Developing, implementing and evaluating the SOFIE model:

Supporting increased educational access for vulnerable pupils in rural Malawi

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SOFIE is a three year Research Project supported by the UK Department for International Development (DFID) and the Economic and Social Science Research Council (ESRC). Its purpose is to strengthen open, distance and flexible learning (ODFL) systems and structures to increase access to education for young people living in high HIV prevalence areas in Malawi and Lesotho. It seeks to achieve this through developing a new, more flexible model of education that uses ODFL to complement and enrich conventional schooling. It also seeks to encourage application of the new knowledge generated through effective communication to development agencies, governments, development professionals, non-governmental organisations and other interested stakeholders.

Access to education and learning is being viewed as a 'social vaccine' for HIV but in high prevalence areas orphans and other vulnerable children are frequently unable to go to school regularly and are thus being deprived of the very thing they need to help protect themselves from infection. In this context sustained access is critical to long term improvements in risk and vulnerability and it requires new models of education to be developed and tested.

The partners

The research team is led from the Department of Education and International Development, Institute of Education, University of London and the research is being developed collaboratively with partners in sub-Saharan Africa.

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Overview

Against the context of underlying poverty, HIV/AIDS and an over-stretched and under-resourced education system, many children in Malawi have reduced and sporadic access to schooling and are at risk of permanent dropout. Evidence from the sub-Saharan Africa (SSA) region suggests that a disproportionate number of marginalised children are those orphaned and made vulnerable by HIV/AIDS. International goals for Education for All (EFA) will not be realised unless education systems can reach out to and retain these children. More needs to be done in schools to address their specific needs and support their access to learning. Acknowledging this, there is a growing call for conventional primary schooling to become more open, flexible and inclusive.

This report introduces a model of education that uses open, distance and flexible learning (ODFL) to strengthen and support access to learning within conventional schools. The model utilises low-tech ODFL strategies - including self-study guides, peer group learning, a buddy system, and 'school-in-a-box' - to enrich and complement formal schooling. It also promotes an enabling environment within schools through increasing school and community capacity in identifying, monitoring and providing pastoral care for vulnerable pupils, as well as promoting practices to support greater inclusion. This report presents findings from a three-year collaborative research study working within the SADC region (the SOFIE project), which developed and trialled this model. In Malawi the model was trialled in schools in two rural districts – Phalombe and Mzimba South – targeting Standard 6 pupils. The research used an embedded experimental design to collect and analyse both quantitative and qualitative data, following a mixed methods approach.

This report reviews the success and challenges of implementing the SOFIE model, drawing on perspectives from research participants to explain process and impact data. A key finding was that the intervention had a significant positive impact on dropout rates, both amongst vulnerable pupils identified as at-risk and targeted for support and in Standard 6 classes overall. There was also evidence of slight intervention effects on at-risk pupils' test scores in Mathematics. Although there was no significant impact on the likelihood of pupils' being promoted to the next grade, findings highlight additional qualitative educational and psychosocial benefits for targeted 'at-risk' pupils. For example, peer support and guided collaborative learning in after-school clubs – led by youth volunteers – appear to have resulted greater confidence and participation in class, as well as building supportive social networks and reducing discrimination from fellow pupils. Several schools made changes to school-level policies that were identified as excluding vulnerable pupils, for example, through reducing school costs and addressing disciplinary practices that excluded pupils from learning. Sustaining community support was a key challenge, particularly in Phalombe, although the use of youth volunteers proved to be a successful strategy, with good working relationships established between teachers and volunteers.

The report concludes that lessons learnt from implementation of the SOFIE model provides a rationale for supporting greater flexibility in educational provision, targeted remedial and pastoral support and affirmative action to improve equitable access and retention - alongside critical reflection and action regarding schools' ethos and exclusionary practices. Successful and sustained implementation of innovation requires increased capacity amongst schools and communities to support all vulnerable pupils, including those affected by HIV/AIDS, as well as the promotion of a more inclusive philosophy within schools.

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Acronyms

AGSP	Ambassador's Girls Support Project
AIDS	Acquired Immuno-Deficiency Syndrome
ARV	Anti-retroviral
CBE	Complementary Basic Education
CBO	Community Based Organisations
CERT	Centre for Educational Research and Training
DFID	Department for International Development
FGD	Focus Group Discussion
FPE	Free Primary Education
GVH	Group Village Headman
HIV	Human Immuno-virus
HSA	Health Surveillance Assistant
MOE	Ministry of Education
NAC	National Aids Commission
NGO	Non-Governmental Organisation
ODFL	Open, Distance and Flexible Learning
PEA	Primary Education Advisor
PTA	Parent-Teacher Association
SADC	Southern Africa Development Community
RCT	Randomised Control Trial
SHN	School Health and Nutrition
SMC	School Management Committee
SWO	Social Welfare Officer
TA	Traditional Authority
TDC	Teacher Development Centre
VCT	Voluntary Counselling and Testing
WFP	World Food Programme

1. INTRODUCTION

This report presents discussion and findings related to the final phase of the SOFIE[1] research project. The aim of the SOFIE project was to investigate ways of improving retention and increasing access to learning for vulnerable children and young people, including those affected by HIV/AIDS. It sought to do this through the development, trial and evaluation of a new, more flexible model of educational provision that incorporates open distance and flexible learning (ODFL) strategies to complement and support conventional schooling. In this introductory section the background and rationale for the Malawi study is presented.

1.1 CONTEXT

Malawi is a small, landlocked country in sub-Saharan Africa (SSA), with a population highly dependent on agriculture, much of which involves subsistence farming. Over 85 percent of the population is found in rural areas. Population density is relatively high compared to other countries in the region, with resultant land shortages. Malawi is divided into three administrative regions – the northern, central and southern regions – that reflect historical, socio-cultural and political differences. The population structure is characterised by a high dependency ratio, with almost half (45%) of the population below 15 years of age.

A former British colony, Malawi gained its independence in 1964 and in 1966 became an official one-party state, to remain so for the next thirty years under the leadership of Dr. Kamuzu Banda. The early nineties saw the start of political changes in Malawi and in 1994 the country's first multiparty elections were held. One of the new democratic government's first acts was to introduce free primary education (FPE), heralded as a key strategy for poverty alleviation.

Currently ranked 153 in the Human Development Index (HDI), Malawi is one of the poorest countries in the world, with over a third of the population (39%) categorised as 'poor' and just over a fifth (21%) described as 'ultra-poor' (NSO, 2009) Poor health and social indicators characterise poverty in the country: low literacy levels, widespread malnutrition, a high under-five mortality rate, and a life expectancy at birth of 50 years, although there have been notable improvements over the last decade (NSO, 2009) The country has been severely affected by the legacy of HIV/AIDS. Nationally the HIV prevalence in adults (15 to 49 years) is estimated to have stabilised at approx 12% percent (NSO, 2005). The majority of new infections are still amongst young people (15–24 years), with young women four times more likely to be infected than young men (NSO, 2005). The epidemic has affected all sectors of Malawian society. Social services are struggling to cope and households are being severely affected by the loss of breadwinners and care-givers and large numbers of orphaned children. It is estimated that 13

[1] A three-year DFID-ESRC joint funded research project 'Strengthening Open and Flexible learning for Increased Educational access in high HIV prevalence SADC countries' (SOFIE).

percent of children aged between 0 and 17 years are orphans, having lost one or both parents (NSO and UNICEF, 2007) and of these, 45 percent are estimated to result from AIDS-related deaths - over half a million children.

1.2 RESEARCH PROBLEM AND RATIONALE

The abolition of primary school fees in 1994 saw a massive increase in enrolment rates in Malawi (Al-Samarrai and Zaman, 2002; Castro-Leal, 1996) and in recent years gross enrolment rates (GER) at primary level continue to exceed 100 percent - inflated by the large proportion of over-age children in the system. However, impressive gains in enrolment achieved since the introduction of Free Primary Education (FPE) have been undermined by a persistent pattern of high repetition and dropout, resulting in low completion. Household survey data have consistently shown that over 20 percent of children of primary school-going age are out of school (NSO, 2000; NSO, 2005; NSO and UNICEF, 2007). Government figures estimate the survival rate to Standard 8 (the final year of primary schooling) at just 30 percent (Ministry of Education Malawi, 2006).

Thus, many children in Malawi have reduced and sporadic access to schooling and are at risk of permanent dropout. Evidence from the region suggests that a disproportionate number of these are orphaned children and others made vulnerable by HIV/AIDS. Studies indicate that orphans are significantly less likely to be enrolled in school, attend less regularly and progress more slowly (Bennell, 2005; Case, Paxton and Ableidinger, 2004; Evans and Miguel, 2007). However research evidence from DHS data suggests that this is often highly contextualised and country-specific (Ainsworth and Filmer, 2006; Pridmore, 2008). In Malawi, whilst national household survey data[2] reports similar net and gross primary enrolment rates for orphans *vis-a-vis* non-orphans (NS0, 2009), school-based research indicates higher rates of absenteeism and withdrawal amongst orphaned children (Bennell, Hyde and Swainson, 2002).

However, there are difficulties inherent in using orphan status as a proxy for the impact of HIV and AIDS on children's access and retention and as a targeting criterion for educational interventions. Whilst not all orphans are equally vulnerable, such targeting also excludes consideration of children affected by HIV/AIDS in other ways, such as those living with chronically ill parents or guardians (Bennell, 2005). Case studies from the SOFIE project reveal the complexity of economic, social and psychological factors that impact on the educational access and attainment of children from households affected by HIV/AIDS, processes which start long before parental death and place many children, especially girls, at risk of long term or permanent withdrawal from school (Moleni, 2008).

Evidence from research in Malawi and neighbouring SADC countries suggests that not enough is being done in schools to support vulnerable children and that *ad-hoc* school-level policies and practice can further contribute to their exclusion (Bennell, 2005; Kendall and O'Gara, 2007; Moleni, 2008; Pridmore and Yates, 2006; Robson and Sylvester, 2007). Pridmore and

[2] 2008 Welfare Monitoring Survey (WMS), National Statistics Office, Zomba.

Yates (2006) note that education sector responses to HIV/AIDS tend to focus on curriculum-based interventions and teacher training, rather than direct support for those affected by HIV/AIDS. Kendall and O'Gara (2007) argue that FPE policies are not sufficient to ensure inclusion of vulnerable children in the context of HIV/AIDS and that such children have specific needs that have to be actively addressed by schools and collaborating partners if equitable access is to be achieved.

Whilst parallel non-formal and complementary education programmes both in Malawi and the region have been shown to offer a second-chance to the educationally marginalised (DeStefano *et al*, 2006), there are concerns that in the absence of strong links and equivalency with formal systems, such programmes run the risk of evolving into parallel institutions perceived as inferior, at odds with the current discourse on inclusiveness and integration (Hoppers, 2005; Rose, 2009). To improve educational provision for marginalised children, including those in high HIV prevalence areas, there has been a growing call for formal schooling to become more flexible and responsive to the realities and coping strategies of many children's lives (Badcock-Walters *et al*, 2005; Guarcello, Lyon and Rosati, 2006; Harber and Davies, 1998; Hepburn, 2001; Kelly, 2000). Pridmore and Yates (2006) suggest that, given the seriousness of the threat posed by HIV/AIDS in the region, together with the instrumental importance of education in mitigating its impact, a powerful argument can be made for new models of schooling that reach out to young people who face difficulties in accessing education. The SOFIE project seeks to support this opportunity by exploring the potential of ODFL to enhance educational access and attainment in high HIV prevalence countries.

1.3 OPEN, DISTANCE AND FLEXIBLE LEARNING

Open, Distance and Flexible Learning (ODFL) groups together a set of concepts and strategies that reflects shifting trends in education delivery. It emerges from early engagement with distance education as a means to expand access and, in recent years, encompasses the convergence of more conventional teaching strategies with the use of new information technologies (ICT). Distance Learning can be defined as an educational process in which a greater proportion of the teaching and learning takes place when the teacher is removed in space and/or time from the learner (Perraton, 2007). Open Learning refers more broadly to policies and practices that permit access without restrictions and are concerned with reducing barriers to learning. (CCfE, n.d.). In Malawi, Open and Distance Learning has largely been used, to widen and support access to secondary education, previously through a distance education 'study centres' model (Murphy, 1993) and, on a smaller scale, to upgrade under-qualified secondary school teachers (Streuli and Moleni, 2007). More recently, in a resurgence of interest in distance education, ODFL strategies have been introduced to improve quality in primary education delivery: the piloting of Interactive Radio Instruction (IRI) to enrich teaching in primary classrooms and the newly launched ODL teacher training programme.

The use of ODFL to improve access to basic education has not been without its challenges Unterhalter et. al. (2000, p. 31) note that whilst the 1990s was "a decade of unprecedented international concern with expanding access to education and using new approaches for the design and delivery of education", there was relatively little uptake of open learning and distance education strategies for the provision of basic education, due, at least in part, to concerns about socialisation, supervision and appropriateness of materials. ODFL has often championed increasing learner autonomy and independence, a stance which some commentators have questioned in the context of delivering basic education in developing countries (Nielsen, 1991; Yates, 2000). In recent years there has been a move towards more integrated approaches that underline the importance of learner support, collaborative learning and better linkage with school-based systems (Creed *et al*, 2005; Perraton, 2007). The more recent emergence of Flexible Learning - both as a practice and a concept - offer such possibilities; with its emphasis on the appropriate use of any of a range of available teaching methods (including distance education, face-to-face, multi-media and ICT) to optimise learning opportunities and best meet the needs of learners (Kember, 2007). However, it is important to acknowledge that, despite much rhetoric surrounding the use of ICT, current advances in information technology have had – and are likely to continue to have - little impact on educational provision in low income countries such Malawi (Yates, 2008). In such contexts, greater flexibility in delivery would thus require consideration of low cost and sustainable alternatives.

It is worth noting that many of the underlying principles of ODFL, such as flexibility, responsiveness to diversity and reducing barriers to learning, provide useful points of convergence with debates and 'best practice' that advocate for greater inclusiveness in education systems and schools as means to promote education for all. (UNESCO, 2008; UNESCO, 2009)

Drawing on lessons learned from their study of ODFL initiatives, Pridmore and Yates (2006) highlight the potential of ODFL strategies to support young people in the context of poverty and HIV/AIDS. Several of these relate to the emotional and social needs of children affected by HIV/AIDS, but they also argue strongly that ODFL can support more flexible approaches to delivery of curriculum content, so that vulnerable young people do not fall behind in their lessons when unable to attend school, and can gain re-entry if already dropped out. With reference to the *Esceula Neuva* programme in Columbia, which includes in its pedagogical model instructional materials for peer group learning (McEwan and Benveniste, 2001), Pridmore and Yates (2006) highlight the use of self-study learner guides for individual or group study and the use of 'buddy systems' as strategies worth pursuing. Significantly, this report presents the evaluation of a school-based intervention that involves face-to-face delivery of the curriculum complemented by distance learning resources and psychosocial support, and discusses the potential of ODFL to support the learning of vulnerable pupils in the context of HIV/AIDS.

1.4 BACKGROUND TO THE SOFIE PROJECT

In light of the issues raised above, a three year research project coordinated by the Institute of Education, University of London was set up with funding under the DFID/ESRC Joint Scheme, working in partnership with institutions in Malawi, Lesotho and South Africa. The research partner in Malawi was the Centre for Educational Research and Training (CERT), a research centre within the University of Malawi. The aim of the SOFIE project was to support improved access to education for vulnerable young people in high HIV prevalence areas through developing a new, more flexible model of education that uses open, distance and flexible learning (ODFL) to complement and enrich conventional schooling. The project was guided by the central research question:

> To what extent can barriers to educational access and attainment presented by HIV and AIDS be addressed using open, distance and flexible learning (ODFL) as a complement to conventional schooling?

The project commenced in April 2007 with the preparation of background papers to review factors that influence access to schooling in high HIV prevalence countries in SSA, provide a situational analysis of education sector responses to issues of access for vulnerable groups, including ODFL initiatives, and highlight the current policy context in Malawi and Lesotho[3]. These papers not only produced new knowledge and provided essential background information for the project, but were critical in informing the subsequent empirical research.

The design of the empirical research followed a mixed methods approach, using both qualitative and quantitative approaches in two distinct phases. The first phase was essentially exploratory in nature - a multi-site investigation to examine the factors influencing the schooling of children affected by HIV/ AIDS and to inform and contextualise the development of a school-based intervention, the SOFIE model. In the second phase, a randomized control trial (RCT) was set up to assess the impact of the SOFIE model on the retention and attainment of vulnerable pupils in grade 6 in targeted schools. Supplementing this quantitative phase was the collection of additional qualitative data used to evaluate the processes of implementation and elaborate on the quantitative results. In Malawi, two rural districts (Phalombe and Mzimba South) were selected as research sites, according to agreed criteria that included high HIV prevalence rates, high primary dropout rates and a contrast in socio-cultural contexts[4].

[3] All background papers are available at www.ioe.ac.uk/sofie.
[4] See Table 16, Appendix A for selected characteristics of these two districts

SOFIE project design:

Step 1: Situational analysis – desk studies to identify factors influencing access to schooling and open learning interventions.

Step 2: Multi-site, formative fieldwork to identify factors influencing access to schooling.

Step 3: Develop, trial and evaluate school-based intervention, incorporating ODFL

1.5 ORGANIZATION OF THE REPORT

Following an overview of the rationale and design of the SOFIE research project in Chapter 1, Chapter 2 describes the process of developing the SOFIE model and outlines the model itself. Chapter 3 presents the methodology for evaluating the model, whilst Chapter 4 presents the main findings, examining both the impact of the intervention and its implementation. Chapter 5 concludes the report with a discussion of lessons learnt from the evaluation and implications for policy, practice and future research.

2 DEVELOPING THE SOFIE MODEL

This section provides an overview of the process of developing the SOFIE intervention model and briefly describes the model and its main components.

2.1 DEVELOPING THE MODEL

Under the SOFIE project, the development of the intervention model was informed by current literature, earlier multi-site fieldwork and analysis and a series of consultations at regional, national and local levels.

A critical first step in this process was face-to-face discussions amongst project team members during the first team workshop hosted by the South African Institute of Distance Education (SAIDE) in Johannesburg in September 2007. Participants had the opportunity to present and discuss issues arising from the project's draft background papers and implications for the design of a school-based intervention. They also met with representatives of local South African initiatives supporting vulnerable children, including those affected by HIV and AIDS. At this stage it was agreed that in Malawi the intervention would focus on primary education, whilst in Lesotho the project would work with secondary schools.

In Malawi, initial fieldwork was carried out in four primary schools in April-May 2008. Findings from this initial phase of empirical research revealed the holistic and dynamic nature of school, home and psychological factors influencing educational exclusion amongst orphans and other vulnerable children and highlighted the need for additional learning support and encouragement during periods of temporary withdrawal from school. Findings also revealed poor provision of support from schools, compounded by exclusionary policies and practices and inadequate monitoring and follow-up. Key recommendations from research participants for educational initiatives to support greater access to learning and improve retention of vulnerable pupils included the provision of remedial teaching and/or homework tasks, clubs and extra-curricular activities and extra learning support. Many acknowledged that workloads of class teachers would limit their participation and a few suggested using volunteers to provide this learning support. Participants also noted the importance of close community involvement.

