, what subjects they ought to study and how they ought to behave (Eurydice 2010).

The ‘hidden’ curriculum – the unintended transmission of norms, values and beliefs conveyed in the classroom – also transmits messages to boys and girls about what is appropriate for them and reinforces gendered stereotypes that can contradict the more progressive messages that are transmitted through the official curriculum. For example, South Africa is one of the few countries to explicitly address gender equality in its school curriculum. It is interesting, therefore, to examine how messages regarding gender equality as conveyed by the official curriculum are being understood and interpreted in the local context. A recent study conducted in South Africa shows that often the official curriculum is insufficient to challenge traditional practices, which still have a real and powerful influence over girls and which undermine the messages of equality that remain in the classroom only.

“We learn about these things, inequality, you know. But… it doesn’t make a difference for me! If we are going to learn things here in the school and then in the end of the day we are not going to use it… then I think it is useless.” (Interview with student, South Africa, Holmardottir et al 2011)

The evidence from this study in South Africa suggests that, whilst important, the presence of a curriculum that explicitly addresses gender inequality is, in itself, insufficient to ensure that gender issues are properly addressed in schools. Teachers need to have the pedagogical tools and the training to actively engage with the curriculum and make it relevant to their students and their own context.

As a way of transmitting the curriculum, textbooks and reading materials are often reinforce gender stereotypes and reproduce traditional beliefs and ignore the achievements of important female figures (Eurydice 2010).

Gendered assessment

The test scores and examination results that teachers, parents, employers, ministries of education, academics and multi-lateral agencies rely on to measure the performance of girls and boys are the result of a process of testing and assessment that is also highly gendered. Although very little research is available on methods of assessment in the South, some UK-based studies on the impact of assessment and examination techniques on gender differences in performance have shown that assessment techniques can contribute to observable gender differences in learning outcomes (Elwood 2005, 2006).

The recent Eurydice (2010) report on gender differences in educational outcomes in Europe also highlighted the influence of the content and format of assessment in creating these differences. The report cites a study in Ireland, which compared the learning outcomes in maths for boys and girls across the international PISA assessment and the national Irish Junior Certificate examination. The study (Close and Shiel 2009) found that in the PISA assessment, boys significantly outperformed girls in maths, whereas girls outperformed boys in the national assessment. Of the differences in format and content between the PISA and Junior Certificate examinations, perhaps the most relevant to the educational assessment context in the South is the presence of multiple-choice questions, of which there were a substantial number on the PISA examination but none on the national examination.

The study showed that boys did much better on multiple-choice questions than girls. Multiple-choice tests are widely used as the standard means of performance assessment in schools in the South; yet research studies based in the Northern context consistently show that this format favours male students (Stobart et al 1992; Gipps and Murphy, 1994; Newbould and Scanlan, 1981; Maccoby and Jacklin 1974). In North American schools, female students achieve higher grades than male students, but when it comes to college entrance tests, which contain substantial numbers of multiple-choice questions, male students tend to achieve higher scores (Halpern et al 2007). Research has suggested that boys’ greater tendency to take risks and guess puts them at an advantage over girls who tend to omit questions that they cannot confidently answer correctly (Ben-Shakhar and Sinai 1994).

Not only has research suggested that boys do better than girls on multiple-choice style testing, it has also been found that boys perform better at traditional styles of assessment that require memorising unambiguous facts and quick answers (Arnott et al 1998 in Elwood 2005). Girls, on the other hand, are less likely to perform well in timed, end-of-course examinations and prefer open-ended, process-based tasks, such as coursework. Important evidence for the effect of assessment on the relative performance of boys and girls can be taken from the introduction of the GCSE into the UK education system in 1988; more pertinent, perhaps, are studies that have demonstrated the role that coursework has played in the improvement of girls’ performance relative to boys’ (Stobart et al 1991; Elwood 2005; Gipps and Murphy 1994 in Eurydice 2010). Much like the value of varying teaching styles...
to benefit a wider range of learning styles, be they girls or boys, offering a range of exam styles could also benefit both girls and boys. In the South, methods of assessment for students tend toward traditional end-of-course, multiple-choice and short response style examinations. There is a need to move away from this style of assessment towards a system that assesses effectively the extent to which learners’ cognitive, affective and practical skills have been developed.

