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NGO EDUCATION PARTNERSHIP

TEACHING HOURS IN PRIMARY SCHOOLS IN CAMBODIA

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Contents

List of Tables

List of Figures

Abbreviations

DOE	:	District Office of Education
DTMTs	:	District Training and Monitoring Teams
EMIS	:	Education Management Information System
ESP	:	Education Strategic Plan
FGD	:	Focus Group Discussion
GMR	:	Global Monitoring Report
KAPE	:	Kampuchean Action for Primary Education
Km	:	Kilometer
LSS	:	Lower Secondary School
MoEYS	:	Ministry of Education, Youth and Sport
NER	:	Net Enrolment Rate
NGOs	:	Non-governmental Organizations
NEP	:	NGO Education Partnership
OECD	:	Organization For Economic Co-operation and Development
POE	:	Provincial Office of Education
RUPP	:	Royal University of Phnom Penh
UN	:	United Nations
UNESCO	:	United Nations Educational, Scientific and Cultural Organization
WFP	:	World Food Program

Definition of Terms Used

Additional official holiday refers to a school holiday or non-teaching day officially declared by MoEYS during the school year; for example closing schools to mark state events or to deploy teachers to supervise teacher trainee exams.

Afternoon shift refers to the learning sessions held in the afternoon from 1 p.m. to 5 p.m.

Contact hours refers to the actual length of lessons taught by teachers.

Class period/learning session refers to the period of time allocated for each subject per day. One class period/session consists of 40 minutes in Cambodia.

Double shift teacher refers to teachers that teach both morning and afternoon shifts.

Instructional hours is a term used to refer to the teaching contact time between teachers and students; this is a term commonly used in international literature and refers to actual hours, not class periods/learning sessions.

Morning shift refers to the learning sessions held in the morning from 7 a.m. to 11 a.m.

Rotating shift refers to a teaching shift that changes between morning and afternoon shifts each month.

Rural school refers to schools that are located in the rural districts of each province. All schools in rural districts are classified as rural schools by the MoEYS.

Teacher absence refers to circumstances where teachers, regardless of reasons, do not attend school to teach scheduled classes.

Teaching hours is defined as the contact hours teachers and students spend in the classroom. This is wider than what is commonly called a learning session in Cambodian primary schools, which refers to a 40 minute session.

Urban school refers to schools that are located in the urban districts of each province. All schools in urban districts of each province and in all districts in Phnom Penh Municipality are classified as urban schools by MoEYS

EXECUTIVE SUMMARY

This report in to teaching hours in Cambodian primary schools is the result of significant research fieldwork undertaken across the school year of 2012-13. The research tracked the attendance of 309 teachers in 91 schools, using multiple sources to establish how often they were absent from school, the reasons for those absences, the duration of teaching sessions, and the performance of their students. Research was conducted in 5 Provinces of Cambodia and Phnom Penh Municipality, overseen by NEP, and data collection from schools undertaken by trained local NGO staff.

The aim of the study was to give an updated view of the challenges in delivering the mandated teaching hours in Cambodian primary schools, and assess the reasons for these challenges and the impact on student learning outcomes. Whilst the study found many teachers had good attendance, and many schools experienced few unofficial closures, significant problems still remain in some schools. Previous studies in this area have all used different approaches and definitions, and therefore it is not possible to establish a firm trend, but we are able to conclude that delivering the mandated school year remains a significant barrier to Cambodia achieving a high performing education system that gives equal opportunities across the country.

1733 unannounced spot checks
670 lesson duration observations
390 teacher & School Director interviews
2957 students tested in Khmer & Maths

International literature is clear that there is a link between instructional hours and student learning outcomes, particularly in developing countries where instructional hours have traditionally been lower. Our literature review shows that Cambodia does not compare particularly well to international or regional averages for mandated instructional hours, and like many similar countries has a recognised problem with the gap between the mandated school year and what is actually available to students once unofficial closures and teacher absence are taken in to account. Again in common with other developing countries, this problem is particularly pronounced in rural areas. The literature review discusses responses to this in various countries, including through new forms of teacher incentivisation and monitoring, and the development of teacher appraisal systems.

Our findings showed that too much of the school year is still lost in Cambodia through additional official school holidays, teacher absence, and lessened contact hours through shortened teaching sessions. The combined effect of these causes of reduced teaching or instructional hours meant that for the teachers we followed on average the school year delivered was **27%, or 50.5 days, shorter** than it should have been. Given that teachers in the study knew that they were being observed during this year, and that we purposefully excluded the locally determined Thursday teaching hours, this is still likely to be an under-estimate.