During the second project workshop held in Malawi in June 2008, project members had the opportunity to discuss implications of this research and many of the key components of the model were agreed upon, including distance learning materials (self-study guides), a buddy system and extra-curricular support from youth volunteers. Team members acknowledged that in developing a new model for educational provision, the difficult circumstances in which teachers are working and the wide variations in capacity and motivation in schools and their

communities need to be borne in mind. However, they saw real opportunities to deliver learning more effectively, improve capacity and build social networks of support around vulnerable pupils. An initial visual representation of the intervention model developed by the team leader, Dr Pat Pridmore, provided a focus for discussions. This was later presented at the Fifth Pan Commonwealth Conference on Open and Flexible Learning in London in July 2008[5].

During the June 2008 workshop, this initial version was presented for comment to school heads from the four Malawi schools that participated in initial fieldwork -who were invited to attend the workshop- and school and community representatives during a field visit to one of the schools. During August and September 2008, consultations with key informants at national and district-level further informed the development and final adaptation of the model for the Malawi context. Key informants included representatives of donor-funded state and NGO-run basic education programmes, as well as MOE and district-level education and community development officers. Throughout the process of developing the model project team members kept in close contact with, and sought comments from, the project's advisory group.

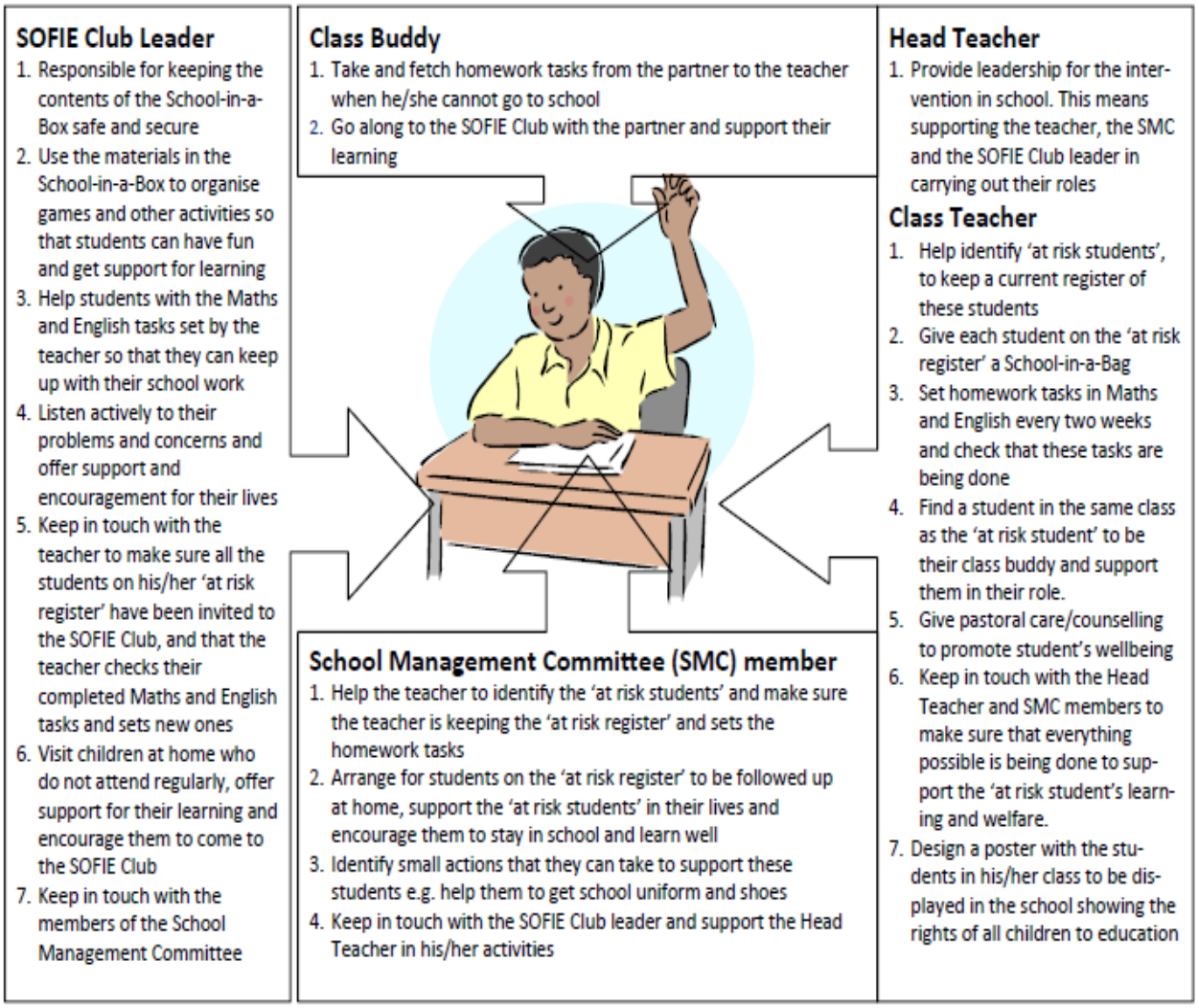
2.2 THE SOFIE MODEL

The developed model aims to work with a range of stakeholders at school and community level to develop 'circles of support' around vulnerable children at risk of dropping out of school or failing their grade. Its emphasis is on providing continued access to learning by utilising ODFL strategies and resources.

Each 'at risk' pupil received a 'school-in-a-bag' that contained textbooks[6], pens and notebooks and a set of self-study guides. Wrap-around self-study guides for English and Mathematics were developed by a group of volunteer students at the Institute of Education in London, under the training and supervision of project staff. Draft copies were proof-read by CERT staff and selected instructions translated into Chichewa. These guides were designed to encourage independent learning and support continued access to learning for those vulnerable children for whom attendance at school is often erratic. When such children are facing difficulties in getting to class they can continue their studies using the guides, which are linked to the national curriculum. Mentor pupils ('buddies') were recruited to support 'at risk' pupils by acting as a link with the schools: providing peer support for learning, following up when absent and, if required, carrying self-study guides to class teachers for marking.

[5]http//:www.pcf5.london.ac.uk/programme
[6] In Malawi, Standard 6 English and Mathematics textbooks were provided by the Ministry of Education.

Figure 1: SOFIE intervention model



Central to the model was the recruitment of local youth as volunteers to run clubs for vulnerable children identified as 'at risk'. These young people – all secondary school graduates - were selected by representatives of school management and the local community. The purpose of the clubs was to provide additional learning opportunities and support outside of school, in a friendly and informal environment. Clubs were open to both 'at-risk' pupils and their 'buddies'. The timing of the clubs was designed to be flexible; arranged after school hours at a time and place suitable for the pupils. Each club leader received training, a club leader's manual and a portable resources kit - a 'school-in-a-box' - to set up club activities. The kit contained learning materials, supplementary readers[7] dealing with issues relating to child rights and an interactive HIV/AIDS board game 'Choices and Decisions.[8]

[7] With thanks to 'Story Workshop', a Malawi non-profit group educating young people through entertainment media such as radio soap operas and comic books. http://www.storyworkshop.org

[8] Choices & Decisions' is a board game developed in Malawi and designed to equip young people with life skills, knowledge and confidence to take responsibility for their own actions and lives. The emphasis is on HIV/AIDS, risk taking and decision making, sexual reproductive health (SRH), gender and self-esteem. http://www.choicesanddecisions.com/

School-in-a-box:

- Club leader manual
- Self -Study guides (English & Mathematics)
- Grade 6 Textbooks (English & Mathematics)
- Supplementary readers on child rights, child labour and gender violence.
- HIV&AIDS board game 'Choices & Decisions'
- Writing materials
- Football
- Wind-up Radio

School-in-a-bag:

- Waterproof bag (rucksack)
- Self-study guides (English and Mathematics)
- Grade 6 Textbooks (English and Mathematics)
- Notebooks and pens

Class teachers were expected to work hand-in-hand with club leaders to support 'at-risk' pupils. Teachers were responsible for keeping a register of all pupils identified as 'at risk' and regularly monitoring their progress and participation in class activities. Files containing a set of monitoring forms, including the 'at-risk' register, were provided. Procedures to assign homework tasks and mark self-study guides were to be agreed between teachers and club leaders, but it was recommended that teachers review pupils' study guides at least every two weeks. Both teachers and club leaders received training in counselling skills to provide additional pastoral care where necessary.

Identification of vulnerable children – using agreed criteria - for inclusion on the 'at risk' register was the responsibility of the SOFIE sub-committee, set up at each school to oversee the selection process, monitor SOFIE activities and follow up where pupils are absent from school. It was anticipated that these committees include members of the School Management Committee (SMC) and Parent Teachers Association (PTA), the school head, the class teacher, club leader and a pupil representative. In conjunction with the SMC, SOFIE sub- committees were also responsible for working with surrounding communities to explore ways of improving the schools' support for vulnerable children. Schools were encouraged to reflect on and address issues of inclusiveness, as played out through school policies and practice.

Overall, on-going supervision of implementation activities was the school heads, SOFIE sub-committee members, with input from Primary Education Advisors (PEAs).

Figure 2: Photographs showing Study Guide and 'Choices and Decisions'

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3 METHODOLOGY

3.1 EXPERIMENTAL DESIGN

In order to evaluate the intervention, a randomized controlled experimental design was used to measure impact on the retention and attainment of pupils. Randomization took place at the level of the school. To control for the effects of factors external to the intervention on pupil outcomes and to increase statistical power, a Pretest-Posttest Control Group design was adopted, whereby an agreed number of schools were randomly assigned to either of two groups. Both groups were administered questionnaires and test papers (Maths and English) at the baseline (November 2008) and following implementation (November 2009), but only one group (the intervention group) received the intervention package. The intervention ran for one academic year and targeted grade 6. The outcome variables were:

(a) the proportion of pupils enrolled in the target grade that did not dropout during the school year[9].
(b) the proportion of pupils enrolled in the target grade that were recommended for promotion to the next grade[10].
(c) mean test scores of pupils enrolled in the target grade

Additional quantitative data was collected on variables such as school quality (e.g. teacher qualifications, school size, presence of feeding programmes) and pupil characteristics (e.g. gender, socio-economic status, orphan status). Data for process indicators was collected - from intervention schools only - to examine the fidelity of the implementation (see Appendix 1: Evaluation Framework). Embedded within the design was the collection of additional, predominantly qualitative, data to further inform the evaluation of the intervention. There were three main data collection points for qualitative data:

- Mid-term monitoring visit in May 2009
- Concurrent with post-intervention visits (November 2010)
- District-level evaluation workshops held in January 2010.

During monitoring and post-intervention school visits, qualitative data was collected from the same four schools that participated in the formative qualitative fieldwork (Moleni, 2008).

[9] In Malawi schools, there is no standardized means of defining 'dropout'. For the purposes of this study, 'dropout' refers to those pupils that were considered to have withdrawn from full-time education and had not returned by the end of the school year.
[10] In Malawi, promotion to the next grade is determined by the performance of pupils in schools' end-of-term examinations written and delivered by class teachers.

3.2 RESEARCH TEAM

Supporting the in-country researcher, a local research team was put together to assist with instrument development, piloting and data collection. Research assistants were recruited from a pool of young people frequently used by the University of Malawi. Successful candidates were chosen based on their experience of research methods and working with young people, as well as their fluency in local languages. Two research assistants – one male and one female – participated in the formative fieldwork and subsequent qualitative work in case study schools. For pre-test and post-test activities, an additional four research assistants were recruited and split into two sub-teams, each one responsible for one district, led by a field supervisor. To enhance the participatory nature of the evaluation and to support local capacity, additional team members were drawn from the target districts: (1) Primary Education Advisors (PEAs) and (2) representatives of community-based organisations (CBOs). All team members took part in rigorous training activities and piloting prior to field visits.

3.3 SAMPLING

3.3.1 SCHOOLS SAMPLE

40 primary schools were randomly sampled to take part in the trial: 20 from each of the two participating districts. In Phalombe the sampling frame consisted of all government primary schools within the district, excluding junior primary schools. In Mzimba South, which is of much greater size, the sampling frame was restricted to one Traditional Authority (TA), TA M'Mbwela. This gave a sampling frame of 70 schools in Phalombe and 60 in Mzimba South. For each district, schools were ranked in quintiles according to available data on educational outcomes (school performance[11]) and 2 matched pairs of schools from each quintile were randomly assigned to either the intervention or control group.

Enrolment in the 40 sampled schools ranged from 350 pupils to almost 3000 pupils in the largest of the Phalombe schools. Schools in Phalombe (mean = 1452) were consistently larger than those in Mzimba (mean= 723), with several schools reaching enrolments of over 1000 pupils. Slightly fewer girls were enrolled in schools in Mzimba South compared to Phalombe, with gender parity scores of 0.96 for Mzimba South and 1.03 for Phalombe.

Many schools were severely understaffed with insufficient teachers to allow large classes to be streamed. Teacher: pupil ratios reflect such shortfalls: Mzimba South = 1:93; Phalombe = 1:112. The vast majority of teachers were fully qualified. Overall, just under a third (31%) of the teaching staff was female, with only two female school heads (both in Phalombe). Amongst Standard 6 teachers, all those in intervention schools were male, whilst in control schools, four were female. All but two Standard 6 teachers were fully qualified (95%).

[11] The percentage of Standard 8 pupils selected to secondary schools. This measure was used since dropout rates (the preferred outcome) were not available for all schools.

In Phalombe, 6 of the intervention schools and 8 of the control schools were running school feeding programmes funded by the World Food Programme (WFP), supplying a daily portion of *phala* (maize and soya porridge) to all pupils. A quarter (25%) of schools received support from the USAID-funded Ambassador's Girls Support Project, which provided resources to one or two female orphans per school, identified according to need and merit. Limited support from other NGOs and FBOs (e.g. World Vision) was present in 20% of the schools, mainly in Phalombe.

The schools visited to collect additional qualitative data (the four 'case study' schools from earlier, formative fieldwork) were purposively selected from the school sample. For ethical reasons, all four schools had been selected from intervention schools. In Phalombe, Duma FP[12] school is situated to the north of the district in a remote, under-developed area a few kilometres from Lake Chirwa. Despite its remote location, it had a relatively high enrolment (over 900 pupils) and well-built school buildings. The second school selected in Phalombe - Namalongo FP - is situated on the outskirts of sprawling trading centre in the south of the district, close to the Mozambique border. It is a large school, with a school feeding programme and links with a local orphanage. In Mzimba South, Kamunda FP is situated north of the district capital amidst smallholdings and scrubland. Its infrastructure was in poor condition and the school was seriously understaffed. Pamoza FP is a long-established school located within a busy trading centre close to the Zambian border. It had recently benefited from the construction of new classroom blocks, although with few teachers, class sizes remained large.

3.3.2 Pupil Sample and Participant Flow

Sampling at the pupil level was designed to include all pupils enrolled in the target grade (Standard 6). Baseline measurements for the target grade (Standard 6) were taken at the end of the previous school year (2008) when pupils were still in Standard 5[13]. The total number of pupils that participated in the baseline was 2175 (see Table 1 below), of which 51.1% were female.

Table 1: Number of sampled pupils, by district and sex

District	**No. of pupils (baseline 2008)**			**No. of pupils (post-test 2009)**		
	male	female	total	male	female	total
Intervention	610	631	1241	595	618	1213
Control	452	482	934	463	411	874
Total	1062	1113	2175	1058	1029	2087

[12] The names of the schools have been changed

[13] This decision was made given the difficulties of access to many of the sample schools at the start of the target school year (January 2009), which fell in the midst of the rainy season, and the limited time-frame for the implementation of the intervention.

Absenteeism in several schools meant that, according to school records, only 73.8% of enrolled pupils in Phalombe and 64.9% of enrolled pupils in Mzimba South were present for the baseline. Pupil tracking records show that of those that participated in the baseline, just under a quarter (23.9%) did not proceed to Standard 6 following the school break (see Figure 3).

In total, 2087 pupils completed the post-test questionnaire and tests in 2009, representing 75.8% of all pupils enrolled in Standard 6 in 2009. The remainder were either absent on the day of the school visit (8.7%), had transferred out (5.5%), dropped out (9.9%) or died (0.1%). Approximately two-thirds of pupils (63.6%) who had sat the post-intervention tests had also been present for the baseline.

Standard 6 pupils

In total, 2767 pupils were enrolled in the 40 study schools in Standard 6 in 2009 (1579 in intervention schools; 1188 in control schools), including those pupils who were repeating Standard 6 (13.8%) and/or transferred in during the 2009 year (10.6%). Overall, 48.8% of those in Standard 6 were female, 18.3% were single orphans and 5.1% double orphans. Ages ranged from aged 8-20 years (mean =13.4 years). Of the 2754 pupils in the target grade, 2337 completed grade 6 and 1726 were promoted to Standard 7 (see Figure 3).

'At-risk' pupils

In order to estimate further the impact of the intervention on 'at-risk' pupils, a sub-group of pupils from the control group equivalent to 'at-risk' pupils in the intervention schools was sampled retrospectively from the pupil dataset using propensity score matching (see section 3.7.2). This gave an overall sample of 518 pupils: 259 registered 'at-risk' pupils and 259 matched equivalents

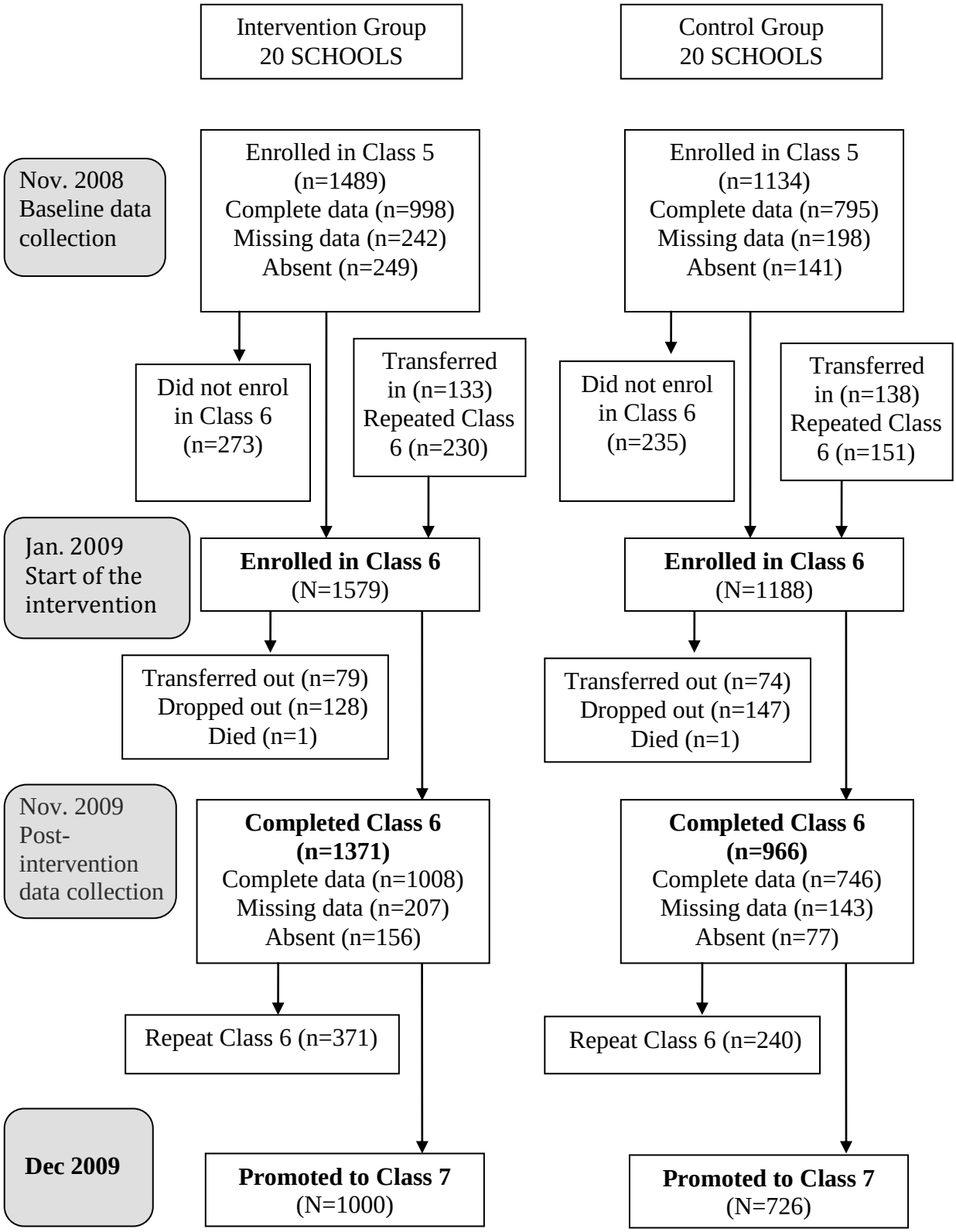
3.4 RANDOMISATION

Analysis of school characteristics in control and intervention groups shows that the process of matched random assignment of schools to either group had resulted in equivalence between the groups in almost all observed variables (see Table 17 in Appendices). One exception was gender parity of school enrolments, with control schools having significantly fewer girls enrolled. This did not translate into any significant difference in enrolment by sex in Standard 6 and, as such, is unlikely to be an important group difference in relation to the intervention.

