DECENTRALISATION, DISADVANTAGE AND INCENTIVES

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ABSTRACT (330 words)

This paper draws on the review (fully reported in Carr-Hill et al, 2015) which aimed to answer the following questions: (1) What is the impact of school-based decision-making on educational outcomes in low- and middle-income countries (LMICs) (RQ 1)? (2) What are the barriers to (and enablers of) effective models of school-based decision-making (RQ 2)?

Overall, we find weak effects on drop-out and repetition in certain contexts. Effects on test-scores are more robust, particularly in middle income countries. While pooled effects on teacher attendance are not significant overall, there is some evidence that these effects are stronger in contexts of high decentralisation and of low income.

Most of the included studies do not conduct any sub-group analysis relating to individual characteristics. But there is more evidence on disadvantage and incentives. School-based decision-making reforms appear to be less effective in disadvantaged communities, particularly if parents and community members have low levels of education and low status relative to school personnel. Devolution also appears to be ineffective when communities do not choose to actively participate in decision-making processes. Small schools, may find school-based decision-making interventions to be effective, particularly if community members establish a collaborative, rather than an adversarial, relationship with teachers.

School-based decision-making reforms can be implemented in a variety of ways. Training appears to be an important element of any school-based management reform, although this may be more effective when delivered directly to schools by NGOs, rather than via government authorities, at least in contexts with weak monitoring and accountability mechanisms. Grants do not always have an impact on educational outcomes, although sufficiently large grants targeted explicitly at investments likely to increase learning may have a positive effect.

Overall, we can conclude that devolving decision-making authority to the school level can have a positive impact on educational outcomes, but that such positive effects are only likely to occur in more advantaged contexts in which community members are largely literate and have sufficient status to participate as equals in the decision-making process.

I. Background and Introduction

I.1 Background

Although there have been significant improvements in recent decades, access to education - particularly for girls, poor children and children in conflict-affected areas – remains limited. There is also worrying evidence that many children enrolled in school are not learning. Recent estimates suggest that around 130 million children who have completed at least four years of school still cannot read, write or perform basic calculations (UNESCO, 2014, p. 191).

Many governments have attempted to address this situation, while also improving efficiency and reducing costs, by devolving decision-making authority to schools, as it is assumed that locating decision-making authority within schools will increase accountability, efficiency and responsiveness to local needs (Gertler et al., 2008). This devolution includes a wide variety of models and mechanisms, differing in terms of which decisions are devolved (and how many), to whom decision-making authority is given, and how the decentralisation process is implemented (i.e., through 'top-down' or 'bottom-up' processes). All models and mechanisms are presumed to increase responsiveness to local needs and accountability by bringing community members into direct contact with schools, and to increase efficiency by making financial decisions more transparent to communities, reducing corruption and incentivising investment in high quality teachers and materials.

I.2 Objectives

Although the rhetoric around decentralisation suggests that school-based management has a positive effect on educational outcomes, there is limited evidence from low income countries of this general relationship. Existing reviews on school-based decision-making have tended to focus on proximal outcomes (e.g. Guerrero et al., 2012, on teacher absenteeism; Petrosino et al., 2012, on student enrolment), with very few considering the full range of relevant outcomes, including student learning. The comprehensive reviews that do exist (Santibanez, 2007 and World Bank, 2007) are not formal systematic reviews, according to the criteria set by the Campbell Collaboration. They also need updating, as they (a) rely on literature that is now nearly ten years out of date and (b) focus almost exclusively on Central America, referencing almost no evidence from other low or middle income countries. Existing reviews on this topic also tell us very little about why school-based decision-making has positive or negative effects in different circumstances.

The review (fully reported in Carr-Hill et al, 2015) aimed to address these gaps by answering the following questions: (1) What is the impact of school-based decision-making on educational outcomes in low- and middle-income countries (LMICs) (RQ 1)? (2) What are the barriers to (and enablers of) effective models of school-based decision-making (RQ 2)?

For the purposes of the review, 'school-based decision making' was defined as any reform in which decision-making authority has been devolved to the level of the school. Within this broad definition, there are three main mechanisms discussed in the literature: (1) reforms that devolve decision-making around management to the school level; (2) reforms that devolve decision-making around funding to the school level; and (3) reforms that devolve decision-making around curriculum, pedagogy and other aspects of the classroom environment to the school level.

I.3 Methods

The review followed an explicit protocol following methodological guidance provided by the Campbell Collaboration and the EPPI-Centre at the UCL Institute of Education (Becker et al., undated; Gough et al., 2012; Hammerstrom, 2009; Shadish & Myers, 2004).

To be included, all studies had to: 1) Be empirical in nature and focused on primary and secondary schools within LMICs; 2) Investigate a *change in decision-making authority from a higher level of decision-making authority to the level of the school* (excluding studies where the intervention was conceptualised, managed and implemented by an external decision-making agency, or aimed exclusively at improving the functioning of existing devolved decision-making structures); 3) Provide data on the relationship between school-based decision-making and *at least one educational outcome* (either proximal, e.g. attrition, equality of access, increased enrolment; or final, e.g. student learning, as captured by test scores, psychosocial and non-cognitive skills, etc.); and 4) Used data collected since 1990.

In order to be included in reference to Review Question 1, studies needed to be causal in nature, meaning we included: (1) Experimental designs using randomised or quasi-randomised assignment; (2) Quasi-experimental designs; and (3) Before-and-after studies which collect longitudinal data at baseline and endline, as well as those using cross-sectional endline data only, provided data are collected from a comparison group or where an appropriate method of analysis has been used to control for confounding. For Review Question 2, we included studies of any empirical design, so long as they provided additional data relating to those interventions featuring in the impact component of the synthesis.

We identified 2,821 titles through a comprehensive search strategy. Of these, 100 met our eligibility criteria. Thirty of the 100 met the design criteria required for RQ1, but three were removed from the RQ1 synthesis, due to high risk of bias. A fourth study had to be excluded due to missing data. Twenty-six impact studies were, therefore available for meta-analysis. These 26 studies investigate the impact of 17 individual interventions. Of the 73 non-causal studies subjected to quality appraisal, nine were identified which provided additional data on the included interventions.

In order to answer RQ1, we conducted meta-analysis, relying on the use of 'standardised mean difference' (SMD) calculations to compare effects across studies. In our meta-analysis, we were able to report on the impact of any school-based decision-making reform on six educational outcomes: 1) student drop-out; 2) student repetition; 3) teacher attendance; and

4) student learning, as assessed via i) language test scores, ii) math test scores, iii) aggregate test scores (i.e. tests of more than one subject). We examined heterogeneity by investigating impact of three moderating variables – level of decentralisation, income level, and type of evaluation design –on the main effects across studies, and narratively synthesised any sub-group effects discussed within the included studies. Analysis in reference to RQ2 followed the principles of framework synthesis (Thomas et al., 2012), in order to identify the main barriers and enablers that appear to have influenced the impact of the interventions.