Gendered learning

Despite increasing recognition by ministry officials of the benefits of a more student-centred approach to teaching and learning, traditional teacher-led methodologies, evaluation and assessment practices are still widely used in the South, where teachers typically confine themselves to the front of the class. Interaction with students is usually limited to questions and answers that require low cognitive ability and are generally a test of rote memorisation of facts rather than comprehension.

This format of assessment again tends to favour the more confident, attention-seeking behaviour and competitiveness of boys as teachers are more likely to address questions to those who volunteer and who those who volunteer are typically boys (Lloyd, Mensch and Clark 2000; Kendall 2006; Stromquist 2007; Skelton 2006). Teachers are also more likely to nominate students who are perceived to be more intelligent (UNICEF 2000a). Kendall’s evaluation of a USAID-funded school in Malawi found that when teachers did call on as many girls as boys to answer questions in class, girls were far more likely to be judged incorrect or singled out (Kendall 2006).

There has been some research conducted in the North, which suggests that girls and boys can learn differently. For example, a review of 1,400 research studies by Maccoby and Jacklin (1974) concluded that there are some patterns in male and female learning; that on average girls have higher language skills and that on average boys are better with numbers. On average girls’ higher language skills mean that using narrative and placing learning in context and in the real world has been shown to significantly enhance girls’ learning in all subjects (Elwood 2005; Arnot et al 1998).

Even in subjects such as maths and science, girls use language skills to solve problems. This means that on average a girl will perform better at maths questions that have a relevant and practical application or are located within a narrative context. However, it is impossible to separate the influence of deeply embedded gendered assumptions from an individual’s performance; it is very difficult to separate innate from learned behaviours, which are affected by gender norms, socialisation and stereotyping from birth.

Furthermore, research has also shown that girls on average employ highly complex, creative and emotional approaches to problem solving, which are detrimental in those classes in which learning is assessed using questions and answers that require low cognitive ability and rote memorisation. In addition, girls and boys also experience academic difficulties very differently, with boys likely to associate a failure with the subject only; girls are more likely to internalise an academic failure (for example, giving an incorrect answer in class) and interpret it as reflection of their own worth and ability i.e. a failure in the classroom is incorporated into their opinion of themselves and sense of self-worth. In order to perform well, therefore, all children need to learn in environments in which they feel supported, encouraged and safe (Pomerantz, Alterman and Saxon 2002).

An additional difference between the way girls and boys learn is that girls typically prefer to learn through discussion and collaboration (Arnot et al 1998). Collaborative learning activities require groups of students to work together on a task with little or no direct supervision or obvious group leader. This form of learning has been shown to lead to higher achievement, particularly for girls and, even more so, among single gender groups. According to Felder et al: “Cooperatively taught students tend to have better and longer information retention, higher grades, more highly developed critical thinking and problem solving skills, more positive attitudes toward the subject and greater motivation to learn it.” (Felder et al 2000 quoted in Oloyede, Adebowale and Ojo 2012).

Although very little South-based research is available on the effects of collaborative learning on student achievement, one study conducted in Nigeria (Oloyede, Adebowale and Ojo 2012) has found that collaborative learning can lead to a significant improvement in student achievement in maths when compared to competitive, individual and conventional teaching strategies (conventional teaching is inferred as traditional teacher-centred, whole class teaching). Of the four test groups, the cooperative teaching model was the only one in which girls outperformed boys. In the conventional teaching strategy group, there was a 14 percentage point gap in achievement in favour of boys, whereas the gap in achievement in the group learning in the collaborative teaching group was a small 1.8 percentage points in favour of girls.

Most of the evidence from classrooms in the South suggests that teachers still use mainly teacher-centred strategies that favour boys’ learning styles, particularly in maths. To improve learning outcomes for girls (and for boys too), teachers need to make the curriculum and their instructional methods relevant to their students’ everyday lives. However, UNICEF (2000b) reports that in Ethiopia, only 50 per cent of teachers said that they link their lessons to daily life at least once a week; 65 per cent admitted that they never or rarely ask pupils about their own learning interests.