Analysis of the pupil characteristics in control and intervention schools (see Table 18 in Appendices)[14] indicates that randomisation was somewhat successful in creating a balance between experimental groups at the pupil level. The only significant difference between groups was among the sub-group of pupils (N=1662) who took the baseline English exam. Scores on this exam were higher among the control group. There were apparently large differences in rates of children missing breakfast (around 60% in both 2008 and 2009 for the intervention

[14] Variables described in Table 18 are either from 2008, before the intervention began, or are variables from 2009 assumed to be unaffected by the intervention (e.g. orphan status).

Figure 3: Flow chart showing Pupil Sample (Intervention & Control)



group and less than 40% in the control group) but these differences did not approach significance. There was no significant difference between the control and intervention groups with regard to pupil absence at the time of the baseline survey (2008).

3.5 INSTRUMENT DESIGN AND DEVELOPMENT

With permission from the Ministry of Education, grade-equivalent test papers in English and Mathematics developed by Malawi National Examinations Board (MANEB) for an earlier national survey[15] were adapted for the SOFIE project. The papers were designed to take approximately 1 hour to complete and all instructions were in English, the medium of instruction for senior primary grades. Senior markers with MANEB were involved throughout the adaptation of the test papers to ensure content validity. Following the poor performance of many pupils in the baseline, an additional, supplementary test paper was developed for the post-test from previously piloted test items[16] reflecting a wider range of ability (grade 3 – grade 7). Instructions were translated into the local language, Chichewa. To accommodate all three papers in one day, original test papers were revised with the assistance of MANEB Senior markers.

A structured, self-completion pupil questionnaire was designed to gather data on pupil characteristics. The questionnaire consisted mainly of closed questions, answered by circling one or multiple responses. Open questions were kept to a minimum. Prior to piloting, the questionnaire was translated into Chichewa.

Piloting took place in 2 schools in Zomba Rural in September 2008. The questionnaires and test papers were administered to a stratified random sample of 30 Standard 5 pupils and 30 Standard 6 pupils per school. Instruments were subsequently modified and research team members fluent in Chitumbuka (the local language in Mzimba) translated the pupil questionnaire, working directly from the Chichewa version. Both versions were discussed and back-translated into English during final training sessions.

Structured checklists were designed to collate data from school records and SOFIE monitoring forms. During mid-term and post-test visits, additional questions were included to capture process indicators (intervention schools only). Pupil tracking records were developed and used to maintain up-to-date information on the educational status of pupils. These records were linked to the pupil dataset by pupil ID numbers.

Semi-structured key informant interview schedules and FGD guides were developed to gather specific data on the implementation and impact of the SOFIE model. As such, it was not feasible to pilot these instruments elsewhere. Instead, draft instruments were circulated amongst the

[15] Primary Achievement School Survey (PASS)

[16] These test items had been used in the baseline survey for the MoE's Complementary Basic Education programme to assess the numeracy and literacy skills of school dropouts and had been extensively piloted.

project team for comment and then underwent a rigorous moderation process with input from the local research team. Workshop protocols, monitoring forms and evaluation instruments designed to gather formative and summative data were reviewed and adapted during training sessions. Where appropriate, instruments were translated into Chichewa and Chitumbuka.

3.6 METHODS OF DATA COLLECTION

3.6.1 QUANTITATIVE DATA

Baseline and post-test data was collected during field visits to all 40 schools in October 2008 and November 2009. Both districts were visited concurrently. All schools had been notified ahead of time and access negotiated. On arrival, research teams followed the necessary protocols and briefed school heads. A venue to meet pupils and administer instruments was agreed upon. Where space within available classrooms was very limited, the use of a nearby church or hall was negotiated. Conditions were often poor, with few or no desks and many pupils had to sit on the floor. Team members ensured that drinking water was made available should pupils require it.

During the baseline, pupils were allowed to seat themselves and the first instrument – the pupil questionnaire - was then handed out, along with a pencil. Each pupil was given a unique ID number, which linked the pupil to both the school and his/her set of instruments. Pupils were asked to remember this ID number and the corresponding seating plan. As a group, pupils were guided through the questionnaire by a research team member who read aloud each question and its possible answers. The majority of pupils coped well with this approach, although there were a few that needed additional support. Following completion of the questionnaire and a short break, pupils filled in the test papers. On completion, research assistants ensured that all instruments were packed in numerical order following the ID scheme. During the post-test, pupil tracking records were used to take pupils through a roll call prior to seating. Those that had attended the baseline were given instruments coded with their original ID number and seated accordingly; those whose names did not appear on the tracking records were assigned new ID numbers and additional details recorded. If pupils were absent from the post-test exercise, reasons for their absence were recorded on the tracking records.

In addition to administration and management of instruments, research assistants liaised with school management to access school records and complete the school checklist. Information on pupils' promotion to the next grade was not available during field visits, as pupils had not yet sat their end-of-year school tests. Several schools submitted this information to PEAs who forwarded this the research team during evaluation workshops. Others delayed submission, thus requiring additional visits to the districts to collect missing information.

3.6.2 MID-TERM MONITORING TRIP

In May 2009, research team members returned to schools to update pupil tracking records and collect data on pupil attendance. At intervention schools, quantitative data to monitor the set up and progress of the intervention was also collected using the school checklist. Additional

qualitative data was collected from the four case schools: key informants were interviewed and FGDs conducted with (1) 'at-risk' pupils and (2) representatives of school committees.

3.6.3 POST-TEST QUALITATIVE DATA

More extensive qualitative data collection at the four case study schools took place concurrently with the post-test school visits in November 2009. Team members interviewed key informants (Standard 6 teachers, club leaders, school heads and SOFIE sub-committee chairs) and held FGDs with community members. Where possible, the same key informants met during the mid-term visits were interviewed. Female participants were underrepresented, particularly amongst key informants, reflecting the low numbers of female staff within the four schools (see Table 2).

Table 2: Groups of participants, by gender and school (Posttest 2009)

Participants	**Phalombe**				**Mzimba South**				**Total**	
	Duma		Namalongo		Kamunda		Pamoza			
	M	F	M	F	M	F	M	F	M	F
Key informants	4	0	4	0	3	1	4	0	15	1
Community FGD	4	2	3	0	4	1	2	4	13	7
'At-risk' pupils 'mini-workshops'	7	8	5	6	6	0	9	1	27	15

Half-day 'mini-workshops' were held with 'at-risk' pupils. All pupils on the 'at-risk' register were invited to take part, although difficulties were faced in locating pupils that had dropped out from school. In both Mzimba schools, very few girls had been identified as 'at-risk' and, thus, the majority of pupils attending the mini-workshops were boys. The 'mini workshops' involved participatory activities designed to explore pupils' perspectives of schooling and the SOFIE intervention (e.g. pair-wise ranking, brainstorming and group discussions).

During final evaluation workshops held in January 2010, school and district-level stakeholders took part in a number of activities, including presentations, group work, SWOT analysis and ranking exercises. All schools were well represented. In Phalombe a total of 36 school and community members took part; in Mzimba South, 35.

3.7 DATA MANAGEMENT AND ANALYSIS

3.7.1 PUPIL DATABASE

Test scores, data from pupil questionnaires and checklists - linked to pupil ID numbers -were entered onto a SPSS database and cleaned. Test papers were marked by the same Senior MANEB Examiners that participated in the instrument development. Information on pupils' educational status was up-dated following the mid-term and post-test field visits. This included details of any 'new' pupils not captured during earlier field visits. Initial close reading of marked test papers post-test revealed numerous inaccuracies and test papers were re-marked before final data entry. Promotion data for all Standard 6 pupils was entered and cleaned

following submission of progress reports from schools and a final cleaning exercise was carried out.

3.7.2 QUANTITATIVE ANALYSIS

Basic descriptive statistics were run to explore school-level factors and process indicators in intervention schools. Preliminary analyses of outcomes were done using non-parametric tests. The primary outcome measures for impact were the proportion of pupils who are still enrolled in school and the proportion promoted to the next grade at the end of the school year (2009) in the intervention schools compared to the control schools. A secondary outcome measure compared attainment levels of pupils in English and Mathematics tests. Data was analysed firstly by class (school) and then by a sub-group of the pupil sample identified as 'at-risk'. Multi-level logistic regression was used to assess the impact of the intervention, modelling random effects at the individual and school level. The primary explanatory variable of interest was the treatment (intervention) variable (1=intervention, 0=control). The intervention was deemed to have had an impact on educational participation of pupils if there was a significant ($p < .05$) effect of the intervention on promotion and/or dropout rates, supported by attainment scores.

Thus, the first set of analyses estimated the overall differences between intervention and control groups. Random school effects were included to account for clustering of outcomes at the school level. For each binary outcome (dropout, repetition, promotion) multilevel logistic regression was conducted to determine the impact of the programme. For example:

$$\text{logit}(DROPOUT_{ij}) = \beta_0 + \beta_1 INTERVENTION_j + \beta_2 AGE_{ij} + e_j + u_{ij} \quad \textbf{(1)}$$

$DROPOUT_{ij}$ = A dichotomous variable indicating whether child i in school j dropped out in Class 6.
$INTERVENTION_j$ =A dichotomous variable indicating whether school j is in the treatment or control group;
AGE_{ij} = The age for student i in school j at baseline
e_j = The classroom-level residual shared by all students in school j;
u_{ij} = The individual residual for student i in school

For exam scores, multilevel linear regression analyses were used. For example:

$$EXAM\ SCORE_{1ij} = \beta_0 + \beta_1 INTERVENTION_j\ \beta_2\ MATH\ SCORE_{0ij} + \beta_3\ ENGLISH\ SCORE_{0ij}\ e_j + u_{ij}$$

$EXAM\ SCORE_{tij}$ = The outcome score on one of the assessments at time t for student i in school j; t=0 at baseline and t=1 at follow-up
e_j = The classroom-level residual shared by all students in school j;
u_{ij} = The individual residual for student i in school **(2)**

The aim of the second set of analyses was to estimate the impact of the programme on the sub-group of pupils who were registered as 'at risk' in intervention schools. This analysis was problematic because, for ethical reasons, no comparison sub-group was selected in the control schools (see section 3.8.). *Propensity score matching* was used to address this problem (Luellen, Shadish and Clark, 2005). The analysis proceeded in two steps. The first step was conducted with intervention schools only and estimated the baseline determinants of being defined as 'at-risk' using a logistic regression equation that included variables for key pupil characteristics. For example:

$$logit(SOFIE_{ij}) = AGEij + SEXij + SINGLE\_08ij + DOUBLE\_08ij + MATERNAL\_08ij + PATERNAL\_08ij + MISSING\_DATA\_08ij\ ABSENT\_08ij + REPEATEDij + EMPLOYED\_09ij + TRAN\_IN\_09ij + NOBREAKFAST\_09ij + ASSISTANCE\_09ij + e_j + u_{ij} \quad \textbf{(3)}$$

The coefficients from this equation were used to predict probabilities of being identified as 'at-risk' for all pupils in intervention and control groups. This is the *propensity score.* Then, each 'at-risk' pupil from the intervention schools was matched with a control group member with a similar propensity score. Thus an 'at risk' equivalent sub-group was created in control schools.

The analyses of Equations (1) and (2) were then repeated including terms for 'At Risk' and the interaction between inclusion in the 'At Risk' group and the intervention. This interaction term estimates whether there was a differential effect of the intervention on 'at-risk' pupils versus pupils not registered as 'at-risk'. For example:

$$\text{logit}(DROPOUT_{ij}) = \beta_0 + \beta_1 INTERVENTION_j + \beta_2 AGE_{ij} + \beta_3 ATRISK_{ij}\ \beta_4 ATRISK_{ij} * INTERVENTION_{ij} + e_j + u_{ij} \quad \textbf{(4)}$$

Finally Equations (1) and (2) were repeated separately for sub-groups defined by risk status: - 'At-risk' pupils and pupils not at risk. Where baseline characteristics were found to differ between intervention and control groups, these covariates were included to produce a second adjusted estimate of all the above coefficients.

3.7.3 QUALITATIVE DATA

Recorded interviews and FGDs were transcribed by research assistants in the field and, where necessary, subsequently translated into English. Where audio recordings were not produced, full reports were written up from detailed interview notes. All transcripts were typed, proof-read and up-loaded onto Nvivo 8 for coding and analysis. Reports of pupils' mini-workshops and district-level workshops were written up. Participants responses were tallied, categorised and presented in tabular form. Categorical aggregation of issues emerging from coded texts and analysis of evaluation materials were pulled together in a narrative discussion.

3.8 ETHICAL CONSIDERATIONS

Although permission to conduct the research had been granted by the Ministry of Education, access to enter schools was re-negotiated with school management prior to every field visit. PEAs were closely involved in notifying schools of forthcoming visits. Care was also taken to ensure that informed consent was sought and received at each stage of the field activities. Digital recorders were only used when given permission from participants. With regard to the sampling of an equivalent sub-group of 'at-risk' pupils from control schools, concern over possible discrimination against these vulnerable children and the absence of any accrued benefits excluded the option of physically identifying and tracking such pupils. As such, sampling of this sub-group was done retrospectively using propensity score matching based on pupil characteristics available from the pupil database (see 3.7.2). Following the post-intervention field visits, small 'gifts' (notebooks, pens and textbooks) were distributed to all schools (including control schools), as a 'thank-you' for participating in the study.

3.9 LIMITATIONS AND CHALLENGES

3.9.1 DESIGN LIMITATIONS AND CHALLENGES

The main limitation of the design of the intervention and its evaluation is that, as an intervention 'package', the comparative analysis of its impact can only be measured for the whole package rather than its constituent parts. To address this, additional formative and summative qualitative evaluation data was used to highlight participants' perspectives on the effectiveness of various components.

As with any experimental design taking place in a complex social setting, the observed impact of the intervention may be compounded by the participants' awareness and corresponding response to their participation in the research itself – the Hawthorne effect (Brown and Dowling, 1998). Another potential challenge of working with an experimental design that includes pre-test measurements is the 'interaction effects' of the testing itself such as sensitisation of pupils to the pre-test instruments. To reduce this, care was taken during pre-test visits to ensure that no copies of the test papers were left behind at the schools, nor that teachers had access to the papers.

The tracking of transferred pupils and dropouts from the target grade once they had left their respective schools was problematic and beyond the scope of this study. Similarly, attainment measures for transferred pupils and dropouts were not available.

3.9.2 ADDRESSING FIELDWORK CHALLENGES

As noted earlier, absenteeism of pupils was an ongoing concern during the pre-test fieldwork. Various reasons were given for this, most often related to teachers' extended or frequent absenteeism. Other reasons included misinformation at schools about casual holidays and cultural events. In one school in Phalombe, the reason given for pupil absenteeism related directly to their vulnerability – a food distribution exercise close by meant that no orphans

were present. A second visit was made to the school to administer tests to these orphans in order to avoid unnecessary bias. Unfortunately, the timeframe for the pre-test fieldwork did not allow for return visits to all schools where absenteeism was high.

During administration of pre-test instruments, several pupils could be identified who had very poor reading and writing skills. These pupils were given extra assistance during the administration of the questionnaire. However, under examination conditions, they were not assisted with the test papers and they struggled to complete these. Generally, baseline scores were notably lower than at the pilot schools, with many pupils finding difficulties with instructions written in English. This, and concerns that test scores were heavily influenced by pupils' ability to read the English instructions, led to the development of an additional supplementary test paper for post-intervention measures of attainment that had instructions in Chichewa. Unfortunately, time limitations prevented the production of an equivalent paper with Chitumbuka instructions.

Although there was notable improvement during the course of the evaluation, one of the main, initial challenges faced by the research team was the poor-record keeping in schools. In some instances class registers were incomplete or were missing. During baseline visits, information on pupil transfers and drop outs was often inaccurate or simply not recorded. This emphasised the need to incorporate training on monitoring and record-keeping into the intervention package. Class registers, where orphan status could also be recorded, were provided to all schools (including control schools) to track attendance of target grade pupils during 2009. Pupil tracking records were also developed and used to monitor and up-date pupil data.

4 THE IMPLEMENTATION PROCESS: KEY STRATEGIES AND ACTIVITIES

This section presents and discusses key activities and processes in the implementation of SOFIE intervention.

4.1 PRELIMINARY ACTIVITIES

Training

Training activities were conducted in target districts in January 2009. Activities included:

- An initial one-day workshop to familiarise school and community-level actors (school heads and staff, SMC representatives and club leaders) with the SOFIE model and their roles and responsibilities in implementing and monitoring the intervention activities. Participants were also asked to reflect on and discuss how to improve schools' inclusiveness and capacity to identify, monitor and support vulnerable pupils.

- An additional three-day training and capacity building workshop for Standard 6 teachers and club leaders in aspects of the project implementation, counselling skills, working with communities and the use of intervention resources. Participants also received training in monitoring and record-keeping.

Training resources included a club leaders' manual and manual on adolescent counselling and HIV and AIDS[17]. In addition, teachers and club leaders were provided with sets of monitoring forms designed to support monitoring and follow-up of pupils identified as 'at-risk'.