I.4 Overall Results

Devolving decision-making to the level of the school appears to have a somewhat beneficial effect on drop-out – a reduction of less than 0.1 SMD – which is statistically significant in middle income contexts. Overall, the results indicate that repetition falls by 0.09 SMD on average. Effects on test-scores are more robust, suggesting a positive and significant improvement of 0.2 SMD in aggregate test scores on average, and positive and significant improvements of around 0.1 SMD in scores on separate language and maths tests. Further analysis of test score findings suggests that these results pertain to middle income countries, whereas we were not able to find statistically significant improvements in test scores in low income country settings, with the exception of one study in Kenya (now a middle income country). Evidence does not suggest that effects on teacher attendance are significant overall, but there is evidence that effects are stronger in contexts of high decentralisation.

I.5. Sub-group Heterogeneity

Most of the included studies do not conduct any sub-group analysis relating to individual characteristics, such as gender and student background; those that do differ in their findings. However, there is some evidence to suggest that school-based decision-making reforms have a stronger impact on wealthier students with more educated parents. We focus below instead on the impact of community level factors and implementation involving incentives.

II. Community-Level Factors

We report on community-level factors explored in the various studies (Annex: Table 1).

Although only seven of the 26 impact studies explicitly consider community-level factors in their heterogeneity analysis, the findings in this sub-section are the most consistent in terms of contextual factors that are likely to affect the impact of school-based decision-making reforms. The community-level analysis considers three factors: the level of development of particular communities, the level of parental education within individual communities, and the level of community participation.

There is little discussion of the relative impact of school-based decision-making reforms on rural and urban areas, largely because most individual interventions are explicitly targeted at one or the other (and, therefore, individual studies do not consider differential impact in terms of urbanicity). However, one study does compare urban and rural areas (Skoufias & Shapiro, 2006), finding greater impact in urban areas. These results may be linked to the findings of four studies which investigate differential impact in terms of community disadvantage (Gertler et al., 2012; Murnane et al., 2006; Rodriguez et al., 2010; Skoufias & Shapiro, 2006). Although the four studies frame their analysis in slightly different ways, they all come to a similar conclusion: that school-based decision-making reforms are likely to have a stronger impact on more advantaged (i.e. wealthier) communities. This is a particularly important result, given that some studies showing positive impact explicitly acknowledge having avoided including more remote areas in their analysis (e.g. Glewwe & Maïga, 2011, and Lassibille et al., 2010).

These results are likely to be related to the results concerning the characteristics of community members. Given that school-based decision-making reforms often involve at least some community participation, it is just as important to investigate community member characteristics as it is to consider the characteristics of school personnel, such as teachers. However, this factor is only investigated in two of the studies (Beasley & Huillery, 2014; Blimpo & Evans, 2011). Both studies suggest that parental education levels are an important factor, as they find that communities with a higher proportion of educated school management committee members are more likely to see positive results of school-based decision-making reforms. Beasley & Huillery (2014) argue that this is at least partially related to their relative authority within communities, suggesting that outcomes are likely to be limited in communities where parents have limited authority vis-à-vis school personnel. One would expect that these characteristics would affect the impact of school-based decision-making reforms, as both factors are likely to limit the impact of community participation in decision-making and the effect of community monitoring of school behaviour. They are also likely to be correlated with a community's overall level of development. It is therefore possible that a similar effect may be driving the results identified in the previous paragraph. Although all four studies investigating the differential impact of community disadvantage consider Latin American contexts, and the two studies considering community characteristics both focus on sub-Saharan Africa, it is reasonable to assume that areas of high disadvantage in Latin America are also characterised by similarly low levels of community human capital.

Finally, two studies investigate the possibility that some communities will opt to participate more actively in school decisions, as a result of school-based decision-making reforms, than others. The studies (Jimenez & Sawada, 1999; King & Ozler, 2005), both investigating Latin American contexts, find strong evidence that community participation levels are a critical factor. King & Ozler (2005) differentiate between communities with *de jure* autonomy (communities with a legal right to autonomy, provided by a particular reform) and those with *de facto* autonomy (communities in which participation in school decisions actually increases significantly as a result of the reform). They find positive effects only in communities with *de facto* autonomy, suggesting that giving communities authority to make decisions is only impactful if communities then elect to capitalise on their new autonomy. King & Ozler also disaggregate this effect and find that it is in the domain of administrative decisions that impact can really be identified; communities electing to engage with pedagogical decisions see less impact than those engaging with administrative decisions, such as raising additional funds and providing incentives to teachers.

III. Implementation Factors

The specific manner in which reforms are implemented might also be expected to differentially affect outcomes. For instance, one would expect to see different effects if devolution of decision-making is accompanied by additional financing for schools or if those assuming authority are offered training on their new responsibilities. Some school-based management interventions, such as TEEP in the Philippines, have been implemented as part of a broader programme of education reform; schools participating in TEEP received money for infrastructure/materials and pedagogical training, in addition to support for increased school-community partnership. One would surmise that multi-faceted reforms like TEEP might have a stronger impact than narrower reforms focused exclusively on changing the level of decision-making authority.

Despite the likelihood that such implementation decisions would impact results, most of the included studies do not explicitly investigate any implementation factors, as they focus instead on the overall impact of a particular intervention. However, a small number of included studies using experimental designs (Blimpo & Evans, 2011; Bold et al., 2013; Duflo et al., 2012; Pradhan et al., 2011; World Bank, 2011) do consider implementation factors by creating a number of discrete treatment arms, each constituting a different combination of elements. In this sub-section, we discuss six implementation factors considered by this small sample of experiments: the incorporation of a grant, the incorporation of training, the incorporation of a report card or other accountability mechanism, the mechanism by which school management committee members are selected, the relationship between schools and the surrounding community (outside of school management committees), and the implementing body. Where relevant and appropriate, we also reference supporting evidence from the other impact studies.

We start by highlighting the results of the experiment conducted by Pradhan et al. (2011) in Indonesia, as this study is the only one in the review to explicitly consider the differential impact of a range of implementation factors. The randomised control trial outlined in this study comprised a number of treatment arms, each of which included either training, elections, facilitation of collaboration between school management committees and village councils (a factor they call "linkage"), or some combination of the three. Here we focus only on training vs no training. Overall, they find no effect within the control group (receiving only a grant), nor do they find any effect on schools receiving only the grant and training. The full results are outlined in Table 1.