Summary of results	Rural	Urban	Combined
Average teacher absence rate	**12%**	**8%**	**10.5%**
Average reduction of lesson duration	**14%**	**7%**	**12%**
Average reduction of the 2012/13 school year – combined effect including additional official holidays	**30%**	**21%**	**24%**
Percentage of whole school closures during spot checks	**14%**	**3%**	**10%**

We also found that **school hours delivered were much lower in rural areas,** which embeds the widely recognised inequality between rural and urban areas in Cambodia. **Children in more remote**

areas had less access to the primary school curriculum, and performed less well in our standardised tests in Khmer and Mathematics than those in urban areas. In rural areas we observed that student performance in tests was associated with the absence rate of their teacher during the year, with the worst average test performance from students associated with rural, frequently absent, teaching staff.

The reduction in the teaching hours delivered in rural areas was closely related to our finding that **'common practice' closures mean that teachers and education managers are actively choosing to reduce the annual school year and impacting on children's right to access education.** We use the term 'common practice' closures to relate to local decisions to extend holiday periods and take additional days as holidays, which we found to be more prevalent in rural areas. Overall, 17% of spot checked teachers were absent on days either side of official holidays, and 47% were absent during Chinese New Year. This raises questions about the value placed on teaching hours. A fifth of the teachers that we interviewed indicated that they could not teach the whole curriculum in the school hours available.

Finally, we conclude that **teacher management, recruitment, and deployment practices** are all crucial factors contributing to the loss of teaching hours. In-depth interviews on teacher management practices suggest that personnel policies designed to sanction teachers with poor attendance do not work effectively. For various reasons, School Directors appear reticent to use the sanctions available. One of these reasons is that teacher recruitment and deployment practices leave them deciding that a poorly attending teacher is better than having a teacher shortage. Another is the common view that it is necessary for teachers to undertake some activity outside of school to improve their incomes.

Overall, we conclude that overcoming this barrier of access to education is as much an implementation as a policy issue. The policy framework on the specific issue of teacher absence is relatively strong and whilst the study does recommend some improvements to this, the key issue lies in local implementation of policy and adherence to national standards. Many teachers in this study showed high levels of attendance and punctuality. Nevertheless, we find that too many teachers have poor attendance or punctuality at school, and too many schools close unofficially with significant repercussions for children's learning outcomes but with limited sanctions or management actions taken by DoEs or PoEs. Although our recommendations are predominantly directed at the national level, it is particularly important to emphasise the extent to which this exacerbates the differences in life chances between urban and rural areas and the need for new policy or activity in this area to be designed with rural implementation in mind.

We make six overall recommendations in this report:

1. MoEYS should initiate a fundamental review of the school year and school holidays to respond to the common practices of both additional official holidays and unofficial school closures during the school year.
2. MoEYS needs to continue to prioritise action on teacher recruitment, retention, and deployment in order to enable stronger personnel management without leading to greater teacher shortages.
3. MoEYS and sub-national education officials should strengthen personnel management and school inspection to improve teacher attendance and reduce school closures.
4. In the medium term, more options and better planning for providing 'cover' for absent teachers should be considered, so that teacher absence does not impact as much on children's access to education
5. Community engagement in school monitoring and holding schools to account needs to be increased.
6. In the long-term we need to increase the learning hours provided in Cambodian schools to meet international standards and ensure that the full curriculum can be delivered.

I. INTRODUCTION AND RESEARCH OBJECTIVES

Improving the quality and efficiency of education services in Cambodia is of high priority for the Royal Government of Cambodia and the Ministry of Education, Youth and Sport. The Education Strategic Plan 2014-2018 sets out a range of measures to improve both access to and quality of education at all levels, and this plan has the support of the Development Partner and NGO community. The ESP recognizes the significant progress made in improving education in the country, as well as the challenges that remain.

Previous research studies, reviews, and discussion sessions at the national Education Congress have recognized that one of these challenges is ensuring adequate delivery of instructional hours in Cambodian schools. This is a complex issue and includes basic questions of how many hours of teacher:pupil contact should be mandated, as well as the reality of the hours spent in the classroom in schools across the country at present.

The research study that this report is based on was designed to contribute particularly to an understanding of the latter issue – how schools are delivering the teaching hours set out in national policy. Previous studies in 1999 (MoEYS), 2005 (NEP), and 2008 (MoEYS) identified significant shortfalls in the teaching hours or instructional time actually delivered when compared to the national expectations. This study aims to update our evidence on this issue and consider the policy implications in the light of the current ESP and the development of human resources in Cambodia, and to explore in more depth some of the reasons for teaching hour loss and their implications.

The following objectives were set out at the start of this project;

- to determine the extent of teaching hours loss at primary schools in Cambodia in comparison with the teaching hours allocated for a period of one year as stated in the policy for general curriculum development 2005-2009 of MoEYS,
- to examine what factors are related to teaching hour loss, and
- to explore the implications of teaching hour loss for student learning outcomes.