Increasingly, a quality education is being defined as an education which is relevant and one that uses democratic processes to empower students (Plan 2012a). Research is beginning to show that these processes are having a positive impact on girls’ learning outcomes. An evaluation of the Forum for African Women Educationists’ (FAWE) Centre of Excellence programme, which includes training of teachers in participatory teaching methods, has indicated that the use of small group discussions in class has helped to improve teacher/student interactions and improved academic performance.
The FAWE Tuseme (‘Speak Out’) programme, which gives students – boys and girls – the opportunity to discuss the problems that affect them and how to solve them, has also led to increased self-confidence and involvement in leadership duties around the school (FAWE 2006). Similarly, BASE education programme in Nicaragua, which employed an open classroom system and participatory and democratic learning also gave girls the opportunity to take on leadership roles that increased their confidence and self-esteem and ultimately resulted in improved academic performance (USAID 2008).

It should be noted that while there is evidence to suggest differences between boys and girls, there are more similarities in learning styles and preferred assessment techniques than differences. While teachers should adapt methodologies that are gender-sensitive, more diversified teaching and assessment styles would likely benefit all children.

Conclusion

This report has examined some of the factors that can lead to the underperformance of girls relative to boys in high stakes national examinations in many countries in the South. Working from the assumption that girls have the same academic potential as boys, this report examined some of the school and classroom-based factors that can disadvantage girls. It found that assessment systems, curricula materials, teaching and learning processes and teachers’ expectations of students can all be highly gendered and, combined with the effect of teacher gender, can form a considerable barrier to girls’ learning. A barrier that must be overcome in order to achieve gender equality in learning outcomes.

Since the inception of the MDGs, much of the focus of research and development efforts has been on identifying and addressing the factors that prevent girls’ access to education. This has led to important progress toward achieving gender parity in enrolment. However, it is increasingly being acknowledged that ensuring equal access to school does not guarantee that boys and girls have equal opportunities to learn through schooling. Very little research has been conducted in the South examining the differential impact of classroom factors on the learning outcomes of boys and girls. In using mostly Northern studies to highlight the significant effect of these factors on achievement, this report is a starting point from which future research should consider how to address these issues, in order to make progress toward gender equality in learning outcomes.
Implications for girls’ education programming

Development efforts have typically focussed on overcoming the many barriers that have prevented girls’ access to education. The findings from this report have multiple implications for future girls’ education programmes, and emphasise the need for the focus to shift onto barriers to learning rather than barriers to access. The author acknowledges that whilst this paper has focussed on some of the school-based factors that hinder girls’ achievement, there are also a number of out-of-school factors that play an important part; including some, such as lower expectations of girls’ abilities, that prevail in and out of school and need to be addressed at the community level as well as in school.

Based on the findings presented in this paper, however, there are some strategies that could support girls’ learning and contribute to closing the gender gap in examination results.

- Recruit and train more female teachers, particularly from rural communities and from minority and underrepresented groups
- Address the shortage of females in positions of leadership and decision-making roles
- Train all teachers, men and women, to use collaborative learning strategies and continuous assessments
- Introduce coursework components or collaborative project work as part of end of term/year assessments
- Assess the extent to which curricula and teaching resources are gender sensitive and advocate for their improvement
- Facilitate discussions among all school staff on their gendered expectations of students in order to identify and recognise patterns and prejudices and, ultimately, counter them
- Develop role model programmes that enable students, teachers, head teachers and community members to recognise that girls are as capable as boys.

Directions for further research

The question of how classroom factors can disadvantage girls’ learning is an under-researched field in education and international development, which means that there are many different directions that further research could take. Some of the main gaps in research are:

- What is the impact of gender-sensitivity training/manuals on how male and female teachers conduct themselves in class/around school and on their interactions with, attitudes towards and expectations of their students? And on their performance in examinations?
- How are interactions between teachers and students affected by gender? Although statistical data exists of the link between same gender teacher and improved learning outcomes, there is a gap in qualitative data that might provide explanations for this
- How do student-centred or collaborative teaching methodologies and assessment processes impact on girls’ learning and what impact do they have on girls’ learning outcomes and why?
- How do out-of-school factors influence the differences between girls’ and boys’ examination performances, for example why do girls tend to do better in urban environments, whereas boys do better in rural areas, where this is the case?
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