Table 1: Summary of comparative results from Pradhan et al. (2011)[1]

	Grant	*Training*	*Elections*	*Linkage*	*Linkage & Election*	*Linkage & Training*	*Training & Election*
Drop-out (n=517)	-0.005 (0.005)	0.007 (0.006)	-0.003 (0.006)	-0.002 (0.006)	-0.005 (0.011)	0.003 (0.006)	0.004 (0.006)
Repetition (n=517)	-0.004 (0.008)	-0.006 (0.005)	-0.001 (0.005)	0.007 (0.005)	0.007 (0.008)	0.001 (0.009)	-0.006 (0.008)

The authors' conclusion from these results is that elements that support existing school management committees are unlikely to have an effect, whereas elements that introduce new participants (e.g. elections and linkage) are likely to substantially impact outcomes. Although these findings are the result of only one study, they raise interesting questions that would benefit from further attention in future studies.

III.1 Grant Incentives

We next consider the potential impact of providing **grants** to schools as part of a school-based decision-making intervention. Many school-based decision-making interventions follow a grant-giving model, whereby selected schools are given grants to fund school improvement plans developed by school management committees. In other models, schools are given grants for explicit purposes, e.g. the hiring of contract teachers (as discussed in Bold et al., 2013; and Duflo et al., 2012). Although these models differ, they all comprise increased decision-making at the level of the school and an increase in school funding through the provision of a grant.

[1] Results found on page 37; method = intent-to-treat; effect sizes not standardised, reproduced here on the original scale

In fact, no study in the sample offers insight into the marginal impact of allocating grants, because all of the experiments including a grant component allocate grants to all of the treatment arms. Receipt of the grant is typically the 'control' condition, which is then compared to other treatments in which the base grant is supplemented by an additional intervention, e.g. training of the school management committee (see, for example, Blimpo & Evans, 2011; Bold et al., 2013; Duflo et al., 2012). We therefore cannot draw any robust conclusions around the differential impact of providing a grant. However, we can draw some tentative conclusions by comparing the overall results of studies in the sample which do and do not include a grant component. A summary of studies investigating interventions including a grant is presented in Annex:Table 2.

This comparison shows a mixed picture, in terms of the potential impact of including grants as a component of school-based decision-making reforms. Although a number of studies show positive impact of reforms including grants, others show mixed – or even negative – impacts. The studies investigating the AGEMAD programme in Madagascar and the early version of the SBM reform in the Philippines (neither of which included a grant), meanwhile, suggest that school-based decision-making reforms can be effective without providing grants to schools.

It is perhaps unsurprising that we cannot draw any firm conclusions around the importance of incorporating grants into school-based management reforms, as the particularities of the grant elements are themselves likely to have a differential impact. For instance, the size of the grant is likely to matter, as does any restrictions around their use. As discussed in Beasley & Huillery (2014), small grants may have little impact in some contexts, as may grants that can be spent on anything within the school (as opposed to being restricted to expenditures likely to have a direct impact on learning). The manner in which grants are disbursed to schools is also likely to affect the impact of the programme.

III.2 Training

We turn next to the potential impact of **training** school personnel and/or school committee members as an explicit component of school-based decision-making reforms.

In addition to the Pradhan et al. (2011) study discussed above, three other experiments included in the review explicitly investigate the marginal impact of incorporating a training element into a school-based decision-making intervention (Blimpo & Evans, 2011; Bold et al., 2013; Duflo et al., 2012). The results of these experiments are presented in Annex: Table 3. As these results offer comparisons *within* studies, the original results are shown, rather than the standardised effects.

Both studies of ETP in Kenya suggest that training increases the impact of the programme. However, this result is not replicated in Blimpo and Evans (2011), who find that, although training seems to increase the impact on teacher attendance, it does not appear to have a similarly positive effect on student learning (as measured through test scores).

In addition to this experimental evidence, it was possible to compare studies of reforms with and without a training element, as we did when examining the potential impact of grants. Annex: Table 4 presents a summary of the studies investigating interventions including training. As in Annex: Table 2, we show the standardised effects here, as we are looking across studies.

As with the evidence relating to grants, the comparison presents a mixed picture, in terms of the importance of providing training as part of school-based decision-making reforms. Intuitively, it would seem important to train school personnel and community members on any new decision-making responsibilities within the context of a devolution reform; this may be the reason why nearly all of the interventions incorporate some training component. Rather than a discussion of *whether* training should be included, therefore, it seems more important to discuss the *manner in which* training is provided. Although there is no systematic evidence from this group of studies to support any conclusions around *who* should be trained (i.e. school personnel or community members), there is evidence to suggest that the *trainers* may matter. In particular, the two studies investigating AGEMAD (Glewwe & Maïga, 2011; Lassibille et al., 2010) suggest that training must be provided directly to schools in order for school-based decision-making reforms to have a positive effect, as a 'train the trainers' cascade model led by the district or sub-district employees was not found to be effective.

III.3 Accountability mechanisms (e.g. report cards)

The next factor addressed by a few of the included studies is the incorporation of an **accountability mechanism** as an explicit component of school-based management reform. There is already a substantial body of literature on the impact of accountability mechanisms on educational outcomes. As this review focuses on changes in decision-making authority, rather than on mechanisms that might improve the functioning of existing school-level decision-making structures, we have not reviewed much of this literature.[2] However, one of the experiments in the review does explicitly consider the marginal impact of adding a report card to a school-based decision-making intervention (World Bank, 2011).

Surprisingly, the study finds that the addition of the report card actually reduced the impact of the intervention, rather than increasing it. Table 2 outlines the results of the study (in the original scale).

In addition, five other included studies discuss interventions which include school report cards. Annex: Table 4 presents a summary of these five studies. As with the other tables showing standardised effects, the results do not explicitly demonstrate the impact of including report cards; they show the overall impact (standardised across studies) for interventions with and without a report card element.

[2] A recent review commissioned by the World Bank (Bruns et al, 2011) provides an excellent overview of this literature.

Table 2: Results of World Bank (2011)[3]

Outcome	*Results of PSI programme*	*Results of PSI programme with additional report card element*
Teacher absenteeism	9.59 (6.49)	6.51 (5.87)
Math test scores	0.220*** (0.077)	0.0321 (0.079)
Language test scores	0.226*** (0.0712)	-0.0806 (0.0715)

Notes: ***, **, * indicates statistically significance at 99%, 95% and 90% confidence levels.

It is difficult to synthesise the evidence relating to the incorporation of accountability mechanisms as a part of school-based decision-making reforms, as the one study showing a negative result (World Bank, 2011) does not offer any explanation as to why schools receiving the added element of a report card might have performed worse in the evaluation than did those who did not. The other studies considering interventions with a report card element (i.e. those looking at the TEEP programme in the Philippines and the AGEMAD programme in Madagascar) show positive effects, although it is unclear if any of the observed impact can be attributed to the report card itself. The only study to explicitly consider the manner in which report cards are developed and used (Barr et al., 2012) suggests that report cards developed through a participatory process are likely to have a positive impact, while those developed by central authorities are not. Barr et al. also argue that accountability mechanisms, such as report cards, are likely to be particularly effective in contexts where accountability is generally low.