Distribution of resources

Resources for clubs, teachers and pupils were distributed concurrently with training exercises. To reduce costs participants carried resources back to the schools themselves. Each school initially received bags for 10 pupils. The remaining bags (50 per district) were stored at district offices for future distribution, ensuring that a few remained in reserve. These were distributed during a later monitoring trip, along with the radios[18]. Club leaders received a bicycle to assist with their activities.

Selection of youth volunteers

Prior to the training, school staff and community representatives selected youth volunteers to run the SOFIE clubs. All youth came from within the schools' catchment areas and ranged in

[17] With permission, this manual drew heavily from two main texts: 'Child and Adolescent Counselling: a training manual for caregivers', produced by Norwegian Church Aid (Malawi) and 'Guidelines for Counselling Children who are infected with HIV or affected by HIV and AIDS', produced by Southern African AIDS Training Programme (SAT Programme).

[18] Delays in the purchase and customs clearance of radios meant that they were not available for distribution in January 2009.

age from 20 to 31 years. The majority (80%) held a Malawi Senior Certificate of Education (MSCE), representing a minimum of 4 years secondary schooling; the remainder held the Junior Certificate of Education (JCE). A third of the volunteers selected were female.

SOFIE sub-committee

School-based committees were set up in all intervention schools. Members included the school head, Standard 6 teacher and club leader, as well as representatives from the community either drawn from existing school committees (the SMC and PTA) or seconded from the wider community. The suggestion that a pupil representative should also sit on the committee was not taken up, however. Most committee members were male, reflecting their predominance in existing structures.

Raising awareness in communities

The majority of intervention schools (14), although predominantly those in Mzimba, took steps to inform and mobilise community members with regard to the SOFIE project. Generally community members were called to gather at the schools by the school head; a practice familiar to community members. Community representatives of school management (e.g. the SMC chair) were involved in facilitating these meetings. Some schools meetings were used to call for volunteers to sit on the SOFIE sub-committee; at others these sub-committees were already in place. Key informants noted that the SOFIE project was warmly welcomed, although high expectations attached to the project were later to bring challenges (see section 4.4.). At several schools the meetings were also used as an opportunity to explain the criteria being used to select the 'at-risk' pupils.

Identification and registration of 'at-risk' pupils

One of the first activities of SOFIE sub-committees was the identification of vulnerable pupils in grade 6 to be placed on 'at-risk' register and join SOFIE clubs. Overall, 259 pupils were registered as 'at-risk', with greater numbers registered in Phalombe district (see Table 3). This represents just under a tenth (9.4%) of all Standard 6 pupils in intervention schools. Approximately, equal numbers of girls and boys were registered in Phalombe district. In Mzimba, however, the selection of 'at-risk' pupils appears more complex. Proportionally, significantly fewer girls were registered in Mzimba district than boys (just 38.7% compared to 61.3%). This is surprising given frequent references to the greater vulnerability of girls and their higher risk of dropout during formative fieldwork (Moleni, 2008).

Agreed criteria for selection required, amongst others, consideration of a pupil's home background, orphan status and academic progress[19]. Just under a fifth (18.4%) of 'at-risk' pupils selected were repeating the year, a figure differing little from the overall proportion of repeaters in Standard 6 (14.1%). However, repeaters were much more likely to be selected as 'at-risk' pupils in Mzimba than in Phalombe. In Mzimba 27.3% of 'at-risk' pupils were repeating the grade compared to just 12.1% in Phalombe. Orphan status appears to have been critical to

[19] See Appendix C: Criteria for selecting 'At-Risk' Pupils

whether a pupil was selected or not: 81.2percent of girls and 91.0 percent of boys selected as 'at-risk' pupils has lost one or both parents. In Phalombe, almost a third of 'at-risk' pupils (30.1%) were double orphans, compared to just 6 percent present in Standard 6 overall.

Table 3: Number of at-risk pupils, by district

At-risk pupils	Female	Male	Total
Mzimba	41 (38.7%)	65 (61.3%)	106
Phalombe	76 (49.7%)	77 (50.3%)	152
All schools	118 (45.2%)	143 (54.8%)	259

Despite concerns raised during evaluation workshops regarding the small numbers of targeted beneficiaries, in Mzimba none of the schools registered the maximum of 15 pupils and five of schools registered less than 10 pupils. A small number of pupils, mainly in Mzimba, were not registered until the third term despite schools receiving additional resources. During the evaluation workshop, the main reason given for the fewer numbers of pupils registered in Mzimba was that there were not sufficient numbers of pupils that fitted the agreed criteria.

4.2 KEY ODFL STRATEGIES AND ACTIVITIES

School-in-a-bag

All pupils placed on the 'at-risk' register received a 'school-in-a-bag'. All participants at the summative evaluation workshop strongly agreed that the distribution of the bags had been fair and targeted needy pupils. Key informants across all four case schools said that the bags had been important for the safe-keeping of schools materials and that the provision of 'school-in-a-bag' to vulnerable pupils had helped to reduce the burden of school costs on households. Club leaders and SOFIE committee members described how receiving the 'school-in-a-bag had been a strong motivation for pupils to continue with school. They stated that pupils felt "proud" and now looked "the same as the rest of their friends". A few key informants also stressed the importance of pupils having their own learning materials (textbooks, study guides) in a situation where schools could not guarantee to provide textbooks for every pupil, thus easing the "scramble for books" during class time and allowing them to study at home. One concern was that notebooks and pens were insufficient to last the school year..

Study guides and learning support

A key component of the 'school-in-the-bag' was the inclusion of wrap-around self-study guides linked to the Standard 6 curriculum. During the summative evaluation workshop, groups of participants were asked to assess the use of the study guides in their schools. All groups agreed that the format of the study guides was clear and easy to use and the use of local language had assisted learners – the latter, a point of contention during training. However, there was some disagreement as to whether pupils were able to work through the guides on their own and 13 of the 16 groups agreed that pupils needed support from others in order to benefit fully from the study guides: support provided for in the SOFIE model by the club leaders and 'buddies.'

During the initial training, there were concerns raised about the inclusion in the study guides of answers to given exercises, with participants complaining that this would lead to copying and thus "laziness" amongst pupils. This was also an issue raised by some club leaders during mid-term school visits who were concerned that "rushing to the answer" made it difficult to accurately assess pupil performance. The Mathematics guides were of particular concern as the answers were given immediately below the exercises, rather than the English guides which had the answers separately at the back. However, during the summative evaluation the majority of groups (13 out of 16) agreed that including the answers was an important learning tool, possibly suggesting that familiarization with how to use the guides had led to a greater acceptance of this learning strategy.

In schools, a range of different strategies were adopted for using the guides. During the mid-term visits it was observed that several clubs had decided that pupils would not write directly in the guides, but would first write out the exercises in their notebooks before referring to the guides. Furthermore, some pupils/clubs worked through the guides and topics systematically, whilst others focused on particular topics or questions that had given difficulty in class (or that they had missed due to absence). Key informants stressed the important role played by guides in providing previously unavailable opportunities for additional study and revision, both at clubs and at home. During mini-workshops pupils ranked the use study guides as one of the most important activities of the SOFIE clubs (see Table 5). A few teachers admitted that they used them in lesson preparation. One drawback seems to be the speed with which the pupils have been able to work through the guides. Very few pupils, if any, had completed the study guides by the end of the academic year.

Teachers were expected review and mark of work in the self-study guides, as a means to monitor and assess the academic progress of the 'at-risk' pupils. In addition, teachers were encouraged to set homework tasks for the pupils, either from within the guides or extra assignments. At the initial training it was agreed that the marking of the guides would be done fortnightly. However, school visits indicate that this was not implemented at all schools. Guides were only regularly marked by teachers at 12 of the intervention schools (60%), similarly with the provision of additional homework tasks. School-level data indicates that at just over half of all schools, club leaders were involved to some extent in the marking of guides and in some cases may well have been solely responsible.

SOFIE Clubs

Youth volunteers were given the responsibility of setting up and running the SOFIE clubs. Despite working on a voluntary basis, club leaders were generally reported as having been active and conscientious in fulfilling their agreed duties. In only very few instances did household obligations, ill health or personal business prevent them from attending clubs. All but one of the club leaders participated for the full year – one young man from a school in Mzimba left halfway through the year to work in South Africa, leaving the class teacher to continue running the club.

During initial training, it was agreed that the venue and timing of the club meetings should be flexible and responsive to pupils' needs. Meetings were generally held on school premises after school hours on Fridays or at the weekend. During FGDs, pupils said that they were comfortable with the chosen venues, explaining that schools were central places and the use of a classroom offered them some privacy and fewer distractions from noise and other children. Late-coming at clubs was a concern raised by both pupils and club leaders, although few suggested an alternative time or place. Some instances of flexibility were found, however. For example, at one of the case schools in Mzimba, the club leader noted that attendance dropped when meetings clashed with choir practice or other social activities. To resolve this he shifted the time of the meetings and met twice a week to accommodate those pupils engaged elsewhere. In addition, club leaders' diaries revealed that pupils were reluctant to meet when schools were on holiday and, after discussion, their clubs also took a break at such times.

Club meetings were held regularly, ranging from 18 to 36 meetings per school, with no significant difference between districts. Attendance of 'at-risk' pupils at clubs was varied, with absenteeism an ongoing problem for some, particularly in the latter half of the year, although evidence from key informants suggest that steps were often taken to try and resolve this. The number of clubs attended depended to some extent on when the pupil had first registered (i.e. in term 1, 2 or 3), but for others the pattern of attendance remained sporadic. In a few cases pupils withdrew completely, generally due to their transfer out of the school or dropout[20]. Table 4 shows that, on average, pupils attended between 17 to 20 club meetings, reflecting under two-thirds of meetings held, with little difference according to gender or district.

Table 4: number of clubs attended by 'at-risk' pupils. By gender and district

Club meetings	**Mzimba**			**Phalombe**		
	Female	**Male**	**Total**	**Female**	**Male**	**Total**
No of clubs attended (mean)	16.6	17.1	16.9	19.9	17.9	18.9
Percentage of clubs attended (mean)	(58.6%)	(60.4%)	(59.7%)	(61.2%)	(55.1%)	(58.1%)

During mini-workshops, pupils were asked brainstorm and list SOFIE club activities and then agree on the six they enjoyed most. Working in a group, pupils then ranked these activities in order of importance. Table 5 below shows the combined results of these ranking exercises. It lists the activities ranked and the position in which each activity was ranked for each school. Clearly, opportunities to improve knowledge and skills ranked highly amongst pupils. Using the study guides to work through Mathematics and English topics and exercises was ranked highest by Duma school and second highest by the other three schools. Revision and

[20] During the school year 10 (3.9%) 'at-risk' pupils transferred to another school (1.9% in Mzimba, 5.2% in Phalombe) and 12 (4.7%) dropped out (2.9% in Mzimba, 5.9% in Phalombe).

homework also ranked highly. As Table 5 also indicates, leisure activities such as sports, playing the interactive board game 'Choices and Decisions' and listening to the radio were also seen as important. According to club leaders, involvement in such activities was a strong motivating factor for pupils, encouraging them to continue attending clubs and even renewing their interest in school

Approaches to conducting club meetings and delivering learning support varied. For example, in both Mzimba schools club leaders and teachers worked together to draw up 'lesson plans' for the meetings and in Kamunda, where the 'buddy' system was not in place (see below), learning activities were very much led by the club leader. In the two Phalombe schools, meetings appear to have been less structured and with more emphasis on the social aspects of the clubs. Although in all case schools the club leader was perceived more as a 'teacher' than as a peer. Several key informants noted the importance of 'at-risk' pupils' opportunities to interact freely in a group – both with other 'at-risk' pupils and their 'buddies' – and have their contributions heard. One club leader reasoned that pupils might feel freer to ask for help in a club setting as they were not required to ask questions in English, as would be the case in class. A few key informants also noted that, aside from academic work, pupils were able to share and discuss other problems they faced in their lives.

Table 5:Pupils' ranking of SOFIE club activities, by school

SOFIE Club activities	**Ranking order (showing schools)***					
	1	**2**	**3**	**4**	**5**	**6**
Academic/study time						
Using study guides (to solve Maths & Eng problems)	**D**	**NKP**				
Revising class work	**K**					
Homework tasks	**P**		**K**			
Practicing writing skills (composition, letter writing)			**N**			
Games & other activities						
Debate			**N**			
Drama			**D**			
Listening to the radio				**P**	**DK**	
Playing football/netball	**N**			**D**	**P**	**K**
Playing 'edutainment' HIV and AIDS board game			**P**	**K**	**N**	**D**
Other						
Receiving school bags						**N**
Advice & counselling		**D**	**P**			

*Abbreviations are used to represent the four schools: D= Duma, N = Namalongo, K = Kamunda and P = Pamoza

During FGDs, pupils spoke of their club leaders as friendly, sociable and fair – treating all of them equally and, in contrast to the formal setting of the schools, without dealing out punishments. This latter point is likely to be of particular importance, as harsh and unfair punishments were seen as a contributing factor to exclusion and withdrawal from school by many of the young people spoken to during formative fieldwork (Moleni, 2008).

When asked what they disliked about the clubs, only a few pupils expressed any concerns. These complaints related to the lack of punctuality or absenteeism of others, dislike of some of the physical activities and gossiping amongst club members. Initial concerns raised during training workshops that the identification process and inclusion in clubs might further stigmatize those chosen were, on the whole, not realized. In summative evaluation workshops the vast majority of participants disagreed that those attending SOFIE clubs were teased by fellow pupils. Key informants confirmed this, although a few noted that fellow pupils or community members might make discouraging remarks. This was generally put down to jealousy rather than any specific discrimination.

Buddy system

Schools were encouraged to identify 'buddies' for at-risk pupils to provide motivation, friendship and additional learning support. Generally teachers were responsible for identifying buddies, though in some cases pupils were allowed a degree of involvement. On average, between 2 to 10 buddies were selected per school with girls and boys in approximately equal numbers. Thus, a buddy was often responsible for more than one 'at-risk' pupil, but, where feasible, 'at-risk' pupils were partnered with buddies who lived in nearby villages. Chosen buddies were generally pupils deemed as fast learners, active in class and were often drawn from higher grades.

Visits to casse study schools revealed a range of experiences of the 'buddy' system. Kamunda, one of the Mzimba schools, was the only school that did not manage to set up a functional 'buddy' system. According to the school head, one girl was selected to act as a buddy for the club – all of whom were boys – apparently as a means to bring in more girls after their absence was noted during the mid-term visit. However, she was later registered as 'at-risk' and the other club members appeared unclear about her role, noting that she was also frequently absent. In the other three schools, 'at-risk' pupils were assigned buddies and the majority of 'at-risk' pupils reported positive experiences. In Namalongo, buddies helped with work set out in the study guides and took on the role of following up pupils when they were absent, either from class or the clubs. In Duma and Pamoza, the buddies were primarily involved in learning support and were generally perceived as helpful. In Pamoza, the majority of the buddies were in Standard 8 and an unfortunate consequence of this was that they left school in August after completing their final examinations; no longer available for the remainder of the year. A few pupils noted that their 'buddies' seemed reluctant to take up their roles and some key informants argued that this was because they did not perceive any benefit or receive sufficient

incentive to carry out their tasks. In Namalongo this was resolved by providing them with textbooks. Key strategies to work with 'Buddies' are shown in Table 6.

Table 6: Strategies to work with 'buddies'

'Buddying' strategies	**Duma**	**Namalongo**	**Kamunda**	**Pamoza**
	'Buddies from same class. Learning support at clubs, opportunities for informal socialisation.	Buddies from same class. Learning support at clubs, follow-up if 'at-risk' pupil was absent.	No functional system in place	Buddies drawn from higher grades (mainly Std 8). Learning support at clubs and as required
Comments from pupils	Generally helpful, a few inactive	Helpful, but learning support limited to club meetings. Several inactive.	Unclear about role of 'buddies'.	Helpful, but many left before end of year and were not replaced

4.3 PROMOTING AN ENABLING ENVIRONMENT

Record-keeping, monitoring and follow-up.

During the case studies, poor record-keeping and a lack of monitoring and follow-up of absent pupils were seen as challenges to providing support for vulnerable pupils (Moleni, 2008). It was encouraging, therefore, to note that in the vast majority of intervention schools (90%), Standard 6 teachers had kept the class registers regularly up-dated and that all had recorded the orphan status of their pupils. Slightly fewer schools (75%) had up-to-date 'at-risk' registers. Club leaders were conscientious in recording attendance of 'at-risk' pupils at club meetings. Key informants at all case study schools described how the 'at-risk' register and other monitoring forms provided by the SOFIE project had proved to be useful tools with which to monitor pupils. A few also believed that pupils, realizing that they were being monitored, made greater effort to attend school regularly.

Table 7 summarises the strategies put in place at the case schools to follow-up 'at-risk' pupils when absent from class and/or club meetings. At Duma greater emphasis was placed on the role of the 'buddies' in following up absentee 'at-risk' pupils, whilst at Namalongo staff relied more on the traditional approach of calling in pupils – and their parents or guardians – to explain their absence; a strategy that might be construed by pupils as a 'punishment'. Key informants from both schools in Mzimba stressed their use of home visits as an opportunity to discuss pupils' reasons for absence with parents or guardians, with some success.

Table 7: Strategies for follow-up of at-risk pupils

Described strategies for 'follow-up'	Duma	Namalongo	Kamunda	Pamoza
	Depended on information from fellow pupils and 'buddies'. Additional follow-up where necessary by club leader or nearby teacher	School head would refer to records to find out absentees, then responsibility for follow-up given to club leader and teacher. Buddies often involved. Regular absentees called in (with parents or guardians) to discuss absenteeism.	Club leader and teacher responsible for follow-up, meeting with pupils and/or home visits. SOFIE committee member or school head called in to assist with persistent absentees.	Follow-up was responsibility of the club leader through home visits. Teacher informs club leader of class absentees. Committee members involved in home visits.
Comments from key informants	Only partial success because of confusion over who should follow-up	Some confusion over responsibility for follow-up after teacher had been transferred to another class	Some success, but some parents and guardians unwilling or unable to persuade pupils to attend	Worked well until last few weeks when club leader was increasingly absent.

Counselling and pastoral care

During the case studies school staff raised concerns about their lack of knowledge and skills in providing support and pastoral care for vulnerable pupils (Moleni, 2008). Previous research into the impact of HIV and AIDS in schools in Malawi also highlighted the lack of guidance and counselling at schools as a key challenge (Kadzamira *et al*, 2001). As such, sessions in counselling skills were included in initial training of teachers and club leaders. These proved popular, with the majority of participants in the training naming these sessions as the most useful.

During summative evaluation meetings, representatives of 12 out of the 20 schools stated that they had provided counselling for 'at-risk' pupils. What is less clear is what form this took. FGDs with 'at-risk' pupils do suggest that a certain degree of informal discussion of problems faced by pupils took place at clubs, led by the club leader, often prompted by topics from radio programmes, supplementary readers and playing 'Choices & Decisions'. However, interviews with key informants suggest counselling (whether in groups or individually) was constructed as the giving of "advice" to pupils, often centred on the need to work hard and the importance of education. One school head noted how SOFIE committee members would come to clubs "...to advise them how to continue with schooling and achieve their goals" and another that, "we were telling them how to behave as school children." Thus, it seems that the child-led, exploratory approaches to counselling advocated during training had been modified to fit the more traditional, culturally-familiar practice of 'advice-giving' by elders. Despite this

admonitory tone, 'at-risk' pupils tended to perceive this as a form of 'encouragement' and several noted how such attention motivated them to take their schooling more seriously.