The fieldwork for this study was completed during the school year 2012/13 and involved 91 primary schools and 309 teachers in 5 provinces and Phnom Penh municipality. The study was designed to triangulate evidence from a range of sources to gain a greater insight in to variances in teaching hours delivered in schools, and to use a larger sample and a longer duration of study than previous reports.

The study aimed to assess the physical loss of teaching hours and not the effectiveness of the classroom interaction or of the teaching methodology being delivered to students. In order to realise the right to education the quality of teaching delivered in the classroom is fundamental, but it is also fundamental that the schooling system delivers sufficient instructional hours, and that it does so equitably for all children. At the same time as we work in Cambodia to improve the quality of our teaching and learning we also need to bear in mind the basics of delivering a reliable, efficient education system.

II. TEACHING HOURS IN CAMBODIAN PRIMARY SCHOOLS: CONTEXT

The notion that the length of time a child spends in the classroom is positively linked to learning outcomes is supported by literature readily accepted in education circles. If teachers are absent from school or schools are closed, students have less opportunity to learn. In the Cambodian context, where there is a reliance on learning in the classroom through direct knowledge transfer from teachers to pupils, this impact on children's education is even more significant.

Improving the quality of education depends on an holistic set of interventions that include the important issues of pedagogical style, curriculum, teacher knowledge, lesson preparation, and teaching and learning materials. For other interventions to be effective, however, students must consistently be given the opportunity to learn. This means that sufficient numbers of well prepared teaching staff should be available to run classes, the classes should be of the prescribed length, and that schools ought to remain open whenever classes are scheduled. Without providing students with this opportunity to learn, no intervention dedicated to improving the quality of education will reach its desired outcome.

International evidence exists showing correlations between instructional hours and student achievement. Bellei, 2009, and Orkin, 2013, showed how increasing the length of the school day improved academic achievement in Chile and Ethiopia respectively. In Ethiopia the school day was increased from 4 hours to 6 hours. Lockheed and Verspoor, 1991, concluded as a result of an international study on instructional time that 'developing countries should seek ways to improve and increase the time teachers devote to teaching and students devote to learning, particularly in primary schools'. A number of commentators have cautioned that a singular focus on instructional hours can draw attention away from other essential inputs, like teacher training, textbooks, and curriculum content. However, there is little doubt that how much time a student spends learning with quality teachers is relevant to education policymakers.

This section of the report will begin with a brief overview of how instructional time has been mandated by the Cambodian government, and how this compares internationally. It will then examine international literature on the difference between intended and actual instructional time, and describe the reasons why, in many countries, this gap can be quite large. Of particular interest to this study was the topic of teacher absenteeism, which has been shown to be a significant cause of reduced instructional hours internationally. This section will therefore also provide a brief review of the existing literature on teacher absenteeism and review solutions proposed elsewhere, including through developing teacher performance management systems.

2.1 Mandated Teaching Hours

In Cambodia, the Ministry of Education, Youth and Sport has mandated that primary school pupils are taught for 684-760 hours in a school year. This is based on 27-30 sessions of 40 minutes per week, for 38 weeks of the year, minus public holidays and a short vacation. These requirements are set out in the Policy for Curriculum Development. It should be noted that in Cambodian primary schools the term 'learning session' is generally understood to be a period of 40 minutes. References to hours are to periods of 60 minutes.

The range (i.e. 684-760) comes from local flexibility in relation to the provision of local life skills programs (LLSP), as schools have the freedom to offer between 2-5 lessons per week. The goals of life skills lessons are allow 'schools, in partnership with parents, their local community, community organizations and NGOs, with the opportunity to provide training in specific life skills that have a

particular relevance to local students'; and 'to provide schools with time in the curriculum for extra-curricular activities'.

Primary Education (grades 1-6)		
National curriculum	**Local life-skills Curriculum**	**Total sessions**
5 sessions per day. One session consists of 40 minutes.(25x40 minutes)/week	2-5 sessions/week. A session consists of 40 minutes.	27-30 sessions/week

Policy requires that national curriculum classes are run for 5 days each week and one other day (typically Thursday) is used for Local Life Skills Programs and remedial classes.

As with primary education systems around the world, the subjects for which the most time is allocated are language (Khmer) and mathematics, with the objective of achieving Khmer literacy and numeracy by the end of grade three. Once students reach grade four, they must receive ten lessons of Khmer language, six lessons of mathematics, four lessons of social studies, three lessons of science, and two lessons of physical education per week. Once students reach grades five and six they receive two fewer Khmer language lessons but gain an additional science and social studies class per week.