Implementing body

The final factor to consider in this sub-section is the **body responsible for implementing the reform**. This factor is not considered by most of the studies, as most examine the impact of individual interventions. However, one study (Bold et al., 2013) considers this factor in detail and concludes that the implementing body is the single most important implementation factor affecting outcomes. Bold et al. exploit the unusual circumstance arising in Kenya in 2009, in which a contract teacher reform, initially implemented by an NGO in the Western part of the country, was adopted by the central government and scaled up to the national level within the time frame of the NGO programme evaluation. As a result of these unique circumstances, the authors were able to examine the differential impact of the programme depending on the implementing body. Their results suggest that, although the programme was quite effective when implemented by the NGO, it had no impact when implemented by the government [effect of government

[3] Full results in the complete report; method = fixed effects regression

implementation = -0.163 (0.095)*; effect of NGO implementation = 0.184 (0.088)**)]. [4] As with the results of the Pradhan et al. (2011) experiment (outlined above), these results must be treated with caution, as they only pertain to one of the included studies – and, in fact, many of the studies showing positive impact pertain to reforms implemented by central government authorities (albeit often with the support of the World Bank). However, this is not universally the case. The studies of the AGEMAD programme in Madagascar (Glewwe & Maïga, 2011; Lassibille et al., 2010) indirectly support Bold et al.'s conclusion, as they acknowledge that the school-level trainings (found to have the greatest impact) were provided by an NGO. Although not discussed by the authors, this could be a crucial factor in the results, given that no effect was identified in the treatment arms relying on district and sub-district level authorities to implement the reform. Beasley & Huillery (2014) also suggest in their study that school-based management reforms were ineffective in Niger because of a preference amongst community members for central government control over public services. Although we cannot draw any firm conclusions around this point, it appears that government-led reforms may be more (or less) effective depending on the context and, in particular, depending on the relationship between central and local authorities and the existence of strong or weak accountability within the overall education system.

IV. BARRIERS AND ENABLERS

In this section, we consider the barriers to (and enablers of) effective models of school-based decision-making? by combining the results of the heterogeneity analysis with relevant qualitative evidence from the included studies. As a few of the impact studies used mixed methods, some of the qualitative evidence cited here comes from the impact studies discussed in the previous sub-sections, but we also draw on evidence from the nine non-causal studies included in the review.

IV.1 Barriers to impact

First, it appears that **poverty** can act as a barrier to effective school-based decision-making reforms. As discussed in the previous section, a number of impact studies suggest that devolving decisions to the school level does not have a positive effect on the poorest, most disadvantaged communities. This finding is also supported by evidence from some of the non-causal studies in the sample. In Nicaragua, for instance, Fuller & Rivarola (1998) found that schools in severely impoverished areas were, unsurprisingly, unlikely to raise additional revenue from the surrounding communities; and, Gershberg & Meade (2005) found parental contributions to be a significant component of autonomous school budgets, suggesting that disadvantaged communities without access to such additional monies would be unlikely to experience similar benefits under the autonomous schools model.

This finding is likely to be linked to the evidence suggesting that **low levels of 'capacity' within communities** also act as a barrier to impact. Communities with high levels of

[4] Results found on page 39; method = intent-to-treat

illiteracy and/or with few educated parents do not seem to benefit from devolution of decisions to the community level. In their study of Whole School Development programme in the Gambia, Blimpo & Evans (2011) go so far as to argue that devolution may be detrimental in such contexts:

> "In countries where …. the gap [in capacity] is sufficiently high in favor of the central government, then the localized information plays less of a role because the communities are not well equipped to act on them." (p. 29)

In their cross-country study, Hanushek et al. (2011) reach a similar conclusion, arguing that autonomy reforms improve student achievement in more developed countries but actually undermine it in less developed areas. Reimers & Cardenas (2007) expand this argument by suggesting that *schools* must also have a certain baseline capacity in order to benefit from school-based decision-making reforms. In their analysis of Mexico's PEC programme, they find that leadership and 'coherence of vision among school staff' can act as significant enablers – or barriers – to impact (p. 38). Considering this question from the perspective of teachers, Bjork (2003) found that teachers in Indonesia felt they did not have the capacity to implement the curricular component of that country's school-based management reform points, nor did they feel adequately supported to use the autonomy given to them. As schools in wealthier areas are more likely to begin school-based management reforms at a higher baseline institutional capacity, this reinforces the argument that school-based decision-making is more likely to benefit more advantaged communities.

There are a variety of reasons why the capacity of institutions and communities can act as a barrier to effective school-based decision-making reforms. First, in order for such reforms to be effective, school personnel and community members must understand the nature of the reform and crucially must also be able to propose changes that are likely to affect student learning within the school. There is evidence from a number of studies that neither of these conditions is met in many lower-income contexts. Although both studies identify overall positive impact of school-based management reforms, Santibanez et al. (2014) and Parker (2005) note that communities in Mexico and Nicaragua did not always fully grasp the nature and the objective of school-based decision-making reforms in those two countries. Bandur (2008) raises similar concerns in his analysis of the national school-based management reform in Indonesia. In the Nicaraguan context, this lack of understanding was actually found to translate into active resistance in certain communities (Fuller & Rivarola, 1998). Pradhan et al. (2011) also identify resistance to the election of school committee members within some communities in Indonesia, although it is not clear if this resistance was the result of a lack of understanding or an active attempt to block potential changes to the status quo. Beasley & Huillery (2014) note that, although school-based management reforms assume that community members know what should be done to improve educational outcomes, the evidence suggests that this is not always the case. In their study, they find that school management committees in rural communities frequently opted to spend their grants on agricultural projects, instead of school materials, teacher incentives or other initiatives likely to affect educational outcomes. In a credit-constrained environment such as Niger, it is

unsurprising that communities might choose to invest grants in projects that can be used to generate income in the long term; however, although potentially a wise economic decision, such investment is unlikely to improve student learning in the region. In Honduras, Di Gropello & Marshall (2005) note a similar barrier, as they argue that parents with little or no formal education residing in rural areas may find it difficult to even know how much learning is actually taking place in schools, never mind know what might need to be done to address any deficiencies. Secondly, community members – particularly parents - must have a certain amount of status in order to play an active role on school management committees. As discussed in Beasley & Huillery (2014) and in Gertler et al. (2012), this does not tend to be the situation in rural, poor communities, where school personnel are often perceived as authority figures due to their relatively high levels of education. This political dynamic is likely to limit active participation in school decisions and result in the formation of committees that simply 'rubber stamp' decisions made by school personnel. All of these reasons may explain why early interventions devolving decisions to the school level, such as EDUCO in El Salvador, restricted participation in school management decisions to literate members of the community, a requirement which does not appear to feature in similar models of school-based management implemented more recently in other low income contexts.