Community involvement and support

As noted above, all schools had SOFIE sub-committees in place, which included members representing the wider community. Some, but not all, of these were parents, others were drawn from the SMC or PTA, or simply elected during initial sensitisation meetings. All SOFIE sub-committees remained in place throughout the school year, meeting a minimum of once a term, often far more frequently. Not all members were equally active, however, and school heads at three of the case schools complained that some members would rarely attend meetings, or get involved in agreed activities. They noted that these members were likely to be busy with their own concerns and/or disaffected because of a lack of incentives.

Examples of actions by community members to support vulnerable pupils.

- Contributions paid by committee members to raise funds for 'at-risk' pupils.
- SMC cut down blue-gum trees and grass and sold these to raise funds for the SOFIE committee to assist pupils.
- Fundraising activities to provide porridge for vulnerable pupils
- 'At-risk' pupils provided with extra pens and notebooks.
- Flour and money contributed and distributed to those vulnerable.
- Community & club leader assisting 'at-risk' children with pens and soap
- Fundraising (buying and selling sugar) to buy soap for vulnerable pupils
- SMC committee chair bought uniform for 'at-risk' pupils (2).
- SOFIE committee paying 'at-risk' pupils' contributions to the schools' feeding programme/exempt from school costs.

Community members on the SOFIE sub-committee took part in the selection of the 'at-risk' pupils and, at some schools, followed up their progress and attendance. Eight schools initiated small-scale fund-raising for the 'at-risk' pupils – either through making contributions themselves or through income-generating activities. This was more commonly done in Mzimba schools rather than in Phalombe, where only 2 schools made attempts at fund-raising. Club leaders' dairies and FGDs with pupils revealed that communities' initial engagement with SOFIE activities did tend to tail off during the school year. It appears that some were reluctant to continue when they did not see any personal benefit from their involvement. Difficulties also arose when those community members seconded onto the SOFIE sub-committee did not have children benefiting directly from the project.

Promoting inclusion

During initial training workshops, participants were asked to reflect on how to make their schools more inclusive. During implementation, almost half of the schools (9) took steps to try and promote greater inclusion, particularly with regard to vulnerable pupils. Table 8 lists some of the examples given during the summative evaluation workshop.

Table 8: Examples of actions to promote inclusiveness

School policy and guidelines	School and classroom practice
• Uniform not compulsory • Not sending pupils back who have no uniform, but call parents and reason with them. • Formulation of school rules to curb discrimination against vulnerable learners • Enforce strict rules on bullying and bad language • Re-admission policy allowing pupils to return to school if they did wrong unknowingly • Latecomers not sent back as punishment, but given work to do after class.	• Sitting pupils in mixed ability groups to promote learning and cooperation (unity) • Teachers using T/L materials for motivation • More frequent assignments for vulnerable pupils to help improve performance • Encourage group work so that vulnerable learners can learn from others • Discrimination curbed through regular sensitisation • Punctuality and absenteeism addressed by drama displays by club members and choirs during assembly • Participation in games like football to motivate them

During the formative fieldwork, the issue of exclusion from classes for not wearing uniform was a major concern for many of the pupils and school dropouts interviewed - some could not afford to buy a uniform or often did not have soap to wash the one they had (Moleni, 2008). Five of the intervention schools addressed this issue directly, either by making uniform no longer compulsory or giving households enough time to buy a uniform without excluding the child. Some schools also re-visited their discipline policies to ensure that children were not excluded from class. With greater awareness of possible barriers to pupils' participation, several schools made attempts to encourage greater inclusion and participation in class and address issues of discrimination.

4.4 CHALLENGES

During summative evaluation workshops participants were asked to list the main challenges they faced in their roles as implementers of the Sofie model. The main issues that emerged during this session are summarised in

Table 9, with illustrative examples of specific challenges

Table 9:challenges to implementation: participants responses

Main challenges	Participants' responses (%)		
	Mzimba N= 38	Phalombe n= 39	Total n=77
Selection process for 'at-risk' pupils *"...most community members were pressurising us to select their own children" teacher, Phalombe* *"selection was difficult due to large numbers of vulnerable children in the class" school head, Phalombe*	13.2	25.6	19.5
Pupil late-coming and absenteeism *"...it was difficult for me to find extra time for late-comers to learn what their friends had learnt" club leader, Mzimba.* *" absenteeism of learners discourages me"* *"some of the 'at-risk' pupils absent themselves to do piece work" SOFIE chair, Phalombe*	26.3	12.8	19.5
Community involvement *" lack of interest from school committee and guardians" teacher, Phalombe* *"SOFIE committee lacked zeal in fundraising" club leader, Mzimba*	18.4	7.7	13.0
Pupils' learning and participation *"Activities not tallying with time allocated", teacher, Mzimba* *"some club member pay less attention", club leader, Mzimba* *"laziness in doing homework", teacher Phalombe*	13.2	10.3	11.7
Community relations *"Ridiculing from community for doing volunteer work", Club leader, Phalombe* *"Insults from community during follow-up visits...we are accused of favouritism", SOFIE chair, Phalombe*	5.3	15.4	10.4
Workload and time constraints *"Insufficient time for all tasks, such as record-keeping", teacher, Phalombe*	13.2	5.1	9.1
Expectations of incentives and handouts *"when we call for a meeting with parents and guardians of 'at-risk' pupils they expect hand-outs at the end of the meeting" SOFIE chair, Phalombe* *"Lack of allowances reduces our commitment", club leader, Phalombe*	0.0	17.9	9.1
Resources and learning materials *"Inadequate materials in school-in-a-bag", school head, Phalombe* *"lack of money to pay for bicycle repairs", club leader, Mzimba*	7.9	10.3	9.1
Parental attitudes and values *"parents said I was disturbing their children as they could not concentrate on household chores", SOFIE chair, Mzimba*	13.2	2.6	7.8
Monitoring and follow-up *"long distances to cover for follow-up", school head, Mzimba*	5.3	10.3	7.8
Working relationships & sharing responsibilities *Lack of interest from class teacher, school head Phalombe* *Misunderstandings between club leader and SOFIE committee",*	5.3	10.3	7.8

SOFIE chair, Phalombe			
Supervision *"Lack of supervision by SOFIE officials", school head Phalombe*	0.0	12.8	6.5

by the participants. Although not shown, there was variation in participants' responses, both between districts and according to their role within the intervention. For example, in Mzimba, the SOFIE committee representatives and school heads were more concerned with the process of selecting 'at-risk' pupils and community-related issues, whilst club leaders and teachers more frequently mentioned pupils' absenteeism. In Phalombe, communities' expectations of the project, issues of incentives and the relationship between the school and the community were of more concern than in Mzimba.

Selection of 'at-risk' pupils

The process of identifying and selecting pupils to be on the 'at-risk' register was seen as a major challenge by many participants. One reason for this, for the larger schools, was that numbers to be selected were restricted to fifteen, even where there may have been further vulnerable children in the class. Conversely, in some schools in Mzimba, there were difficulties selecting this maximum number of pupils within the target class. Despite being encouraged to be flexible in using the agreed criteria for selection, schools largely identified pupils by their orphan status. This might explain why fewer girls were registered as 'at-risk' in Mzimba schools (see section 4.1), i.e. fewer female orphans were present in upper primary compared to male orphans[21]. Beyond the identification process itself, several participants complained that community members were putting pressure on them to include their wards, and were being accused of favouritism by both parents/guardians and other pupils.

Community Expectations and Incentives

Related to this was the challenge of dealing with initial expectations of material gain (e.g. handouts of maize, money, clothes etc) held by many community members, parents and pupils. Rather than deflecting such false expectations, some schools inadvertently compounded the problem by calling for large, public meetings to inform communities about the intervention, thus increasing the anticipation of widespread benefits.

One of the reasons given for the inactivity of some SOFIE committee members was that initial expectations of incentives were not forthcoming. A few key informants also noted that some 'buddies' were reluctant to get involved in the absence of incentives. Similarly, club leaders noted that when some pupils did not receive additional material support such as soap or clothes they were "disappointed" and their attendance at clubs waned as a consequence. In Phalombe, tension around the selection of 'at-risk' pupils and raised expectations resulted in open hostility from community members at some schools, with verbal insults and accusations

[21] For example, at Kamunda 17.0% of the pupils enrolled in Standard 6 were male orphans; just 4.3% were female orphans. This in turn begs the question as to why fewer female orphans were enrolled. Discussions with teachers in Pamoza and Kamunda implied that many of these female orphans had already dropped out of school, before reaching Standard 6.

of schools squandering resources. A lack of sensitisation of parents and guardians as to the objectives and aims of the intervention may have contributed to this.

Pupil Absenteeism and late-coming

Paradoxically, although the SOFIE model was designed to accommodate and support pupils when they might be required to be absent or withdraw from schooling, absenteeism amongst 'at-risk' pupils was still perceived as an ongoing challenge by many participants at the evaluation workshop. Pupils and key informants at case study schools gave examples of the need for pupils to look for piece-work to support themselves and their households, or to run errands or attend to household chores for parents or guardians. In some instances, these responsibilities would keep them out of school. For several pupils the need to complete household chores or work in the fields before going to school would make them late, thus missing lessons. In schools such as Pamoza, where school rules insisted that late-comers be sent home, this could also mean a whole day's schooling lost.

Similarly, for some pupils, finding the additional time to attend clubs was problematic, with household responsibilities again preventing them for attending clubs or arriving very late. This presented challenges for club leaders to complete planned activities and maintain continuity in pupils' progress through the study guides. Other reasons for absence from clubs related to the distance required to travel to clubs, the lack of support from 'buddies' and a 'disappointment' over the lack of anticipated material support. Several key informants noted that follow-up visits to pupils' homes and discussions with guardians had, in some cases, helped to resolve these problems. Some participants felt that more needed to be done to support both pupils' basic needs and school costs, as a means to promote their attendance at school. A few also opined that more practical items, such as soap, should have been included in the 'school-in-the bag', again to promote attendance.

Unfortunately, in a few cases 'at-risk' pupils had been deliberately excluded from clubs because of their absenteeism from school. For example, one boy from Namalongo was absent for several consecutive days having been sent to a distance market town to collect medicine for his sister. On his return the school the school head took back his 'school-in-a-bag' as punishment and he was forced to withdraw from the SOFIE club.

Parental Attitudes and Values

Several participants at the evaluation workshop related issues of absenteeism and late-coming to a perceived lack of support from parents and guardians for the children's schooling, with priority instead given to the contribution of pupils' labour to the household. A few noted the continued pressure put on pupils to marry early, particularly in Mzimba.

Learning and Participation

A few club leaders and teachers listed a somewhat 'mixed-bag' of issues relating to 'at-risk' pupils' learning and their participation in clubs. This included comments on some pupils' lack

of interest, or their greater interest in the games and sports offered by the clubs than the learning activities. Others noted that some were unwilling to carry out homework tasks or

an working through the exercises. Related to this, and compounded by the absence of some pupils' from club meetings, was a concern about the slow progress made through the study guides. A few participants expressed the view that the time allocated for various topics within the guides was insufficient. Such responses perhaps also reveal their own difficulty in engaging with more flexible, less time-driven approach to learning.

Staffing and Supervision

Another challenge mentioned specifically by teachers and school heads was high workloads – resulting from understaffing – which put constraints on the amount of time they had available for work with the 'at-risk' pupils or to fulfil other responsibilities for the intervention. Although largely unmentioned by participants, the frequent transfer of teachers and school heads may also have had an impact on the level and effectiveness of teachers' support. In Phalombe, the problem was particularly acute. Five Standard 6 teachers trained under SOFIE were transferred away from their classes during the course of the school year. A few school heads noted the lack of supervision from either SOFIE project team members or district-level education officers as a critical challenge.

4.5 SET-UP COSTS OF THE INTERVENTION

Table 10 lists the approximate set-up costs for the resources and training inputs for the implementation of the SOFIE model. This does *not* include costs for activities considered to be part of the research and evaluation component of the pilot (e.g. the mid-term monitoring trips and the post-intervention evaluation workshops), although these may want to be considered as important components of any programme to roll out the intervention, particularly in terms of providing adequate supervision and opportunities for feedback and reflection. Nor do the set-up costs reflect any professional costs associated with the development of the resources or training materials. Distribution costs to the schools were free, as participants at training workshops offered to carry back the materials themselves to the schools. In future rollout, distribution costs are likely to have to be factored in, if at a larger scale.

Costs for the basic items in the 'school-in-a-bag' and 'school-in-a-box' were relatively inexpensive (stationery, pens etc.) and such additional targeted support could well be subsumed into school-level decisions about resources under the MOE's Direct School Support (DSS) programme[22]. With regard to textbooks, additional copies were generously provided by the MOE for the purposes of the pilot, and have thus not been factored into costs. However,

[22] A donor-funded programme initiated in 2005 that disperses funds through District Assemblies to all government primary schools for the purchase of teaching and learning materials and infrastructure maintenance as stipulated in school improvement plans. Funds are allocated based on pupil enrolment and have averaged around $200 per school.

school records with participating schools showed that most schools did have sufficient copies of the core textbooks for the numbers of pupils enrolled. It may be more a case of schools ensuring better and sustained access to these textbooks than needing to budget for additional

Table 10: Expenditure on resources & training for SOFIE intervention

Items	**Expenditure (US $)**
Resources for pupils	
School bags (300)	624.00
Pens & notebooks (at-risk)	408.72
Pens & notebooks (buddies)	341.64
Textbooks (700)	Free-of-charge
Study guides (paper)	168.48
Study guides (printing & collating)	3545.88
Resources for Schools	
Ring binders & stationary (teachers/youth club)	223.08
Stationary (SMC)	68.64
Storage bags (20)	51.48
Supplementary readers (40)	Free-of-charge
Bicycles (youth leaders) (20)	1553.76
Footballs (20)	455.52
Radios (20)	1165.32
Duty (customs) for radio	890.76
HIV/AIDS interactive board game (20)	764.40
Distribution	Free-of-charge
Training	
Training workshops (excluding facilitator transport & per diems)	2744.04
TOTAL	**13,005.72**

copies, although there was some concern amongst teachers with regard to greater wear-and-tear if pupils were to take textbooks home.

The self-study guides, at the core of the ODFL strategies, were the single, largest expense with regard to set-up costs, although per copy, each guide cost only approximately $3.00 to produce. They were printed and collated in Malawi, in-house, rather than with professional printers. A wider roll-out would likely see a further reduction in cost, due to economies of scale.

Costs for time were kept low through reliance on community members to provide assistance on a voluntary basis. Bicycles for youth leaders were an effective way of maintaining commitment, at least in the short-tem, and a much smaller financial input than the provision of a regular stipend. However, this lack of a financial incentive was seen as a critical challenge by

club leaders and other community members. Whilst emphasising the importance of civic service, financial recompense for time provided, or other forms of incentive promoting self-development, may need to be considered to sustain community support long-term.

The costs of purchasing solar radios and HIV/AIDS resources for the SOFIE clubs were high. Participants generally attested to their value in increasing the popularity of clubs and as an additional resource. Strategies to include such resources in future programmes might include trying to source similar local materials through international or local NGOs, as was the case with the provision of supplementary readers for the pilot. Through the USAID-funded IRI project, solar radios are now present in the vast majority of government primary schools. Close links between school-based clubs and school management could see the sharing of this valuable resource.

Overall, the cost per pupil for those receiving the targeted support, including the training and school and club resources, was approximately $43. Including all Standard 6 pupils in the calculation, this results in an approximate cost of $8.50 per enrolled pupil.

5 IMPACT OF THE INTERVENTION

This section outlines results from the experimental design used to evaluate the SOFIE intervention, with regard to pupil outcomes of retention (reducing dropout), promotion and attainment. It also discusses impact on pupil attendance, as well as additional benefits and unanticipated outcomes from participant's involvement in the intervention.

5.1 PUPIL OUTCOMES

5.1.1 ANALYSIS OF EXPERIMENTAL DATA

It is common that within an experimental methodology, the unit of randomisation (in this case the school) is also the unit of treatment and analysis (Gorard, 2003). However, in this study, whilst schools were the unit of randomisation, measures of pupil outcomes were taken at both the class and individual level. Furthermore, those provided the 'value-added' treatment (registered as 'at-risk' in participating schools) were not randomly assigned within the target grades. All of which has important implications for analysis and interpretation. This was addressed by carrying out analysis of both school and pupil-level data, looking for comparison and contradictions (if any) and controlling for district, school and pupil-level variables (co-variates) within the regression analysis.

In order to create a comparison group of 'at-risk' pupils in control schools logistical regression was used to construct a model (based on observable characteristics of pupils) to predict selection of 'at-risk' pupils in intervention schools (see 3.7.2). Table 19 in the Appendices shows that children listed as double orphans in school records were 140 times as likely to be selected and single orphans were 40 times more likely to be selected. In addition, children who reported being a paternal orphan or having missed breakfast on the day of the survey were also more likely to have been selected. Pupils who transferred into the school in the year of the study were less likely to be included in the clubs, presumably because the community were unfamiliar with these children. Finally, pupils who gave only partial data in 2008 surveys were also less likely to be included. Child selection was not based on data from the surveys so the reason for the influence of this last factor is unclear.

The predictive model outlined in Table 19 was used to create an at-risk group in the control schools, using propensity score matching (see 3.7.2). The at-risk group represents children who would likely have been registered and selected for SOFIE clubs had they been introduced to the control schools. The procedure selected 259 at-risk children in the control group to match the 259 SOFIE club members in the intervention schools.

5.1.2 REDUCING DROPOUT

Preliminary analysis: school –level outcomes

Table 11 lists the mean Standard 6 dropout rates[23] for intervention and control groups, by district. Overall, mean dropout rates were lower in interventions schools (7.34%) compared to the control group (12.81%), and lower in Mzimba South schools across both groups.

Table 11: STandard 6 Class dropout rates, by group and district

Group/District	Class Dropout Rate (%)			N
	Mean	SD	Range	
Intervention				
....Mzimba S	4.14	3.35	0.0 to 11.1	10
....Phalombe	10.55	4.58	4.4 to 19.2	10
....Total	7.34	5.10	0.0 to 19.2	20
Control				
....Mzimba S	10.98	7.82	2.9 to 22.7	20
....Phalombe	14.63	6.92	5.7 to 27.1	20
....Total	12.81	7.42	2.9 to 27.1	20

Analysis of mean dropout and promotion rates was carried out using the Mann Whitney U test for significance. Although assumptions of equality of variance and normal distribution were tested for and met, concern over the small sample size led to the decision to use a non-parametric test. Results found sufficient evidence to reject the null hypothesis and showed that the dropout rate from schools in the control group was significantly greater than for schools in the intervention group (p= 0.011, 5% level). District was also a critical factor, with differences in dropout rates between Phalombe and Mzimba South also significant (p = 0.03, 5% level).