It is important to note that classes are typically taught either in the morning or in the afternoon, meaning that there are two available teaching shifts in the day. Often teachers teach both a morning and afternoon class; referred to as double shift or two-shift teachers. According to MoEYS, there were 17,035 two-shift teachers in 2014, equal to 38% of the total teaching staff in primary schools (MoEYS congress report, March 15, P 18). Each shift consists of 4 hours, including short break times. Morning teaching sessions start at 7am and finish at 11am. Teaching sessions in the afternoon shift run from 1pm to 5pm. In previous school visits, the NEP research team found that a small number of schools were running three shifts a day, generally with less contact time for individual students. This was particularly noted in incomplete schools. None of the schools in this study were found to be running three shifts per day, although several operated a double-shift system.

In addition to the teaching hours set out, national policy acknowledges the importance of teachers having time to prepare lessons and undertake administrative work. Sub-Decree 309 of the Royal Government of Cambodia, issued in December 2014 after the fieldwork for this study was completed, establishes that teachers in primary schools should work 40 hours per week over 5 days, with 25 teaching sessions for grades 1 to 3 and 27.5 teaching sessions for grades 4 to 6. Given that a teaching session is 40 minutes long, this theoretically leaves more than 20 hours per week for supervising breaks, lesson preparation, assessment, and administration. Note that this guidance does not include teaching of the Local Life Skills component of the overall mandated teaching hours; this is organised and recompensed separately depending on the school.

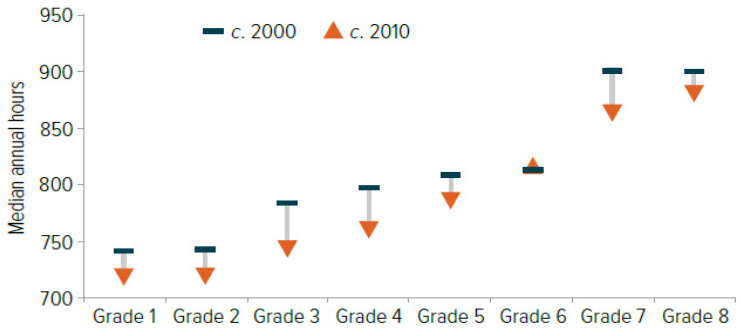
The same Sub-Decree also establishes procedures for agreeing double-shift teaching, highlighting that it is preferable to use additional teachers or contract teachers rather than asking teachers to teach double-shifts. The implication is that double-shift teachers have reduced time for lesson preparation and administration.

2.1.1 International comparisons

New analysis was undertaken for the 2015 Global Monitoring Report issued by UNESCO looking at international averages for intended instructional time in 2010 against 2000. This concluded that intended instructional hours had actually reduced globally over a ten year period. Averages differed

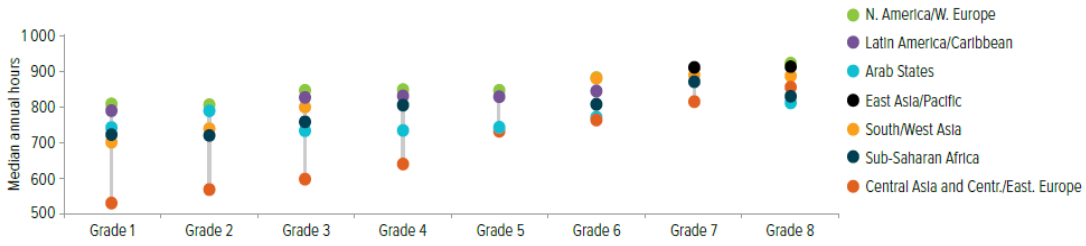
significantly across the grades of primary schooling, from around 720 hours per year in Grade 1, to around 820 in Grade 6, the final year of primary schooling in Cambodia. There were significant regional variations, and the chart below gives an indication of where the current Cambodian expectation of 684-760 sits within these. In OECD countries in 2014, the average intended instructional time for primary school students was almost 800 hours per year. A similar average was found to be true of Asia-Pacific countries in the late 2000s. In summary, mandated instructional hours in Cambodia are significantly lower than international averages, particularly at the lowest end of the mandated range. At the higher end of the range, Cambodian mandated instructional hours are closer to international averages for the early grades, but overtaken from Grade 4 onwards (GMR, 2015, P.205-206). It is worth noting that the Global Monitoring Report repeats previous recommendations that schools should operate instructional hours of between 850 and 1000 hours per year.

Figure 1: Global median annual intended instructional time estimated at 2000 and 2010



Sources: (1) Median annual hours *c.* 2000: Benavot (2004). (2) Median annual hours *c.* 2010: *EFA Global Monitoring Report* team calculations (2014) based on UIS database and World Database on Education, 7th edition.