Another potential barrier highlighted by the included studies is the **potentially limited effectiveness of government-led reforms in some contexts.** As discussed in the previous section, the study examining this barrier in detail is Bold et al. (2013), which finds that a contract teacher programme demonstrating strong evidence of impact when implemented by an NGO had no effect when implemented by the government at the national level. Bold et al. suggest that this is at least partially due to the limited capacity of under-resourced governments to monitor the implementation of complex reforms. Although they do not frame their analysis in a similar fashion, Lassibille et al. (2010) and Glewwe & Maïga (2011) indicate a similar result in their analysis of the AGEMAD programme in Madagascar, as they only find evidence of impact within schools benefiting from direct training by NGO representatives. No impact could be identified within schools that had been trained by district or sub-district employees (who had themselves been trained by the NGO). As Madagascar also struggles with weak monitoring within the government system, this may be indicative of the limited capacity of district and sub-district officials to implement the reform without assistance. This is an important finding, given that governments often opt to scale up reforms based on pilot studies in which NGOs have played an active role in implementation. Such programmes are unlikely to have a similar impact at the national level without sufficient monitoring capacity and accountability mechanisms, both of which are often limited in low income contexts. Indeed, there may be reason to suspect that government officials may actively hinder the effectiveness of school-based management reforms, as was identified by both Bandur (2008) and Vernez et al. (2012) in Indonesia, where provincial and district officials were found to actively interfere in school decision-making processes.

Another interpretation of this finding is that communities are only likely to benefit from autonomy over school decisions if there is already an **active desire for autonomy within the community**. In their study of eight Latin American countries (Argentina, Bolivia, Brazil, Chile, Colombia, Dominican Republic, Honduras and Peru), Gunnarsson et al. (2008) investigate the relationship between school autonomy and student test scores in math and language. They determine that school autonomy (as defined by formal decision-making authority) and parental/community participation are not highly correlated, suggesting that local authority over educational decisions is as much a matter of local choice as central policy. Although school autonomy alone does not seem to have a significant impact on student test scores, parental participation does, once controls for endogeneity are put in place. They conclude that decentralisation to schools is a beneficial policy when communities demonstrate an interest in participating in educational decisions but that, if such interest is not evident, central decision-making may be more effective. King & Ozler's (2005) analysis of *de jure* versus *de facto* autonomy within communities supports the same conclusion, as does Jimenez & Sawada's (1999) investigation of the impact of community participation levels within EDUCO schools.[5]

Finally, the studies highlight the fact that school-based decision-making reforms can only affect the immediate circumstances of a given school or community. Even in the event that a reform is effective within a community, school-based management reforms cannot address many **external factors** that can act as significant barriers to impact. Although there are myriad external factors affecting educational outcomes, the included studies reference five that appear to have a strong effect, at least in some contexts:

1) The strength of the national teacher's union

Bold et al. (2013) argue that the strength of Kenya's teachers union was one of the reasons for the relative failure of the national scale-up of the contract teacher programme. Once the programme was implemented at the national level, there was strong political backlash from the union, and their mobilisation of civil service teachers against the reform appears to have been a major factor in its limited success. Although not explicitly examined in their study, King & Ozler (2005) note that one reason for the success of the Autonomous Schools initiative in Nicaragua in the late 1990s was the low likelihood of strike activity following the 1990 election. When school-based decision-making reforms change teacher conditions and hiring/firing practices, teachers unions are likely to get involved and, potentially, limit any possible impact. This factor is only likely to affect high decentralisation contexts, in which personnel decisions are devolved to the school level.

2) The strength of the teacher job market

Another factor likely to limit the impact of reforms devolving personnel decisions is the strength of the teacher job market in the region. Barr et al. (2012) note that a shortage of

[5] EDUCO schools are often upheld as a model of community participation, as there is clear evidence of higher levels of parental participation in EDUCO, versus traditional public, schools (Sawada & Ragatz, 2005; de Umanzor et al, 1997).

teachers tends to reduce the willingness of school management committees to exercise their authority to fire ineffective teachers, given the potential lack of a suitable replacement. Parker (2005) discusses the same factor in her study.

3) Teacher ability

Learning outcomes are unlikely to improve as a result of school-based management reforms if the teachers are simply not equipped to teach certain subjects. Lassibille et al. (2010) highlight this factor as a potential reason why students in their sample improved in math and Malagasy but not in French, a subject they argue that many teachers in Madagascar are ill-equipped to teach. Blimpo & Evans (2011) also discuss this as a barrier to impact in the Gambian context.

4) Constraints imposed by the central system

Teachers within schools are often affected by central-level decisions, even within decentralised contexts. Teacher attendance, for instance, is often the result of inefficient mechanisms for distributing salaries in rural areas. Although teachers in some contexts may be absent because of low motivation or limited interest in the profession, many miss school for legitimate reasons, including travelling to banks in regional or provincial capitals in order to collect their salaries. In such contexts, school-based decision-making reforms can only have a limited impact on teacher attendance, as teachers will still need to miss school on pay-day (as discussed in Blimpo & Evans, 2011; and Lassibille et al., 2010). Blimpo & Evans (2011) also mention the negative impact of the shift system in over-crowded areas, an efficiency reform often implemented by central authorities in resource-constrained contexts.

5) Security

The security of a region can also act as a barrier to impact. Although no studies in this review analyse the impact of school-based decision-making reforms on conflict-affected areas, many reference security in passing, generally in reference to areas *not* included in the study catchment area. Pradhan et al. (2011), for instance, note that their study was conducted in a "peaceful, well-resourced area", while Beasley & Huillery (2014) opted to exclude certain communities from the data collection in their evaluation following the outbreak of conflict in some regions of Niger. The exclusion of insecure areas from any evaluation of a school-based management reform is likely to upwardly bias the results, so this is an important factor to consider when interpreting the results of the individual studies.

IV.2 Enablers of impact

In addition to highlighting a number of potential barriers, the included studies point to a number of enablers of effective school-based decision-making reforms.

First, it appears that **smaller schools** are particularly likely to benefit from local decision-making authority, likely because it is easier for school management committees to monitor

teachers and stay informed about conditions at the school. Beasley & Huillery (2014) note that the only schools in their sample that benefited from school-based management were the one-teacher schools, with teacher attendance tending to improve following the reform. School management committees in these contexts were more likely to use their grants to support benefits for the teachers, and the authors conjecture that this may be because parents in one-teacher-school communities recognise that they are highly dependent on the teacher and are therefore more likely to establish an alliance with the teacher, instead of an adversarial relationship. This may, in turn, have a positive impact on teacher behaviour.