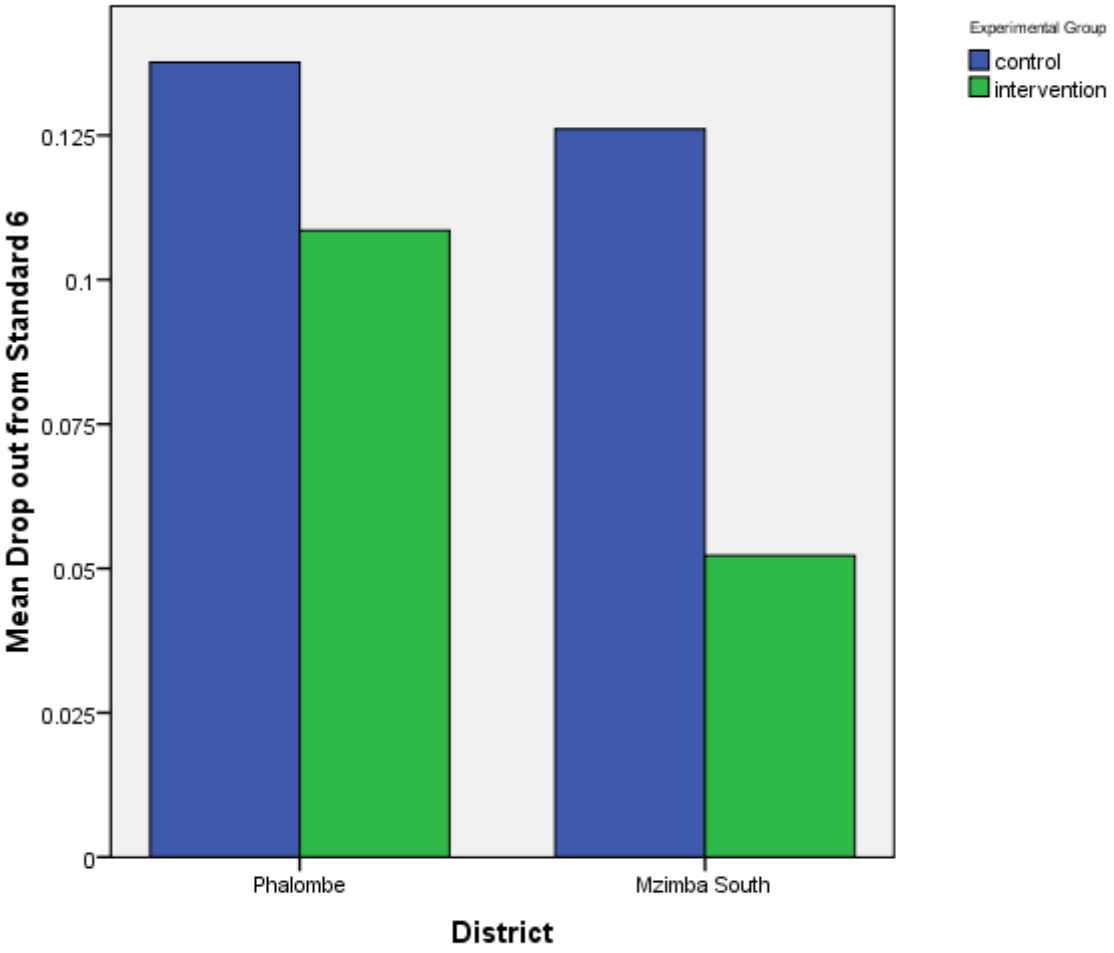
Figure 4 illustrates the mean dropout rates calculated for individual pupil dropout, showing lower dropout rates for the intervention group, in both districts. A greater reduction in dropout is observed for Mzimba South.

Further regression analysis of pupil dropout

In addition to initial analyses at the school level, multi-level modelling techniques working with pupil data were used to determine statistically the impact of the SOFIE intervention on dropout and other key outcome variables (see below). Multilevel logistic regression was conducted on the overall sample and then separately on the sub-groups: 'at-risk' pupils and pupils not 'at-risk.'

[23] Proportion of enrolled pupils who had withdrawn from school for a minimum of 8 weeks and had not returned by the end of the school year 2009, as a percentage of class enrolment.

Figure 4: Mean Dropout rates, by group and District



Overall, 128 pupils (8.1%) of those enrolled in Standard 6 dropped out from intervention schools during 2009, compared to 147 pupils (12.4%) in control schools. Amongst the 'at-risk' sub-group, 13 pupils (5.0%) dropped out of intervention schools compared to 29 pupils (11.2%) in control schools (see **Error! Reference source not found.**).

Table 12: Proportion of pupils dropped out, by group

Dropped out (2009)	**Intervention**			**Control**		
	Freq	%	N	Freq	%	N
Overall	128	(8.1%)	1,579	147	(12.4%)	1,188
At-risk pupils	13	(5.0%)	259	29	(11.2%)	259

The odds ratios (OR) of unadjusted estimates from the regression analysis suggest that, overall, the intervention reduced the odds of dropout by 52% (OR=0.48) (see Table 21 in Appendix 3 for further details). These estimates also show that dropout was significantly lower for 'at risk' pupils targeted for additional support in the intervention schools compared to those in control schools. The odds of 'at-risk' pupils dropping out were reduced by 60% (OR=0.40) in the presence of the intervention. **Error! Reference source not found.** shows that for those pupils

not at risk, there was also a significant reduction in dropout, though to a lesser extent (OR=0.64). However, the absence of an interaction between the variables for intervention and membership of the 'at-risk' group indicates that these odds ratios were not significantly different. As such, there was not sufficient evidence for rejecting the null hypothesis that the intervention was equally effective for target (at risk) pupils and pupils not at risk. Adjusted estimates, controlling for baseline covariates, indicate a slightly larger impact of the intervention overall (OR=0.46) and for children not at risk (OR=0.51).

We can conclude that, overall, the SOFIE intervention did have a significant impact on dropout amongst Standard 6 pupils. Analysis further indicates that any impact, in terms of addressing dropout, was fairly evenly spread between 'at-risk' pupils registered with the SOFIE programme and those not registered. There are likely several reasons for these observed 'spill-over' effects:

- A general motivation amongst all Standard 6 pupils related to the schools' involvement in SOFIE project. Several key informants noted that other pupils were also eager to be considered for inclusion in SOFIE clubs at a future date. Interviews also suggest that some school heads encouraged pupils to believe that further benefits could be accrued if they remained in school.
- Specific benefits accrued to 'at-risk' pupils filtered out to the wider class. For example, 'buddies' in Standard 6 would enjoy many of the same activities as 'at-risk' pupils. Also, qualitative data showed that 'at-risk' pupils often worked collaboratively and shared their study guides with fellow pupils, and that some teachers made use of study guides in the preparation of class lessons. However, on this latter point, it is unclear how this would impact specifically on dropout rather than, say attainment.
- Impact of the intervention on dropout was also influenced through processes that included the whole class. For example, through activities designed to improve the capacity of staff, enhance community involvement and address inclusiveness.

However, consideration also has to given to the possibility that in some schools effects of strategies targeting 'at-risk' pupils were diluted through reduced implementation. In Phalombe schools, in particular, findings indicated that in some cases there was limited provision of learning support by teachers, limited monitoring and follow-up and poor community involvement and support for vulnerable pupils.

Characteristics of SOFIE intervention schools successful in reducing dropout

In order to understand which aspects of the SOFIE intervention were critical to any success it had, quantitative process data was collected including the formation and composition of the SOFIE club committees, numbers of trained teachers present in schools, maintenance of an 'at-risk' register at school, the age and sex of the club leader, number and sex of buddies recruited in schools and the number of club meetings held.

Of these variables two were highly negatively correlated with dropout. Schools whose teachers in place who had received SOFIE training (n=15) and schools that kept an up-to-date register of

at-risk pupils (n=16) had the lowest dropout rates. Dropout was lowest (a mean of 5.2%) among the 13 schools with both of these characteristics compared to a dropout rate double that (10.8%) among the 7 intervention schools with one or neither of these two characteristics. However, the absence of trained teachers in schools was observed almost entirely in Phalombe schools, where transfer rates of teacher and school heads was much higher (see section 4.4). This and other examples of variation in intervention fidelity (see above) warrant further investigation of the interplay between district and experimental group.

5.1.3 Attainment and Promotion

Preliminary analysis: school – level outcomes

Error! Reference source not found. lists the mean Standard 6 promotion rates[24] for intervention and control groups, by district.

Group/District	Class Promotion Rate (%)			N
	Mean	SD	Range	
Intervention				
….Mzimba S	64.44	12.84	43.5 to 83.3	10
….Phalombe	68.56	12.52	46.1 to 81.7	10
….Total	66.50	12.51	43.5 to 83.3	20
Control				
….Mzimba S	60.25	23.56	22.5 to 90.70	20
….Phalombe	63.09	15.56	31.9 to 76.3	20
….Total	61.67	19.49	22.5 to 90.7	20

Table 13: Mean class promotion rates, by group and district

Overall, promotion rates in the intervention schools (66.50%) were slightly higher than promotion rates in control schools (61.67%), although this was not found to be significant. Using non-parametric tests to compare means, there was no evidence to indicate that the observed difference between experimental groups was significant (p = 0.583, 5% level), nor was there any significant difference in promotion rates according to district (p = 0.445, 5% level). Figure 5 clearly illustrated the lack of difference between promotion rates in intervention and control groups, for both districts.

Promotion was based on pupils' performance in end-of-term exams, although scoring and requirements for promotion were not standardised across schools. Those pupils who failed the exams, either through poor performance or absence, were asked to repeat the year[25].

Further regression analysis of promotion and repetition

[24] The proportion of Standard 6 pupils completing the academic year and being selected for promotion to Standard 7 (excluding transfers out) , as a percentage of all pupil enrolled in Standard 6.

[25] According to school heads, pupils who were asked to repeat included those who were absent from all or some of the end-of-term exams regardless of their performance throughout the year.

Table 14 shows the proportion of pupils promoted at the end of 2009 and of those advised to repeat the year, both overall and for 'at-risk' pupils. Estimates from multilevel logistic
Figure 5: pupil Promotion Rates, by group and district

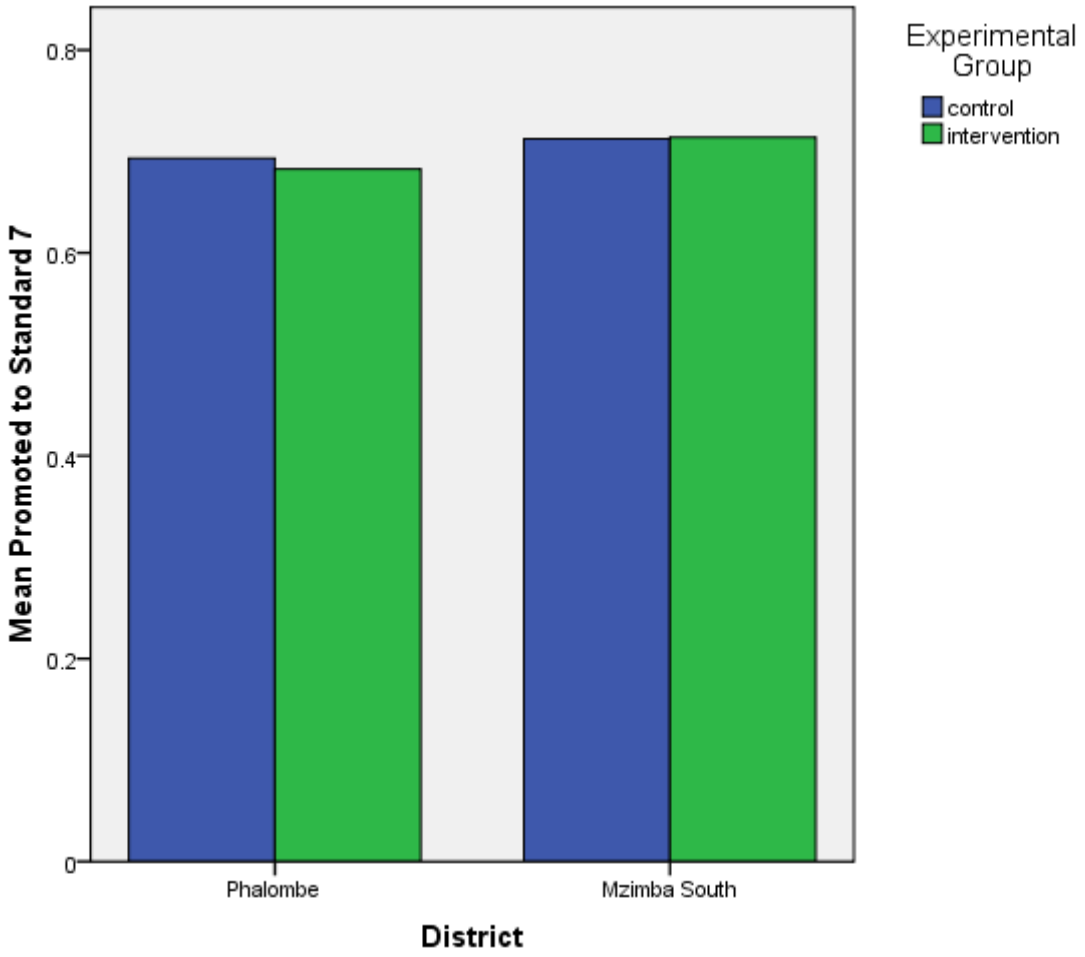


Table 14: Promotion and repetition rates overall and among at-risk pupils

Pupil Outcomes	**Intervention**			**Control**		
	Freq	%	N	Freq	%	N
Promotion (2009)						
Overall	1000	(63.3%)	1,579	726	(61.1%)	1,188
At-risk pupils	180	(69.5%)	259	168	(64.9%)	259
Repetition (2009)						
Overall	371	(23.5%)	1,579	240	(20.2%)	1,188
At-risk pupils	56	(21.6%)	259	48	(18.5%)	259

regression equations for promotion and repetition (see Table 22**Error! Reference source not found.** in Appendix 3) ***confirm that*** there was no significant difference between intervention and control groups in terms of these outcomes, nor was there any interaction between the

variables for intervention and membership of the 'at-risk' group. Thus, it can be concluded that there was no overall impact of the intervention on repetition or promotion rates, either overall or within the 'at-risk' group. Somewhat counter-intuitively, regression estimates suggested that 'at-risk' pupils were more likely to be promoted than pupils not in the 'at-risk' group regardless of whether they were from control or intervention schools. Thus, belonging to the 'at-risk' group is a strong predictor of promotion and that one or more of the covariates of this group (either observed or unobserved) other than the SOFIE intervention itself increases the likelihood of these pupils being promoted.

The absence of observed impact of the SOFIE intervention on pupils' promotion is perhaps related to the relatively short length of time that pupils were engaged with SOFIE activities and learning resources[26]. The late registration and ongoing absenteeism of many 'at-risk' pupils (from both class and clubs) may also have contributed to this (see section 4.4). It is also worth noting that promotion was based on a pupil's average score across all subjects (as many as 9 separate exams), whilst the SOFIE intervention focused solely on Mathematics and English. Furthermore, discussions with several school heads indicated that if pupils were absent from the end-of-year exams no consideration was given to performance earlier in the year, pupils would subsequently receive low grades and were asked to repeat the year. This raises important issues about schools' exclusionary practices in terms of pupils' progression. The greater likelihood of 'at-risk' pupils to be promoted to the next grade is more difficult to explain and raises questions about the selection process for 'at-risk' pupils in intervention schools and schools' definition of vulnerability.

Regression analysis of test scores

In order to gain an independent measure of possible impact of the intervention on pupils' attainment, multilevel linear regression analyses were run on pupils' test scores from English, Maths and Supplementary test papers administered at the end of the 2009 school year. Table 15 lists the mean exam scores for Standard 6 pupils in intervention and control groups, and for selected 'at-risk' pupils and the equivalent group in control schools.

Table 15: Mean exam scores for pupils, overall and by at-risk group

Outcomes	**Intervention Group**			**Control Group**		
Overall	M	SD	N	M	SD	MN
Maths exam score (2009)	7.45	(5.93)	1,166	6.06	(3.97)	862
English exam score (2009)	10.28	(5.57)	1,166	10.65	(5.00)	862
Supplementary exam score (2009)	8.87	(3.38)	1,166	8.85	(3.01)	862
At Risk Pupils	M	SD	N	M	SD	MN
Maths exam score (2009)	7.05	(5.41)	213	6.00	(4.09)	199
English exam score (2009)	10.25	(5.57)	213	10.46	(4.75)	199
Advanced exam score (2009)	8.98	(3.19)	213	8.61	(2.94)	199

[26] Following initial training, the programme ran for approximately 9 months, with breaks for school holidays.

Earlier analysis of intervention and control groups to assess randomisation showed that there were significant differences between the two groups in terms of performance for the baseline exam papers (see section **Error! Reference source not found.**). Furthermore, regression estimates indicate significant, positive correlations between pupils' performance in baseline English and Maths exam papers and pupils' performance in English, Maths and Supplementary post-test exam papers (with Beta coefficients of 0.36, 0.53 and 0.27, respectively) Thus, test scores in baseline exam papers were included as covariates in linear regression models.

Unadjusted estimates for test scores suggest a slight intervention effect on Mathematics scores for the at-risk group (an increase in 0.91 marks out of 24), but this was not found for pupils not at risk nor for the overall sample. Adjusted estimates suggest a reduced effect of 0.83 marks for the at-risk group with borderline significance (p = 0.071) when controlling for covariates (see Table 21, in Appendices). Thus, whilst there is some evidence of impact of the intervention on Mathematics attainment for the at-risk group, the effect is not nearly as robust as that for dropout. No significant effects were found for English or Supplementary paper test scores.

Without the barriers placed against promotion, this analysis shows that the SOFIE model did not have a significant impact on pupils' performance in English and Mathematics, the two subjects for which study guides were provided. This remedial support was targeted at 'at-risk' pupils only, so one might have expected to see greater impact amongst this sub-group, rather than the spill-over effects seen for dropout rates. To some extent, this was observed in the intervention effects on the at-risk group for Mathematics scores, although this was not a particularly robust finding.

It may be that the period of pupils' engagement with the SOFIE resources and remedial support was too short to see a significant improvement in pupils' skills and knowledge, compounded by some pupils' poor attendance at SOFIE clubs and/or classes. In regard to this, it is worth noting that a weak positive correlation exists between the number of SOFIE clubs attended and 'at-risk' pupils' scores in the 2009 supplementary[27] and English[28] papers, although not, surprisingly, Mathematics.

Despite an absence of statistically significant evidence of the SOFIE model's impact on pupil attainment, many participants attested to qualitative improvements in terms of competency, participation in class and renewed engagement with learning (see section 5.2 below).

5.1.4 ATTENDANCE

During the 2009 academic year, schools visits were carried out to up-date pupil tracking records and carry out spot-checks of pupil attendance. During this mid-term visit the mean class attendance rates for the intervention and control groups were 89.74 percentage and 83.47 percentage respectively. Non-parametric tests (Mann Whitney-U) to compare the means

[27] Correlation coefficient = 0.185, significant at 1% level (2-tailed)
[28] Correlation coefficient = 0.150, significant at 5% level (2-tailed)

showed that this difference was not significant (p= 0.088, at 5% level). A second collection of class attendance data was done during the end-of-year school visits. At this time, although overall trends were suggestive of higher attendance rates in the intervention group, any difference between the intervention and control groups was not significant (p = 0.607, at 5% level). However, it should be noted that these one-off spot-checks do not adequately reflect trends across the school year.