Figure 2: Global median yearly instructional time by region and grade



Source: EFA Global Monitoring Report team calculations (2014) based on UIS database and World Database on Education, 7th edition.

Figures reproduced from Global Monitoring Report 2015, UNESCO

2.1.2 The school year

As noted above, the school year in Cambodia is set at 38 weeks / 6 days per week. The timetable of the year is set out annually by the Ministry of Education, Youth and Sport along with the national holidays that will be observed. In 2012/13, the period studied in this report, the school year began on October 1st and ran to July 31st. Of particular interest in this study is the way in which the school year is administrated given the frequency of national holidays in Cambodia. Anecdotal evidence and previous studies have suggested that school closure and teacher absence are more prevalent during the period before and after official holidays. There are four Cambodian holiday periods of three consecutive days (Pchum Ben, Water Festival, Khmer New Year, and the King's Birthday

celebrations). Khmer New Year falls in to the official short vacation in April. Anecdotal evidence suggests that when a three-day holiday occurs many schools are likely to close for the full 6 day teaching week. Furthermore, there has been some debate about the scheduling of the school year against seasonal activities such as farming, with pilots of school year flexibility in the province of Stung Treng to recognize low teacher and pupil attendance at some times. In this pilot the school year was shortened, but the learning hours per day were increased to fit with the farming season so that teachers and students could engage in activities that generate income for their families.

As shown below, the duration of the school year in Cambodia is not particularly short compared to neighbouring countries and others in Asia, however the number of days of official and unofficial holidays, plays a significant factor in reducing overall mandated instructional hours. The table below depicts the duration of the school year in some Asian countries, drawn from a review of UNESCO UIS data.

Table 1: Duration of School Year in Asia

	# of Semesters	School year(weeks)	Holidays (weeks)	Beginning-end
Cambodia		38	14	1 October-31 July
Brunei	4	33-34 (200-210days)	18-19	
China	2	38-39	11-14	September
Indonesia	2	38	14	
Japan	3	35	17	1April – 31March
Korea	2	34	18	1March-end of Feb
Laos	2	33	19	
Malaysia		31-32 (190 days)	20-21	January – November
Myanmar	2	36	16	
Philippines		33 (202 days)	19	6 June – 30 March
Singapore	2	40	12	
Thailand	2	40	12	end of May-end of Feb

2.2 Assessing actual teaching hours

There are a number of challenges internationally in assessing whether there is a difference between nationally mandated teaching hours and those actually delivered to students at a school level. Data from Cambodia is limited at best. Teacher attendance records are theoretically submitted on a monthly basis by School Directors to the Provincial Office of Education (PoE). These records are not routinely published but to measure teacher absence past studies have reviewed and cross-checked them through interviews with teachers and School Directors. Due to the fact that reporting high levels of absenteeism would reflect poorly on both School Directors and teachers, it seems right to treat this source of information cautiously. Moreover, reports from other countries found that after employing alternative methodologies, specifically unannounced spot-checks, the reality in schools regularly contradicted the story presented by administrative records (Gillies, Quijada 2008).

Previous studies in to teaching hour loss in Cambodia are relevant here. A large-scale study was published in 1999 by MoEYS, completed with technical and financial support from the World Bank and Care International. This concluded that 5 of the intended 38 weeks in the school year were lost to local school closures, teacher absence, and unplanned holidays. The study suggested that

teachers in rural areas were absent on average for over 4 school days during a three month period whilst urban teachers were absent on average for 2 school days in three months. The difference between rural and urban teaching hours delivered established in this report continued to be found in future studies.

In 2004, and using some of the methodology of the 1999 study, NEP undertook research in 3 provinces and published a report entitled 'Effective Teaching Hours in Primary Schools' in 2005. It found that the weekly total number of instructional hours in the 2004 school year was approximately 26 in grades 5 and 6, and around 25 in the other grades. These were considerably lower than stipulated in the Policy for Curriculum Development 2005-2009. The trend shown was that the weekly instructional hours in grade 6 were slightly higher than in grade 4. The research revealed that this shortfall existed in all subject areas except for mathematics from grades 1 to 3. Among all subjects included in the primary curriculum, Khmer and Physics were the subjects with the largest shortfalls. Two shortcomings of the report, however, were its limited geographic scope, and a dependence on retrieving data on instructional time through interviews and questionnaires, rather than any independent observations.

A study on teaching hours conducted by the MoEYS Department of Curriculum Development in 2008 offered evidence that approximately 46 days, equivalent to 230 sessions, were lost throughout the year. This resulted in 20% of the school year not being taught (MoEYS, Department of Curriculum Development, Teaching Hours in Cambodia, 2008, P. 6 "Khmer version"). The report alluded to five major causes: school closure, teacher absenteeism, additional loss of teaching hours (lessened contact hours, or shorter classes), mandatory meetings and cancellation of classes during religious and/or other festivities days (MoEYS, 2008, p.25-26). The study, unlike this one, included Thursday classes. The issue of teaching hours was once again raised during the 2012 Education Congress. Poor management, uneven teacher deployment, and irregular monitoring and evaluation at the school and classroom level were all highlighted as additional factors that contribute to the loss of teaching hours.