Second, it seems that **devolving personnel decisions**, in addition to financial and other management decisions, enables the possibility that school-based decision-making will affect teacher behaviour, including teacher attendance. Although other forms of decentralisation may be useful in other ways, it appears to be necessary to give schools and communities some control over hiring and firing of teachers in order to have any significant impact on teacher absenteeism. Sawada & Ragatz (2005) credit this aspect of the EDUCO programme with much of its success, as do King & Ozler (2005) in reference to Nicaragua's Autonomous Schools programme. The effectiveness of such models, however, appear to depend at least partially on the teacher job market. The possibility of long-term employment may also play a role in enabling impact (as discussed in Duflo et al., 2012; and Jimenez & Sawada 2003).

Third, it appears that school-based decision-making reforms are more effective when they incorporate **certain elements**, such as training for committee members. Although the incorporation of such components can act as enablers, it is important to highlight that they must be implemented effectively in order to perform such a function. It does not appear that simply providing a grant or a training programme, incorporating elections or requiring an accountability mechanism such as a report card has a consistently positive impact on outcomes. Rather, additional elements appear to be particularly useful if they incentivise behaviour that is likely to increase motivation and community participation (e.g. by requiring that grants be spent in ways that support teaching or involving the community in the development of the school report card).

Finally, one potentially important enabler is **giving parents the majority voting power on school management committees**. Duflo et al. (2012) suggest that parental majority on Kenyan school management committees is one of the reasons why local hiring addresses issues of elite capture in that context. It was not possible to investigate this potential enabler in any detail in this review, as studies typically indicate that decision-making authority is 'shared' between parents and community members without specifying which groups hold the voting majority. Furthermore, concerns around community capacity remain, in that parental majority may only be an effective enabler in contexts where parents have sufficient status and authority within the community to affect change.

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ANNEX: REVIEW TABLES

Table 1: Summary of community-level heterogeneity effects

Factor	Differ-ential Impact	Name of Inter-vention	Country	Citation	Out-comes	Results	Data source and interpretation of results
Level of develop-ment	Lower level => neg impact	AGE	Mexico	Gertler et al. (2012)	Drop-out; Repe-tition	Overall effect on repetition = -0.004* (0.002) Effect on students in Grades 1, 2 or 3 in low marginality communities = -0.009** (0.002) Effect on students in Grades 1, 2 or 3 in high marginality communities = -0.004 (0.003)	Results found on page 75; method = fixed-effects regression An overall impact was found for drop-out/repetition and for less marginalised communities
		PEC	Mexico	Murnane et al. (2006)	Drop-out	Overall effect = -0.274** Effect on communities at high level of development=-0.247** Effect on communities at medium level of development = -0.331** Effect on communities at low level of development = -0.15	Results found on pages 42 and 44; method = DiD estimates, obtained from fitted regression models (fixed effects) Impacts found in those communities classified as "middle" and "high" levels of development, according to Human Development Index
				Skoufias & Shapiro (2006)	Drop-out; Repe-tition	Overall effect on drop-out = -0.239 (0.091)** Effect on drop-out in high marginality	Results on page 39; method = average effect of treatment on the treated, based on local linear

						areas = 0.428 (0.263); in low marginality areas = -0.057 (0.088) Overall effect on repetition = 0.313 (0.068) Effect on repetition in high marginality areas = 0.025 (0.396); in low marginality areas = -0.219 (0.068)***	regression matching estimates Statistically significant reduction in repetition in low marginality (more advantaged) communities. No difference between high and low marginality areas for drop-outs
Urbanicity	Urban areas => positive impact for drop-outs	PEC	Mexico	Skoufias & Shapiro (2006)	Drop-out; Repe-tition	Overall effect on drop-out = -0.239 (0.091) Effect on drop-out in urban areas = -0.134 (0.070)*; in rural areas = -0.038 (0.075) Overall effect on repetition = 0.313 (0.068) Effect on repetition in urban areas = -0.213 (0.045)***; in rural areas = -0.241 (0.066)**	Results on page 39; method = average effect of treatment on the treated, based on local linear regression matching estimates Significant impacts on reducing drop-outs in urban areas Significant impacts on reducing repetition in urban and rural separately
Parents' level of educati on	Uneduc-ated commu-nity mem-bers on SMC => neg impact	SBM reform	Niger	Beasley & Huillery (2014)	Drop-out; Tea-cher Atten-dance;	Full results not available in paper, but results discussed on page 28; method = intent-to-treat effects with interaction terms	Conclude that limited impact on outcomes due to low levels of 'real authority'; also note that school committees with higher proportion of educated community members (defined as more than one SMC member having completed

							primary education) more likely to monitor teacher attendance, although no impact on teacher attendance figures
Notes: ***, **, * indicates findings are statistically significant at 99%, 95% and 90% confidence levels.							

Table 2: Summary of evidence relating to grants

Differ-ential Impact	Name of Inter-vention	Country	Citation	Out-comes	Standardised Mean Difference (*p*-value)[6]	Notes
Pos impact identified overall; reform includes grant	PEC	Mexico	Bando (2010)	Drop-out; Test scores	Overall effect on drop-out = -0.045 (0.025)** Overall effect on math scores = 0.081 (0.008)*** Overall effect on language scores = 0.065 (0.027)**	Grant provided to fund School Improvement Plan; includes matching funds for monies raised locally
			Mur-nane et al. (2006)	Drop-out	Overall effect on drop-out = -0.068 (0.050)**	
			Skoufias & Shapiro (2006)	Drop-out; Repetition	Overall effect on drop-out = -0.069 (0.009)*** Overall effect on repetition = -0.104 (>0.001)***	

[6] As we are comparing across studies in these tables, we have elected to use the standardised effect sizes, rather than the data in their original form. However, caution is advised, as these figures show the overall effect of school-based decision-making (for interventions with and without grants). They do not show the effects of the grants *per se*.