Ongoing absenteeism of 'at-risk' pupils was a cause of concern raised by some participants during evaluation activities, whilst others argued that levels of deliberate absenteeism had been reduced. During mid-term visits, key informants attributed this to pupils' renewed interest in schooling and close monitoring and follow-up of pupils when absent. Similar comments were also met during final visits in November 2009, although there was increased reference to the challenges faced in maintaining pupils' motivation and attendance.

5.2 ADDITIONAL BENEFITS

5.2.1 PUPILS

From interviews and FGDs at the four case schools, several benefits emerge for 'at-risk' pupils involved in the SOFIE project. An obvious, direct benefit of the pupils' involvement was the provision of the 'school-in-a-bag', which was not only seen as of value in of itself, but as instrumental in motivating pupils and supporting their learning. Several key informants also commented on a growing confidence amongst many of the 'at-risk pupils' and their improved participation in classroom activities.. One teacher commented that 'at-risk' pupils "no longer fear to answer question in class." This seems to be linked to pupils' opportunities to interact and express themselves during group work, collaborative learning and other social activities taking place in SOFIE clubs. A female 'at-risk' pupil from Duma stated,

> *My participation has changed because, like, in class Mathematic and English were difficult subjects for me, but when I joined SOFIE club I am able to do better than before... and also I was a very quiet person so my quietness made me not to be active in class. Whatever was difficult for me, I was not asking for help from my friends, but since I joined SOFIE, I got used to my friends and I started to ask them [about] whatever things were difficult for me."*

A few key informants also noted that spin-offs from 'at-risk' pupils' chances to interact and work closely with others, particularly buddies, including a reduction in discrimination against 'at-risk' pupils and opportunities to build a wider circle of friends. Although some 'at-risk' pupils did note jealousy from other pupils, many seem to have benefited greatly from the social networks afforded them through their inclusion in the clubs. Boys in particular spoke of the club giving them a sense of 'family.' Such benefits, along with greater confidence and the support provided by club leaders and others should surely go some way to enhancing the pupils' self-esteem. One club leader commented,

> *Vulnerable pupils have come to realise that losing a parent to HIV and AIDS is not a punishment, they can do just whatever other pupils can do.*

In addition to such social benefits as those highlighted above, several key informants described how some 'at-risk' pupils had benefited from a renewed engagement with schooling and greater interest in education. They noted a desire amongst such pupils to read and study on their own and revise class work outside of school hours. One school head noted that the resources provided by SOFIE were helping build a culture of reading amongst pupils. This implies not only greater opportunities for independent learning but, for some at least, a growing responsibility for their own learning. In a related aside, key informants, community members in particular, argued that such a "hard-working spirit" also benefited pupils by "keeping them busy", with the observation that when engaged in school work pupils were less likely to get involved in risky or delinquent behaviour.

5.2.2 SCHOOLS AND COMMUNITIES

During interviews and FGDs, key informants and community members were asked in what ways the schools and the surrounding communities had benefited from their involvement with SOFIE project. Community members from all case study schools discussed how, by hosting the intervention, their schools "had become known" amongst surrounding schools and "exposed" further afield, and expressed the hope that they could act both as a role model to other schools and open up the possibility of attracting future support. A few school heads and teachers also held this view and, in addition, spoke in general terms of the improved performance of the school (e.g. in terms of reduced dropout amongst pupils) as a matter of pride.

More specifically, teachers were said to have benefited both from the training received and a greater awareness of the needs of orphans and other vulnerable young people. It was also suggested -though not by the teachers themselves - that teachers' workloads had actually been reduced or at least made easier by club leaders stepping in to provide extra learning support and working with young people to encourage their participation. A few key informants also referred to the material benefit to the school of the additional learning resources and games provided for the intervention. Provision of learning materials to individual pupils was seen as a key benefit for parents and guardians, relieving them of the burden of buying them themselves.

Despite concerns about the attitudes of some amongst the wider community, as discussed earlier, participation in the SOFIE project was also said to have helped to build stronger and more equal working relationships between school staff and community representatives on school committees. Participants spoke of opportunities to share ideas, enhanced unity amongst members and the ability to work together amicably. One elderly female SOFIE chairperson spoke of her improved leadership skills. Club leaders also appear to have benefited in a similar way, with their role in the implementation process giving them improved skills in working with young people, experience of working collaboratively with a high level of personal responsibility and gaining respect for work done[29]. One young man stated,

[29] It is encouraging to note that at least two of the club leaders went on to be selected for training as primary school teachers under the government's new ODL teacher training course.

I am able to relate well with people in the villages and at school. In the past, I could not stand before elders, because that could be interpreted as arrogant, but because of SOFIE I have learnt that though young I have a role to play in the development of the community.

Echoing the rhetoric of government's development and educational reform programmes, many key informants suggested that communities, as a result of the intervention, would benefit in longer term by the increased number of educated children in the villages and a resultant enhanced development of the area. However, concerns were raised as to the sustainability of the benefits gained once the SOFIE project withdrew. During evaluation workshops the majority of district-level and school participants expressed a willingness to continue with certain aspects of the intervention seen as successful (e.g. the monitoring and follow-up systems put in place and the work of the club leaders), but called into question the ability to maintain community support long term in the absence of incentives and more structured supervision.

6 Discussion and Conclusions

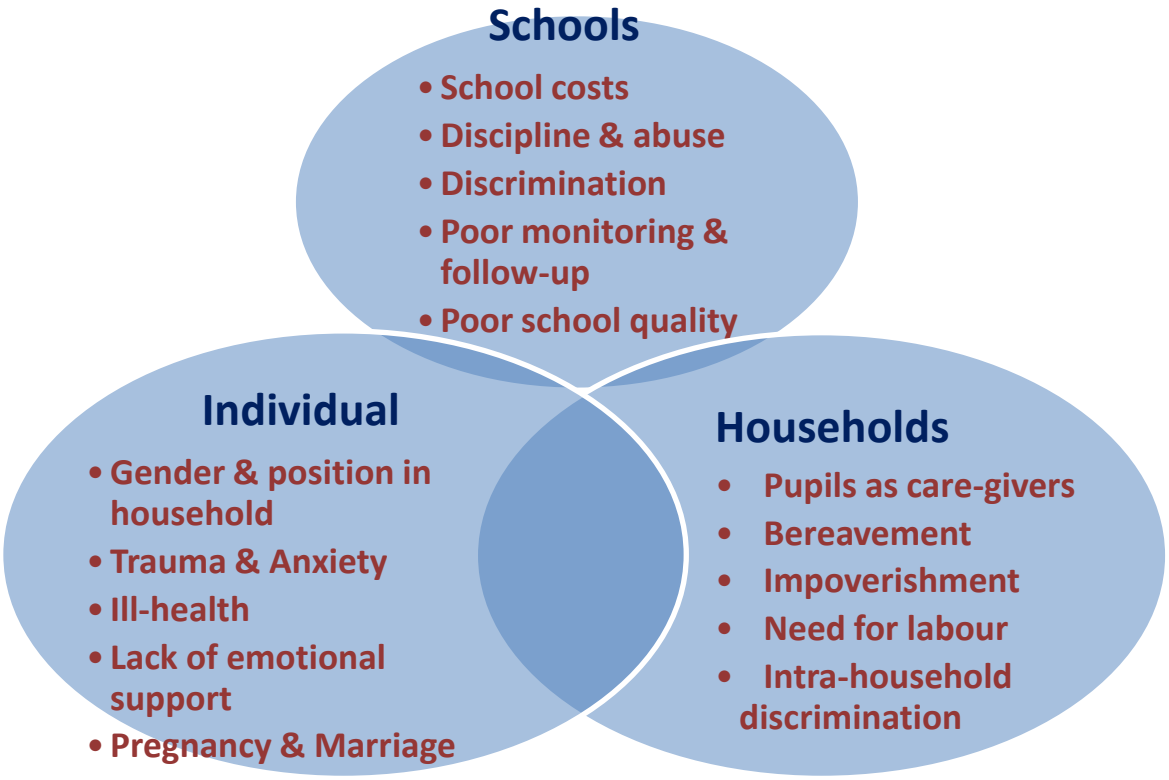
What has been learnt about the extent to which the SOFIE model for more open and flexible schooling can address constraints on access and attainment of vulnerable pupils? Findings with regard to the processes of implementation suggest several interconnected and reinforcing pathways that work by reducing barriers to learning, building capacity within schools and promoting inclusiveness, ultimately supporting improved retention of pupils.

6.1 Emerging Issues

Constraints on access and attainment

Preliminary case studies in the first phase of the empirical research highlighted a range of micro-level factors that, in the context of HIV and AIDS, constrain vulnerable children and young people's access to learning and attainment (see Figure 6). At the household level, children affected by HIV andAIDS might be required to take on a range of responsibilities that keep them out of school, such as caring for chronically-ill parents or working to support themselves and the household's income. Household impoverishment also prevented them attending school if, for example, they could not afford school costs.

Figure 6: Constraints on access to Learning and Attainment



Whilst teachers did not to actively discriminate against children affected by HIV/AIDS, pupils were often teased by fellow pupils, and *ad-hoc* school policies and disciplinary actions would exclude poorer children and those facing difficulties attending classes. Poor monitoring and follow-up of absent pupils meant that whilst vulnerable pupils were often known in the community, they were largely an invisible group within the school. Trauma and anxiety impacted heavily on pupils' attendance and participation and many of those who had dropped out of school spoke of a lack of emotional support and encouragement. Culturally a child's gender and position in the household was critical, with older children, especially girls, taking up much of the burden of household responsibilities. This was particularly acute in sibling-headed households, where the oldest sibling invariably dropped out of school to support the others. Early marriage was often seen as a way to escape difficult circumstances at home or to gain financial support (Moleni, 2008)

What emerged from the findings was a rationale for some form of specific, affirmative action to support pupils through difficult times and redress inequities, whilst paying attention to the wider environment and practices of the school.

Reducing barriers to access

On a practical level, 'school-in-a-bag' provided by the SOFIE model reduced barriers to learning by giving vulnerable pupils greater access to basic resources, the costs of which can be prohibitive for impoverished households. The availability of additional learning opportunities outside classes also provided a degree of flexibility that acknowledged the coping strategies and household responsibilities of pupils, although, paradoxically, regular attendance at class was perceived by participants as an important measure of success of the intervention. Greater interaction with pupils and their parents/guardians through monitoring and follow-up activities was said to have had some success in reducing absenteeism. In addition, many targeted pupils' felt motivated by their involvement and, through their own personal agency, built up or negotiated strategies to reduce their absenteeism.

However, greater access and participation is limited not only by personal and household factors. Using ODFL to provide targeted support will only have limited impact if schools' own exclusionary practices are not addressed. Failing to acknowledge schools' own role in raising barriers to learning threatens to undermine the principles of ODFL and uphold a *status quo* that often excludes the most vulnerable. During the SOFIE intervention, several schools found ways to include pupils previously at risk of exclusion from classes by, for example, changing school rules so that those coming late to class or without uniform would not be sent home. However, in other schools, staff still adhered to such practices under the premise of maintaining discipline and treating all pupils equally. Bringing about a shift in the authority and professional mindset of school heads and staff, from one of 'equality of treatment' to one promoting 'equitable access, participation and outcomes' (Campbell, 2002) will be critical to the success of strategies to reduce barriers to learning. Furthermore, whilst ODFL strategies can compensate for some of the difficulties faced by vulnerable pupils in attending school, other underlying constraints remain: hunger and a lack of other basic necessities, ill health,

risky behaviour and sexual abuse. Under the wider, holistic stance of the SOFIE model some schools made an attempt to tackle pupil welfare directly, with school committees raising funds to buy soap, flour and other items for vulnerable pupils, although this was highly dependent on the commitment of school management and community support. More still needs to be done to improve the safety and security of vulnerable girls in schools (Leach, 2004).

Promoting Inclusion

Looking at education and schooling through an inclusive lens implies a shift from viewing the child as the problem to viewing the system as the problem (UNESCO, 2009). In terms of improving the inclusiveness of schools, this research has shown that building capacity in the identification, monitoring and follow-up of pupils, has helped 'make the invisible visible'. Working with orphans and other children affected by HIV/AIDS has made schools more aware of the constraints and specific needs such children. As noted above, several schools addressed this by making changes to existing policy and practice and providing welfare support for 'at-risk' pupils: although the majority did not. In supporting these pupils, the SOFIE model has gone some way to acknowledge and validate the lives of vulnerable pupils, although more still needs to been done for schools to embrace this type of diversity. Other projects designed to support vulnerable pupils (e.g. the Ambassadors Girls Support Project) make regular attendance a criterion for assistance: with the SOFIE model schools were asked to accept and support those regularly absent. Interestingly, concerns that targeting vulnerable pupils for the intervention would increases stigmatisation appear not to have been realised – conversely, in many cases, greater interaction with buddies and fellow club members helped build social networks, promoted a sense of *ubuntu* amongst pupils and reduced discrimination. The provision of support and social networks can also enhance pupils' social capital through establishing bonds with others in similar situations andbuilding links within school and community hierarchies (i.e. with teachers, club leaders etc.) (Pridmore *et al*, 2007). Against a context of underlying poverty and disadvantage, having someone who provided emotional support, takes an interest and pays attention to whether they are in school or not, be it a buddy, club leader, teacher or community member, is of great value to pupils who regularly experience anxiety and isolation. This may, in turn, help to strengthen their engagement and retention in school.

Role of ODFL strategies in improving attainment

Although there no statistically significant evidence for improved performance or likelihood of promotion for pupils that partook in the intervention, key informants believed that targeted pupils had become more capable and confident learners, a situation corroborated by many of the pupils themselves. The self-study guides proved popular with pupils and many attested that they used them for study and revision outside of school hours or when they failed to attend classes.

Whilst the SOFIE model thus promoted independent learning, strategies to provide regular face-to-face support for their learning were also of critical importance. In recent years, ensuring effective tutoring and learner support is regarded as central to the success of ODFL

programmes, even more so for basic education (Perraton, 2007). Opportunities for additional tutoring, peer support and collaborative learning within the SOFIE model appear to have been an important means of enhancing basic skills (e.g. reading and writing English) and building confidence, allowing pupils to participate more fully in class and to re-engage with the learning process. Whilst the use of a 'buddy system' appeared popular with pupils and staff alike, there was need for greater clarity of buddies' roles, including training, and consideration of incentives for their involvement. Clubs were generally run well and – apart from initial inputs – at low cost. Evidence of teachers feeling displaced by heavy reliance on study-guides - externally produced materials initially unfamiliar to them (Nielsen, 1991) - or their position being usurped, were not apparent. Generally there was a good working relationship between club leaders and teachers, with SOFIE activities integrated well into school structures and practices. In the short-term, club leaders were motivated, even taking up many of the teachers' responsibilities, but the sustainability of this set-up is likely to rely on volunteers' access to some form of incentive or stipend. Furthermore, as Yates (2000) argues, over-reliance on voluntary labour can in itself become exploitative and several club leaders spoke of community members mocking them for working for no personal gain.

Addressing Dropout

Analysis of pupil outcomes indicates a significant positive impact on dropout in intervention schools, for both targeted 'at-risk' pupils and those not registered as at-risk. The reasons for this remain unclear, although several possibilities can be raised (section 5.1.2). One interpretation would be that impact on dropout related to strategies and activities that were more holistic in nature, with spill-over effects from the targeted support benefiting a wider group of pupils (e.g. training that emphasised, counselling skills, understanding constraints to access, identifying and working with vulnerable pupils and building capacity in record-keeping and monitoring).This also suggests that schools can play a key role in tackling dropout and, through addressing their own flexibility and inclusiveness, can mitigate some of the constraints faced by vulnerable pupils beyond the school gates.

Alternatively, when interpreting the seeming absence of specific impact on 'at-risk' pupils, one also needs to consider schools' selection of pupils and the definitions of vulnerability used for that process. Were the targeted pupils, although perceived as vulnerable, really amongst those most likely to drop out? Evidence from the earlier case studies revealed that, contrary to the phenomenon of family scepticism in the wake of HIV/AIDS, guardians perceived education as important in providing orphans with a more secure, self-reliant future and that many of the pupils interviewed expressed a strong desire to finish their schooling (Moleni, 2008). In Phalombe, pupils were overwhelming chosen with regard to their orphan status and this further emphasises the difficulty in using orphan status as a proxy for vulnerability, particularly in relation to anticipating dropout. But it should also be noted that the processes leading to dropout are often cumulative sometimes over a relatively lengthy period of time. It may simply be that those considered at risk of dropout, might have done so if left unassisted, but not necessarily within the span of one school year. A longer study, over the senior primary

years, for example, might have shown a greater differential between 'at-risk' pupils in intervention and control schools.

6.2 CONCLUDING COMMENTS

This report has highlighted some of the concerns regarding the lack of equitable educational access and attainment amongst vulnerable children in the context of HIV/AIDS in Malawi. It provides a rationale for greater flexibility and affirmative action to redress inequities and the, need to tackle constraints linked to school ethos and environment. It has introduced the SOFIE model as an example of a new model of schooling that integrates ODFL principles and practices into conventional schooling as a means to improve access to learning for vulnerable pupils and provide a 'safety-net' for those at risk of dropping out.

The use of a mixed method research design has allowed for insight into the processes of implementing the intervention in two districts heavily impacted by HIV/AIDS, whilst providing a robust evaluation of its impact on pupil outcomes. A detailed description of the implementation processes highlighted both the potential of the model in making schools more responsive to vulnerable pupils and the challenges in implementing a model that requires the support of multiple actors and targets those whose attendance is erratic at best. Analysis of the processes and perceived benefits of the SOFIE model suggests that low-tech ODFL strategies incorporating distance education materials, psychosocial support and collaborative learning opportunities have the potential to tackle key barriers to learning, have a positive impact on vulnerable pupils' learning experiences and enhance engagement with schooling. Analysis of pupil outcomes indicates significant impact on dropout amongst Standard 6 pupils overall, but no significant impact on performance measures or promotion rates. This study has also attested to the willingness of schools to work with novel approaches to improving access and attainment and the importance of training and capacity building in promoting an enabling environment for their implementation. Tackling wider issues of school inclusiveness and sustained community support are also likely to be critical to reducing dropout.

6.3 IMPLICATIONS FOR POLICY

Evidence from this study has shown that combining greater flexibility in educational provision through the use of low-tech ODFL resources and activities with strategies to improve the capacity of schools and communities to support their more vulnerable pupils can lead to educational and psychosocial benefits for targeted pupils, as well as significantly lower dropout rates for pupils overall. Policy-makers thus have available to them a range of strategies that could be implemented at the school-level, both to provide affirmative action for pupils' identified as most vulnerable and to enhance the overall effectiveness of schools. Such options might include:

- Consideration of the SOFIE model as a 'toolkit' of ideas and practices for schools to adapt to their own specific contexts and needs. This would require initial locally-based, participatory need assessments, actively involving schools, communities and expected beneficiaries.

- The use of self-study guides and out-of-school clubs not only as a 'safety-net' for vulnerable pupils, but also to provide additional teaching and learning support in schools struggling to deal with large class sizes, high rates of absenteeism and limited resources. In the event of a policy shift to initiate change from institutionalised repetition to one of automatic promotion, such remedial support could prove invaluable.