That shortfalls in this area exist in Cambodia is perhaps unsurprising once international literature on the subject is consulted. For example, a research study found that in Peru although primary students were meant to spend 720 hours learning annually, in practice only 50-80% of these hours were fulfilled. In rural areas, this dropped to below 30%. In Ghana, school operated 55.1% of the year, while rates were much higher in Tunisia, Morocco and the Brazilian state of Pernambuco, at 89.9%, 87.3%, and 86.1% respectively (Abadzi, 2007).

2.3 Teacher Absence

Teacher absenteeism in the developing world has been the focus of a burgeoning set of literature. Absenteeism is seen as one of the primary barriers to student academic achievement in many contexts. In some cases, it has been found that absenteeism rates – the percentage of teachers with unauthorized absences - are very high, especially in rural settings. India, as an example, was identified as having a national teacher absenteeism rate of 25% in 2006, however this number climbed to 42% in the rural state of Jharkhand. Other studies have found average absenteeism rates of 19% across different countries (Chaudhury, Hammer, Kremer, Muralidharan, and Rogers, 2006). One third of pupils in Argentina, Paraguay and the Phillipines reported problems with teachers' late arrival, absenteeism and skipping classes (UIS, 2008). Many reasons have been put forward to explain the phenomenon, including poor working conditions, low remuneration, alternative simultaneous employment, the education level of parents, and the attendance level of students. Moreover, legitimate absenteeism can often stem from frequent training, or teacher poor health.

2.4 Research on approaches to reduce teacher absence

In recent years there have been a number of innovative strategies employed by governments and NGOs in developing countries to address high teacher absence, with varying degrees of success. Such initiatives range from financial and non-financial incentives to more complex systems of monitoring and accountability. Whilst NEP has advocated over many years that teacher salaries in Cambodia should be increased, international evidence on the impact of only increasing monthly salary is mixed. Roger and Vegus (2009) argue that broader teacher incentive structures also matter, not only in relation to attendance, but also in relation to teacher recruitment and retention. Such incentives are not simply monetary and can include other factors such as professional recognition, non-salary benefits such as healthcare, and job stability alongside the possibility of losing one's job (Vegas and Umansky 2005).

As Banjeree and Duflo (2009) point out, central to this discussion is the role of monitoring with measured performance as a basis for incentives, both as rewards or punishments. As they set out, such external control involves the creation of a set of rules and the appointment of someone in charge of monitoring. At the most rudimentary level is the concept of direct financial incentives based on attendance. As outlined by Duflo and Hann (2005) in their evaluation of Seva Mandir's camera monitoring programme, such a direct link did have an immediate impact of teacher absence rates. In this programme teachers were paid a daily bonus if they submitted a photograph proving their attendance at the beginning and end of the day. The daily bonus was paid from the 11th teaching day evidenced in the month. Teacher absenteeism halved in the schools that were part of the study, and improved against the control group where teachers were paid a similar amount but did not have to submit evidence of attendance in order to receive their payment. Perhaps what made this initiative so successful was the fact that it was a simple system that was mechanically implemented – meaning that meeting the criteria was systematic rather than being at the discretion of a head teacher and thereby open to corruption or mismanagement (Kremer, Michael; Chen, Daniel. 2000). Although the system undoubtedly reduced teacher absence, it does not take into account or address some of the underlying reasons for being absent which perhaps could be addressed more effectively by other policies.

Other incentive schemes take varying forms, from rewarding teachers on their students' improved performance to even rewarding the students rather than the teachers. Muralidaran and Sundararaman (2009) for example, present their analysis of a randomized evaluation of a teacher incentive program implemented across a sample of Government run rural primary schools in Andhra Pradesh in India. The program provided bonus payments to teachers based on the average improvement of their students' test scores in independently administered learning assessments. Although student performance did improve, there was no impact on teacher absence. Kremer, Miguel and Thornton (2009) on the other hand looked at the impact of rewarding students based on their results by conducting a randomized evaluation of a merit scholarship programme in which Kenyan girls who scored well in academic exams had school fees paid as well as receiving a grant. Interestingly, not only did the scheme impact on students, but it did result in a decrease in teacher absence. This perhaps reinforces that point that all is not dependent upon personal remuneration, but demonstrates that other factors are as important for teacher motivation and performance, as outlined by Vegas and Umansky (2005).