	PEC-FIDE	Mexico	Santi-banez et al. (2014)[7]	Drop-out; Test scores	Overall effect on drop-out (Grade 3) = -0.020 (0.920) Overall effect on math scores (Grade 3) = 0.282 (0.054)* Overall effect on language scores (Grade 3) = 0.481 (0.001)***	Grant amount depends on size of school; can be spent on training, interventions for children 'at risk', materials, equipment, or infrastructure
	Auto-nomous Schools	Nicaragua	King & Ozler (2005)[8]	Test scores	Overall effect on math scores (secondary) = 0.205 (0.630) Overall effect on language scores (primary) = 0.148 (0.601) Overall effect on language scores (secondary) = 0.136 (0.770)	All communities participating in the programme receive a grant; the grant appears to be insufficient on its own, given the apparent low impact in communities with low *de facto* autonomy
	TEEP	Philippines	Khattri et al. (2010)	Test scores	Overall effect on math scores = 0.110 (0.097)* Overall effect on language scores = 0.097 (0.026)**	Grants linked to School Improvement Plans; many chose to use funds to support construction
			Yama-uchi & Liu (2012)	Test scores	Overall effect on math scores = 0.297 (<0.001)*** Overall effect on aggregate test scores = 0.287 (<0.001)***	
	BESRA	Philippines	World Bank (2013)	Test scores	Overall effect on math scores = 0.343 (<0.001)***	Grants linked to School Improvement Plans

[7] Positive results for Grade 3 sample only

[8] Positive results on math score for secondary sample only

					Overall effect on aggregate test scores = 0.339 (<0.001)***	
			Yamauchi (2014)	Test scores	Overall effect on aggregate test scores = 0.315 (0.247)	
	PSI	Sri Lanka	World Bank (2011)	Teacher Attendance; Test scores	Overall effect on teacher attendance = 0.519 (0.140) Overall effect on math scores = 0.213 (0.004)*** Overall effect on language scores = 0.230 (0.002)***	Grants linked to School Improvement Plans
Mixed effect identified overall; intervention includes grant	AGE	Mexico	Gertler et al. (2012)	Drop-out; Repe-tition	Overall effect on drop-out = 0.022 (0.322) Overall effect on repetition = -0.055 (0.134)	Grants can only be used for infrastructure and materials (not wages); usually phased in at $500-700 a year; parents required to participate more in school in exchange
	RCT (two kinds of score-card)	Uganda	Barr et al. (2012)	Teacher Atten-dance	Overall effect on teacher attendance = 0.172 (0.047)**	Both treatment arms received grants; effect only identified in arm using participatory scorecard
	ETP	Kenya	Bold et al. (2013)	Test scores	Overall effect on aggregate test scores = 0.057 (0.537)	All treatment arms received grant for hiring contract teachers; effect only identified when implemented by NGO; stronger effect also identified when combined with local hiring and training of SMC members
			Duflo et al. (2012)	Teacher Atten-dance;	Overall effect on teacher attendance = 0.256 (<0.001)***	All treatment arms received grant for hiring contract teachers, but grant appears to have little impact on its own; effects

				Test scores	Overall effect on math scores = 0.237 (0.006)*** Overall effect on language scores = 0.256 (0.018)**	differ depending on type of teacher (e.g. no effect identified in classrooms with civil service teachers, even within schools receiving the grant); impact also affected by whether or not school committee members were trained
	SBM reform	Niger	Beasley & Huillery (2014)	Drop-out; Teacher Atten-dance; Test scores	Overall effect on drop-out = -0.056 (0.286) Overall effect on math scores = -0.048 (0.422) Overall effect on language scores = -0.044 (0.460) Overall effect on teacher attendance = -0.132 (0.092)*	Relatively small grant, particularly in one-teacher schools (where no investments were made in construction, possibly due to small size of grant); No restrictions regarding its use; Evidence that many communities invested in small businesses to gain capital (e.g. agricultural projects), rather than making investments likely to have a direct impact on student learning
Neg impact identi-fied overall; inter-vention include s grant	WSD	Gambia	Blimpo & Evans (2011)	Teacher Atten-dance; Test scores	Overall effect on teacher attendance = -0.215 (0.076)* Overall effect on math scores = -0.184 (0.134) Overall effect on language scores = -0.094 (0.670)	Grants linked to School Improvement Plans; both treatment arms included a grant component; had to use grants for teaching/learning activities; slow disbursement of grants likely to have affected outcomes; baseline 'capacity' does not seem to affect the likelihood that grant will have impact
Pos impact identi-fied; does not	AGEM AD	Mada-gascar	Lassi-bille et al. (2010)/ Glewwe &	Drop-out; Repe-tition; Test scores	Overall effect on drop-out = -0.027 (0.753) Overall effect on repetition = -0.163 (0.045)**	Both studies of AGEMAD find possible effects of school-level intervention; does not include any grant component

include grant			Maïga (2011)[9]		Overall effect on math scores = 0.005 (0.801) Overall effect on language scores = 0.001 (0.966)	
	SBM	Philip-pines	San Antonio (2008)	Test scores	Overall effect on aggregate test scores = 0.121 (0.173)	Overall positive effect; no grant component
Notes: ***, **, * indicates findings are statistically significant at 99%, 95% and 90% confidence levels.						

Table 3: Summary of experimental evidence on training (A) Experimental Evidence

Name of Inter-vention	Coun-try	Cita-tion	Out-comes	Results	Data source and interpretation of results
ETP	Keny a	Duflo et al. (2012)	Teach er Absen-teeis m; Test scores	Overall effect of ETP on math scores = 0.135* (0.075) Effect of ETP, plus training of school-management committees, on math scores = 0.207*** (0.076) Overall effect of ETP on language scores = 0.191** (0.095) Effect of ETP, plus training of school-management committees, on	Results found on page 41; method = average treatment effect, with interaction terms Some arms in the experiment include training of SMC members; others do not. Training found to have an effect. Authors surmise training is particularly important for mitigating elite capture in hiring of contract teachers (i.e. hiring of relatives for positions). Training also provides an opportunity for SMC members to identify which community members are responsible for monitoring teacher attendance

[9] As Glewwe & Maiga (2011) did not appear in the forest plots, we can only report a standardised mean difference for Lassibille et al. (2010) in this table. However, both studies found positive effects.

				language scores = 0.198** (0.100)	
		Bold et al. (2013)	Test scores	Overall effect of ETP with local hiring on aggregate test scores = 0.057 (0.090) Effect of ETP, with SMC training, on aggregate test scores = 0.122 (0.094)	Results found on page 40; method = intent-to-treat Stronger effect identified (in NGO arm) when grants for contract teachers combined with local hiring and training of SMC members; training in government arm less effective
WSD	Gambia	Blimpo & Evans (2011)	Teacher Attendance; Test scores	Overall effect of grant on teacher absenteeism[10] = -0.22 (1.76) Effect of grant plus WSD training on teacher absenteeism = -3.11* (1.75) Overall effect of grant on math scores = -0.09 (0.07) Effect of grant plus WSD training on math scores = -0.12 (0.08) Overall effect of grant on language scores = -0.13 (0.08) Effect of grant plus WSD training on language scores = -0.04 (0.09)	Training to community members included as part of initiative, although using a training-of-trainers cascade model; training adapted to local languages

Notes: ***, **, * indicates findings are statistically significant at 99%, 95% and 90% confidence levels.