- The mobilisation of youth volunteers to support their local schools, to provide additional learning support for vulnerable pupils, either through after-school activities and/or as classroom assistants. Suitable low-cost incentives could be put in place, such as small stipends and/or credit towards entry into future training opportunities (e.g. current ODL teacher training programmes).

- Incorporating support for vulnerable pupils as a priority for school-based decisions on resource procurement through the current Direct School Support (DSS) programme.

- Re-visiting school-level interpretation and implementation of guidelines on the wearing of school uniform, to reinforce national policy that vulnerable children unable to purchase uniforms should not be excluded from class.

- Re-doubling of efforts to provide training for teachers on working with and counselling vulnerable pupils, including orphaned children and others affected by HIV/AIDS. Such training should also be extended to school management committee members and other key stakeholders in schools and their communities.

6.4 FURTHER RESEARCH

In addition to the findings presented in this report, suggestions for further research to inform policy include:

- Evidence from this research has shown that in Mzimba South fewer girls were identified as in need of support. Issues of early entry into marriage also impacted on retention. Additional analysis to explore the gender dimension of the processes, learning strategies and impact of the SOFIE model is required. Further modelling of pupil outcomes to examine the interplay of gender, district and school characteristics would also be invaluable.

- Although evaluated as a holistic package, the SOFIE model consists of a range of resources, strategies and activities. This study revealed how resources and planned activities were adapted and re-figured according to the learning needs and concerns expressed by pupils and/or school staff. Further research to unpack and evaluate the different SOFIE model components would be essential to inform policy decisions, possibly as a series of small-scale action research studies working closely with local schools and communities. Intervention schools already familiar with the SOFIE model could be ideally placed to participate in such research studies.

- In addition, as one of main inputs of the model, further evaluation of the study guides by local actors (including curriculum specialists, for example) could provide invaluable recommendations for ways to roll-out the use of such guides, either as a 'safety-net' for vulnerable pupils or to provide more generic remedial support in schools.

- Building on the findings presented here, an accurate, projected cost-benefit analysis is required to examine future cost-effectiveness of the model and, if appropriate, act as an advocacy tool for policy-makers and practitioners.

- Finally, any future engagement with the SOFIE model or similar, targeted educational initiatives would benefit from further qualitative research to explore perceptions of vulnerability and need amongst policy-makers, practitioners and local actors.

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APPENDIX A: STUDY DISTRICTS

Table 16: Summary of characteristics of study districts, MALAWI

Characteristic	Phalombe district	Mzimba South District
Region	South	North
Inheritance pattern	Matrilineal	Patrilineal
Tribe	Predominantly Lomwe, some Yao settlements	Ngoni, Tumbuka.
Religion	Predominantly Christian, small minority of Muslims	Christian
HIV adult prevalence (15-49 yrs)[30]	16%	14%
Net primary attendance rate[31]	73%	92%
Drop out rate[32]	Boys 9%, girls 12%	Boys 10%, girls 12%
Repetition rate	Boys 12%, girls 11%	Boys 17%, girls 13%

[30] National AIDS Commission sentinel sites data 2004 (NAC, 2004)
[31] Data from Malawi Demographic Health Survey (DHS) 2004 (NSO, 2005)
[32] Dropout rates and repetition rates from Education Management Information Systems (EMIS) data, 2007 (MoE, 2007)

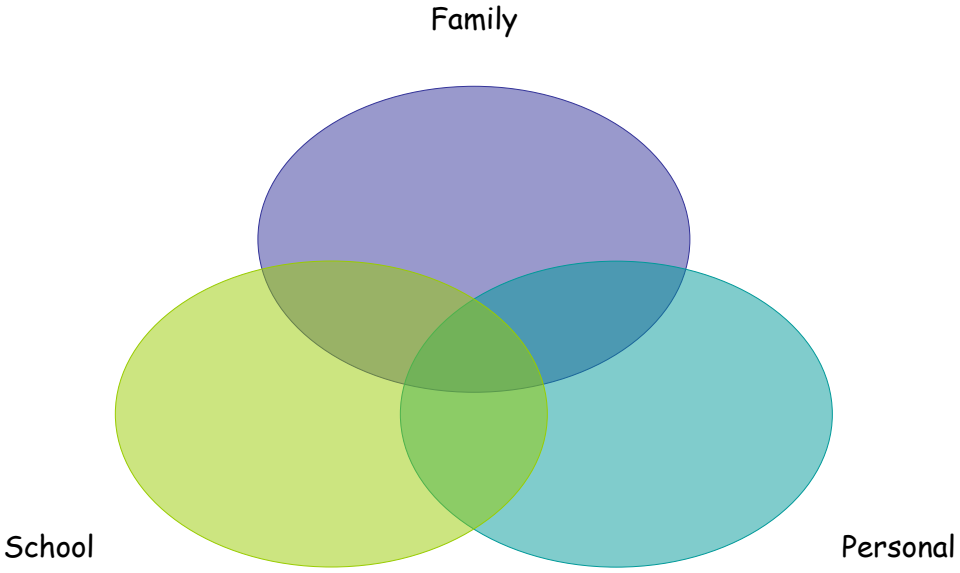
APPENDIX B: EVALUATION FRAMEWORK

Components	Activities	Indicator	Comments
Training and capacity-building	Briefing of key participants on the SOFIE project, inc. their roles and responsibilities in implementation.	One-day workshop held	All schools represented
	Additional training and capacity building for club leaders and Standard 6 teachers	Three-day workshop held. All club leaders and Std 6 teachers trained.	Subsequent transfer of teachers during school year meant several untrained teachers in place (5 transfers in Phalombe, 1 in Mzimba)
Identification and registration of 'at-risk' pupils	No of schools registering 'at-risk' pupils	All schools	In Phalombe all schools registered the maximum of 15 pupils. In Mzimba none of the schools registered the maximum of 15 pupils and 5 of schools registered less than 10.
	Number of 'at-risk' pupils	Mzimba: 106 (38.7% female, 61.3% male) Phalombe: 153 (49.7% female, 50.3% male)	Significantly fewer female pupils registered in Mzimba schools.
	Registration of additional pupils during school year	Mzimba: 72 in term 1; 24 in term 2; 10 in term 3 Phalombe: 97 term 1; 50 term 2; 6 in term 3	
Resources	Collection of 'school-in-a-box' and bicycle by club leaders	All club leaders received resources during initial training	Some concerns over responsibility of maintenance of bicycle.
	Distribution of school-in-a-bag to 'at-risk' pupils	All 'at-risk' pupils received 'school-in-a-bag'	Bags distributed to all 'at-risk' pupils on registration. Those registered later in the year received at later date. Because of fewer numbers registered in Mzimba, some were not distributed.
	Distribution of radios to clubs	All clubs received radios	Delayed until May 2009
Club Leaders	Selection of suitably qualified youth to act as club leaders	20 club leaders selected by communities. MSCE qualification = 16; JCE qualification = 4	Majority with minimum 4 years of secondary education. Age range 20 -31 years.
	Female youth encouraged to participate	Female = 30%	Few female club leaders selected
	No of club leaders in place for school year	19 club leaders completed school year	One male club leader migrated to RSA
Club Meetings	No of meetings per year	Ranged from 18 to 36 , Mzimba: mean =28; Phalombe mean = 32; overall = 30	All schools held regular club meetings

	Timing of meetings to suit learners	Yes, usually Friday afternoon or weekend.	Examples of flexibility in some schools. Some difficulties for pupils living at a distance.
	Attendance of learners	Mean number of clubs attended: 18	Varied, absenteeism a problem for some.
Study guides and learning support	Marking of study guides by teachers	60% marked every 2 weeks 40% never marked	Limited teacher support for marking
	Club leaders involved in marking	Mzimba: 7 ; Phalombe 4, overall 11 (55.5%)	Some took up task from teachers.
	Additional homework tasks	Mzimba 9; Phalombe 3, overall 12 (60%)	Limited involvement, especially in Phalombe
Buddy system	No of schools with active buddy system in place	19 schools	One school had only 1 buddy, who was later registered as 'at-risk'
	Number of buddies per school	Range 1 -10 per school, with mean of 6 per school.	Buddies generally responsibly for more than one 'at-risk' pupil. Both male and female recruited in approximately equal numbers.
Guidance and Counselling	No of schools providing counselling for 'at-risk' pupils	12 schools.	Little one-to-one counselling, but 'advice' given at clubs or to absentees by SOFIE committee and/or school staff.
Record-keeping, monitoring and follow-up	Class register kept up-to-date	18 schools	Notable improvement in record-keeping
	Class register records orphan status	20 schools	
	Class register records reasons for absence	15 schools	
	At-risk register kept up-to-date	16 schools	
	Follow-up activities take place	14 schools	Examples of home visits to absentee pupils, discussion with parents/guardians
Community involvement and support	Sensitization of parents and community members on SOFIE project	14 schools	Community meetings held at schools (e.g. through PTA)
	Set-up of SOFIE sub-committees	SOFIE sub-committee in place in all schools	Mean number of members 7 (35% female, 65% male)
	Regular meetings of SOFIE committee	Mean number of meetings held = 8, ranging from 3 to 14.	Minimum of at least one per term. Not all members active.
	Fundraising & support for pupil welfare	8 schools	Range of activities, limited in scope (e.g. contributions to buy soap & notebooks, purchase of 1 school uniform for pupil). Only 2 schools in Phalombe.
Promoting inclusion	Changes in school policies to reduce exclusion etc.	8 schools	Examples of changes in uniform policy and rules of discipline to prevent exclusion from class.
	Changes in class/school practices to include vulnerable pupils	9 schools	Examples of leadership roles for vulnerable pupils, extra learning support, addressing discrimination.

APPENDIX C: CRITERIA FOR SELECTING 'AT-RISK' PUPILS

Suggested criteria for selecting vulnerable children 'at-risk' of dropping out of school or grade repetition.



Family/Household Background

- A child who has lost one or both parents and lacks proper care and support
- A child who staying with elderly grandparent(s)
- A child staying in a sibling-headed household
- A child who is caring for sick parents or guardians
- A child coming from a household affected by HIV and AIDS.

School-related

- previous grade repetition
- irregular attendance or continuous absence for more than 3 weeks
- poor performance in class work and tests.
- Low level of concentration and participation in class

Personal

- Social isolation/inability to make friends/suffer stigma or discrimination.
- Coming to school hungry/looking uncared for/poorly dressed.
- Poor health or physical impairment
- Not having adequate materials able to organize own learning – ie. lack of pen/notebook/textbook/uniform.

The above criteria are intended as **guidelines** only. These criteria are to assist in the selection of vulnerable children to be placed on an 'at-risk' register and join SOFIE clubs for additional learning support. Using these criteria should help schools identify children known to be vulnerable and at risk of dropping out of school permanently or repeating a grade.

Remember: the focus of the SOFIE project is to assist schools to increase pupils' access and participation in schooling, reduce dropout and improve learning.

Selection of these vulnerable children should **not** be done by just one person. It is recommended that a small SOFIE committee be set up to oversee the selection process (this could include the same people that selected the youth leaders).

Initially, no more than 10 pupils should be selected. If there are fewer pupils, this is fine! You may not be able to identify all vulnerable children at the start of the school year. Others can be identified and asked to join SOFIE clubs as time goes by. Make sure that you do not rush to choose many pupils, but keep some resources in hand for those that may join later.

Remember: Children can become vulnerable and at risk of dropping out or repeating at any time. A child's circumstances can quickly change – schools have to be aware of such changes.

National Policy for Orphans and other Vulnerable Children

The policy defines an orphan as:
'a child who has lost one or both parents because of death and is under the age of 18'.

A vulnerable child is:
'a child who has no able parents or guardians, staying alone or with elderly grandparents or lives in a sibling-headed household, has no fixed place and lacks access to health care, material and psychological care and has no shelter'.

APPENDIX D: STATISTICAL TABLES

Table 17: SChool characteristics, by experimental group

School Characteristics	N	Intervention Group			Control Group		
		M	SD	N	M	SD	N
School size (enrolment)	40	890.7	501.5	20	849.2	550.3	20
Gender parity ratio[33] (school)**	40	1.03	0.12	20	0.94	0.11	20
Standard 6 enrolment (term 1)	40	75.00	46.38	20	58.80	29.80	20
Gender parity ratio (class)	40	1.03	0.29	20	0.91	0.29	20
Pupils per teacher (all)	40	97.60	27.36	20	94.85	21.93	20
Pupils per teacher (qualified)	40	103.80	28.00	20	100.35	22.75	20
Gender parity ratio (teachers)	40	0.27	0.22	20	0.53	0.74	20
School performance (PLSCE)[34]	40	31.56	3.56	20	29.30	4.24	20
		Freq	**%**	**N**	**Freq**	**%**	**N**
School Feeding (WFP)	40	6	(30)	20	8	(40)	20
Previous training (Std 6 teacher):							
HIV/AIDS	40	6	(30)	20	5	(25)	20
.....OVC & special needs	40	1	(5)	20	2	(10)	20
.....MOE guidance & counselling	40	5	(25)	20	5	(25)	20

** significant at 5% level

[33] Gender parity ratios show the proportion of females relative to males in a given sample. A ratio of 1 reflects equal numbers of females to males.

[34] Percentage of Standard 8 pupils selected to secondary school, based on performance in Primary School Leaving Certificate Examination (PLSCE), 2007.

Table 18: Baseline characteristics of Children and Schools in Intervention and Control Group.

	n	Intervention Group			Control Group		
		Freq	%	n	Freq	%	n
Female	2,767	783	(49.6%)	1,579	572	(48.2%)	1,188
From School Register:							
Single orphan	2,525	298	(20.0%)	1,490	176	(17.0%)	1,035
Double orphan	2,525	81	(5.4%)	1,490	50	(4.8%)	1,035
Repeating St 6 (2009)	2,767	230	(14.6%)	1,579	151	(12.7%)	1,188
Transferred in (2009)	2,767	146	(9.2%)	1,579	145	(12.2%)	1,188
From Pupil Questionnaires:							
Maternal orphan	2,767	96	(6.1%)	1,579	56	(4.7%)	1,188
Paternal orphan	2,767	176	(11.2%)	1,579	117	(9.9%)	1,188
No breakfast (2008)	1,485	465	(62.2%)	861	283	(37.9%)	624
Household received assistance (2008)	1,485	432	(55.0%)	861	353	(45.0%)	624
No breakfast (2009)	2,030	500	(60.8%)	1,165	323	(39.3%)	865
Household received assistance (2009)	2,004	581	(56.7%)	1,141	444	(43.3%)	863
Parent employed (2009)	2,004	164	(14.4%)	1,139	143	(16.5%)	865
Absent at Survey (2008)	2,767	248	(15.7%)	1,579	197	(16.6%)	1,188
		M	SD	n	M	SD	n
Age (years)	2,767	13.45	(1.64)	1,579	13.36	(1.67)	1,188
Maths exam score (2008)	1,662	4.52	(3.87)	963	4.79	(3.83)	699
English exam score (2008)**	1,662	5.78	(4.56)	963	6.60	(4.12)	699

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 19: Predictors of Inclusion in the At Risk group in intervention schools

Predictor	Odds Ratio	Confidence Interval
Age (Yrs)	1.02	(0.893 - 1.169)
Male	1.13	(0.758 - 1.687)
Single Orphan (School Records)	40.43***	(24.387 - 67.032)
Double Orphan (School Records)	140.27***	(58.34 - 337.23)
Paternal Orphan 2008 (Self-Report)	2.65***	(1.443 - 4.865)
Maternal Orphan 2008 (Self-Report)	1.73	(0.824 - 3.632)
No Breakfast 2009	1.96***	(1.309 - 2.932)
Received Assistance 2009	1.25	(0.816 - 1.911)
Parents Employed 2009	0.54	(0.249 - 1.179)
Absent in 2008	1.04	(0.375 - 2.893)
Partial Data in 2008	0.38***	(0.136 - 1.078)
Repeated St. 6	0.97	(0.374 - 2.500)
Transferred into St. 6	0.23***	(0.080 - 0.669)
Observations	1,579	
Number of schools	20	

*** p<0.1, ** p<0.05, * p<0.01

Table 20: Main outcome variables overall and among at risk pupils, by group

	N	Intervention Group			Control Group		
Overall							
		Freq	%	N	Freq	%	N
Dropped out (2009)	2,767	128	(8.1%)	1,579	147	(12.4%)	1,188
Repeated St 6 (2009-10)	2,767	371	(23.5%)	1,579	240	(20.2%)	1,188
Absent (Nov 2009)	2,767	156	(9.9%)	1,579	77	(6.5%)	1,188
Promoted to St. 7 (2010)	2,767	1000	(63.3%)	1,579	726	(61.1%)	1,188
		M	SD	N	M	SD	MN
Maths exam score (2009)	2,028	7.45	(5.93)	1,166	6.06	(3.97)	862
English exam score (2009)	2,028	10.28	(5.57)	1,166	10.65	(5.00)	862
Supplementary exam score (2009)	2,028	8.87	(3.38)	1,166	8.85	(3.01)	862
At Risk Children							
		Freq	%	N	Freq	%	N
Dropped out (2009)	518	13	(5.0%)	259	29	(11.2%)	259
Repeated St 6 (2009-10)	518	56	(21.6%)	259	48	(18.5%)	259
Absent (Nov 2009)	518	20	(7.7%)	259	13	(5.0%)	259
Promoted to St. 7 (2010)	518	180	(69.5%)	259	168	(64.9%)	259
		M	SD	N	M	SD	MN
Maths exam score (2009)	412	7.05	(5.41)	213	6.005	(4.09)	199
English exam score (2009)	412	10.25	(5.57)	213	10.46	(4.75)	199
Supplementary score (2009)	412	8.98	(3.19)	213	8.61	(2.94)	199

Table 21: Summary of significant INTERVENTION impacts overall and by risk sub-groups

Outcome:	Dropout	Dropout	Maths	Maths
	Unadjusted Odds Ratio	Adjusted Odds Ratio	Unadjusted Coeff	Adjusted Coeff
Overall n=2,767	0.55*** (0.367 - 0.827)	0.46*** (0.311 - 0.673)	0.63 (-0.124 - 1.380)	0.59 (-0.253 - 1.442)
At Risk n=518	0.40** (0.189 - 0.838)	0.40** (0.171 - 0.943)	0.91** (0.085 - 1.733)	0.83* (-0.071 - 1.733)
Not At Risk n=2,249	0.61** (0.401 - 0.921)	0.51*** (0.336 - 0.760)	0.61 (-0.151 - 1.375)	0.58 (-0.194 - 1.354)

*** p<0.01, ** p<0.05, * p<0.1 95% confidence intervals in parentheses

Table 22: Regression equation estimates for repitition and Promotion

Outcome	**Repetition**		**Promotion**	
	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratio (OR)	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratio (OR)
Overall (n=2,767)	1.43 (0.785 - 2.596)	1.3 (0.677 - 2.511)	1.18 (0.791 - 1.766)	1.38 (0.866 - 2.208)
At Risk (n=518)	0.9 (0.694 - 1.155)	1.15 (0.786 - 1.672)	1.34*** (1.085 - 1.664)	1.26 (0.908 - 1.740)

*** p<0.01, ** p<0.05, * p<0.1 (95% confidence intervals in parentheses)

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