Monitoring, however, must be a crucial part of the solution - by introducing a system of accountability into the school structure. One approach to this is to involve the community in the monitoring of a school. Again, such measures have been implemented with varying degrees of success, and are dependent on the investment of the people involved. Glewwe and Eugenie (2011) for example, have written about a randomized experiment in public schools in Madagascar where several of the subject districts introduced a school level intervention which involved parental monitoring through school meetings. Field workers distributed a 'report card' to schools, which

included the previous year's dropout rate, exam pass rate, and repetition rate. Two community meetings were then held, and the first meeting resulted in an action plan based on the report card. The parent's association was expected to monitor the student evaluation reports which the teachers were supposed to communicate to them. These tools allowed parents to coordinate on taking actions to monitor service quality and exercise social pressure on the teachers. However, although student attendance increased slightly, teacher attendance still did not significantly improve. As Banjerre and Duflo (2006) point out "one possible explanation for the lack of impact of community monitoring is that everybody— including the service providers—knows that the community lacks any formal authority to reward or punish providers."

Having adequate authority to implement sanctions or rewards must therefore be central to any system of monitoring. Gillies and Quijada (2008) note that at the core of this is the critical issue of personnel management within schools. Perhaps the most fundamental tool of management is the power to recruit and dismiss staff. The supply and demand of teachers in Cambodia is currently dealt with centrally through a system of reporting need up the chain, and School Directors have limited autonomy to make any decisions regarding personnel. However plans are being made and pilots undertaken as part of the national Decentralisation and Deconcentration programme, which see these functions being delegated to schools as part of 'School-based Management'. If the power of teacher recruitment is not an option, then other mechanisms are needed to ensure greater management and accountability of teachers.

2.5 Teacher Performance Management Systems

Comprehensive appraisal systems have been almost universally adopted in private and public organizations in developed countries, and are beginning to appear in systems within developing countries. Inappropriate or excessive teacher absence would often be dealt with under such appraisal procedures. In the United Kingdom, regulations specify that school Governing bodies and local authorities, who are responsible for schools, must adopt a written appraisal policy which sets out an annual appraisal process for their teachers. It dictates that objectives should be set for each teacher and should contribute to improving the education of pupils at that school. Teachers must be formally assessed against their objectives as well as the Teacher Standards, and this can include attendance.

Performance management systems based on similar models have begun to appear in many developing countries. However international studies have identified many issues in implementation. For example, Bulawa (2011) examined the use of a newly developed teacher appraisal system in Botswana, and concluded that there had not been an improvement in implementation in an eight year period. There were issues of complexity of documentation, differences of views on what standards should be applied, and regional variation. However, Bulawa's report, and Monyatsi, Steynand, and Kamper's (2006) report shows that management and teachers did not want the system to be disbanded.

Many developing country models of staff performance management have looked to Western models of appraisal. Bulawa (2011) draws attention to the caution needed when 'importing' international models, noting that they are contextualized in the ideology of the sponsors and international supporters, and are not necessarily appropriate for direct implementation in developing countries. There is of course a difference in the context, both politically and legally, as well as culturally. Appraisal systems in developed countries are backed up by legislation and are a central mechanism of teachers' recruitment and progression. Such systems are also supported by a comprehensive system of school inspection and wider accountability. Such context and infrastructure is not always available in developing countries. However, that does not mean that the values of professionalism, good performance and job status are not applicable in developing countries. Motivating factors are

universal and a system that rewards, or sanctions, those who perform and those who do not is a universal tool. The difficulty is getting the approach correct for the specific context. These studies demonstrate that a key factor in achieving this is seeking the investment of the sector, consulting with teachers, and ensuring that managers receive effective training.

In Cambodian primary schools, a similar teacher performance appraisal system exists, and School Directors are expected to regularly conduct the appraisal of their staff. However, the implementation of this appraisal is reported to be weak and ineffective. This is partly because teacher appraisal is not felt to impact on teacher promotion or sanctions. During focus group discussions run by NEP with School Directors and teachers for the Teacher Policy Action Plan development in 2014, School Directors reported promotion of teachers against their recommendations in the annual appraisal and teachers reported that this system is very open to bias and influenced by personal connection. It was not felt that there was a link between the appraisal system and positive or negative incentives. Inspection of primary school in Cambodia is developing and increasing. Current plans include unannounced spot checks, but during the period of this study formal inspections were generally announced and therefore unlikely to expose issues of teacher absence.