[10] As teacher *absenteeism* considered in study, sign reversed prior to standardisation for forest plots

Table 3B: Summary of evidence relating to training

Differ-ential Impact	Name of Inter-vention	Coun-try	Citation	Out-comes	Effect (Standardised Mean Difference[11])	Notes
Pos impact identified overall; inter-vention includes training	EDUCO	El Salvador	Jimenez & Sawada (2003)	Repe-tition	Effect on repetition = -0.039	Intervention includes an explicit training component
	PEC	Mexico	Bando (2010)	Drop-out; Test scores	Effect on drop-out = -0.045 (0.025)** Effect on math scores = 0.081 (0.008)*** Effect on language scores = 0.065 (0.027)**	Head teacher trained as part of initiative
			Murnane et al. (2006)	Drop-out	Drop-out = -0.068 (0.050)**	
			Skoufias & Shapiro (2006)	Drop-out; Repetition	Drop-out = -0.069 (0.009)*** Repetition = -0.104 (>0.001)***	
	PEC-FIDE	Mexico	Santibanez et al. (2014)[12]	Drop-out; Test scores	Drop-out (Grade 3) = -0.020 (0.920) Math scores (Grade 3) = 0.282 (0.054)* Language scores (Grade 3) = 0.481 (0.001)***	Training for head teachers and SMC heads provided as part of initiative
	TEEP	Philippin es	Khattri et al. (2010)	Test scores	Math scores = 0.110 (0.097)* Language scores = 0.097 (0.026)**	Head teachers trained as part of initiative

[11] The same caution as that specified for Table 12 applies here; these results show the overall effect of school-based decision-making for interventions with and without training. They do not show the effect of training specifically.

[12] Positive impact only identified in Grade 3 sample

Differ-ential Impact	Name of Inter-vention	Coun-try	Citation	Out-comes	Effect (Standardised Mean Difference[11])	Notes
			Yamauchi & Liu (2012)	Test scores	Math scores = 0.297 (<0.001)*** Aggregate test scores = 0.287 (<0.001)***	
	BESRA	Philippin es	Yamauchi (2014)	Test scores	Aggregate test scores = 0.315 (0.247)	School staff trained as part of initiative
			World Bank (2013)	Test scores	Math scores = 0.343 (<0.001)*** Aggregate test scores = 0.339 (<0.001)***	
	AGEM AD	Madagas car	Lassibille et al. (2010)/ Glewwe & Maïga (2011)[13]	Drop-out; Repe-tition; Test scores	Drop-out = -0.027 (0.753) Repetition = -0.163 (0.045)** Math scores = 0.005 (0.801) Language scores = 0.001 (0.966)	School staff trained as part of initiative. Training provided directly to school staff (not via district or sub district officials)
	SBM (initial)	Philippin es	San Antonio (2008)	Test scores	Aggregate test scores = 0.121 (0.173)	Training provided to all participants, although content of training differed depending on treatment arm (those receiving intervention trained on collaboration; those not receiving intervention trained on rights

[13] Only results from Lassibille et al. (2010) are reported here, as we did not standardise the results of Glewwe & Maiga (2011)

Differ-ential Impact	Name of Inter-vention	Coun-try	Citation	Out-comes	Effect (Standardised Mean Difference[11])	Notes
						as education stakeholders)
Mixed impact; inter-vention includes training	EDUCO	El Salvador	Sawada & Ragatz (2005)/Jimenez & Sawada (1999)[14]	Teacher attendance; Test scores	Teacher attendance = -0.560 Math scores = 0.065 Language scores = 0.012	Intervention includes an explicit training component
	AGE	Mexico	Gertler et al. (2012)	Drop-out; Repetition	Drop-out = 0.022 (0.322) Repetition = -0.055 (0.134)	Community members trained as part of initiative
	PER	Colombia	Rodriguez et al. (2010)	Drop-out; Test scores	Drop-out = -0.232 Math scores = -0.019 Language scores = 0.102	Training of teachers included as part of initiative. Authors find that PER's success depends on a combination of three factors: good training, high quality of educational material, and 'first rate' school management.
	SBM reform	Niger	Beasley & Huillery (2014)	Drop-out; Teacher Atten-dance; Test scores	Drop-out = -0.056 (0.286) Math scores = -0.048 (0.422) Language scores = -0.044 (0.460)	Training to community members included as part of initiative

[14] Only results from Sawada & Ragatz (2005) are reported here, as we did not standardise the results of Jimenez & Sawada (1999)

Differ-ential Impact	Name of Inter-vention	Coun-try	Citation	Out-comes	Effect (Standardised Mean Difference[11])	Notes
					Teacher attendance = -0.132 (0.092)*	
Neg impact identified overall; inter-vention includes training	WSD	Gambia	Blimpo & Evans (2011)	Teacher Atten-dance; Test scores	Teacher attendance = -0.215 (0.076)* Math scores = -0.184 (0.134) Language scores = -0.094 (0.670)	Training to community members included as part of initiative, although using a training-of-trainers cascade model; training adapted to local languages
Notes: ***, **, * indicates findings are statistically significant at 99%, 95% and 90% confidence levels.						

Table 5: Summary of evidence relating to report cards

Table 4: Summary of evidence relating to report cards

Differential Impact	Name of Inter-vention	Coun-try	Citation	Out-comes	Effect (Standardised mean difference)	Notes
Positive impact identified overall;	TEEP	Philip-pines	Khattri et al. (2010)	Test scores	Math scores = 0.110 (0.097)* Language scores = 0.097 (0.026)**	Report card included as part of initiative

Differential Impact	Name of Inter-vention	Coun-try	Citation	Out-comes	Effect (Standardised mean difference)	Notes
intervention includes report card			Yamauchi & Liu (2012)	Test scores	Effect on math scores = 0.297 Effect on aggregate test scores = 0.287	
	AGEMAD	Madagascar	Lassibille et al. (2010)/ Glewwe & Maïga (2011)[15]	Drop-out; Repetition; Test scores	Effect on drop-out = -0.027 (0.753) Effect on repetition = -0.163 (0.045)** Effect on math scores = 0.005 (0.801)	Report card included as part of initiative
Mixed effect; intervention includes report card	Scorecard	Uganda	Barr et al. (2012)	Teacher Atten-dance; Test scores	Effect on teacher attendance = 0.172 (0.047)**	Both arms of experiment include report card; difference identified between participatory and standard arms indicates a positive impact of giving participants a voice in the development of the report card
Notes: ***, **, * indicates findings are statistically significant at 99%, 95% and 90% confidence levels.						

[15] Only results from Lassibille et al. (2010) are reported here, as we did not standardise the results of Glewwe & Maiga (2011)