2.6 Teacher Engagement in Performance Management

As noted, international evidence suggests that teacher performance managements systems are more likely to be appropriate and effective if they are developed and agreed in consultation with teachers and teachers' professional representatives. The International Labour Organisation has published comprehensive guidance on good Human Resource policies for the teaching profession (ILO, 2012), which has been supported by other UN agencies. This guidance recommends that both the normally expected teaching hours, and the personnel management systems to deal with teacher performance, are agreed with the teaching profession (recommendations 89, 49, and 71). The guidance provides a range of specific guidance on performance management systems and how poor performance should be addressed (recommendations 49-50), including using clear professional codes of conduct, clear complaint mechanisms that include full disclosure of all evidence, and the right to appeal. This is a complex area in Cambodia given a general lack of engagement of teaching unions in education policy dialogue – a challenge exacerbated by the widely perceived party-political affiliations of existing teachers' associations. The Ministry of Education, Youth and Sport has recently attempted to establish more dialogue with teachers themselves, for example in consultations on the Teacher Policy Action Plan developed in 2014, and that Action Plan itself includes a commitment to greater teacher consultation. However this is not equivalent to the level of negotiation expected in the ILO handbook between government and organisations that represent the collective voice of teachers

III. METHODOLOGY

The NEP research study on Teaching Hours in Cambodian Primary Schools was undertaken in six provinces/municipalities from different geographical areas across Cambodia; Battambang, Preah Sihanouk, Preah Vihear, Kampong Cham, Mondolkiri and Phnom Penh. Two to four districts, including an urban district were selected to be studied per province depending on the size of each province. Details of the number of schools selected for study in each province are included in Table 2. These provinces were selected due to: 1) the lack of comprehensive information on teaching hours being implemented there and 2) geographical representation of different parts of Cambodia.

The study was designed and overseen by the research team at NEP, whilst data collection was predominantly undertaken by local NGO partners using centrally designed instruments. All data collectors were trained in the instruments and design of the study. A Research Advisory Group consisting of 5 members was formed with participation from Royal University of Phnom Penh, MoEYS, Development Partners and NEP's NGO members. Finalized tools were shared with the Director of the Primary Education Department for comment and approval.

Figure 3: Research area

Representatives from the Department of Curriculum Development of MoEYS advised not to include Thursday classes in this study. The rationale for this exclusion was due to the fact that use of Thursday classes would vary from school to school. Some schools would use Thursday classes for life-skill or school cleaning activities, while the other schools may use it for remedial classes. Thursday classes were scheduled for 3 learning days per month, while the fourth week was used for technical meeting. They also noted that the running of Thursday classes depended on the availability of PB budget to support additional payments to individual teachers at a rate of 10000 Riels (2.5$) per week. As the operation of Thursday classes and the learning activities were not consistent from school to school, there was a concern that the observation on Thursday teaching would produce unreliable data.

As noted above, teachers also require paid time to plan their lessons and undertake administration tasks. The primary school teacher working week of 40 hours was clarified in Sub-Decree 309 in December 2014. It is important to note that this study was only designed to research instructional hours, not all teacher working hours.

3.1. Sample Size and Sampling Method

This study was based on observations and interviews of a specific cohort of teachers within a set number of schools. Sampling was based on the number of schools and their characteristics.

3.1.1 Design

At the methodology design stage, 95 primary schools in the five provinces and Phnom Penh municipality were selected to take part in this study. This sample size was determined by using Slovin's Formula, $n= N/(1+(N*e^2))$.

Where:

n = sample size
N = population size
e = margin of error

The total number of primary schools in the selected provinces/municipality was 1887. The research team used a sample with a 10% margin of error. The sample size calculation was as follows:

$n =1887/(1+(1887* 0.1^2))= 1887/(1+(1887*0.01))$

n=1887/19.87= 94.96= **95 schools**

There were 8,321 classes in grades 4, 5 and 6 in selected schools. So applying the Slovin's Formula for a margin of error of 5% at school level required sampling of 374 classes; 3.94 classes in each sample school. In practice 4 classes were chosen from selected schools.

The rationale of putting the focus of the study on only grades 4-6 was due to an assessment that students at grade 1-3 were too young to be a reliable source of information for this topic. As the methodology of the study involved reviewing student notebooks and tests of their ability in Mathematics and Khmer subjects there were concerns that students at grades 1-3 may not be able to record lessons in a systematic way and they may feel not confident to take part in tests with the presence of strangers.

3.1.2 Practical application

At the data collection stage, ninety-one (91) primary schools were randomly selected by the research team from the list of completed primary schools in the purposeful sample of districts. The lists were obtained from the Provincial Office for Education and/or host NGOs in target provinces.

More than 30% of the selected schools in Battambang, Preah Sihanouk and Mondolkiri provinces were located in urban areas, while less than 70% were from rural or remote areas. In Preah Vihear, data collectors of the host NGO were unable to include any rural schools in the study due to workload. As shown in table Table 2, the number of urban schools in the provinces was small. This study attempted to identify if location plays a role in teacher absence rates. To make that comparison possible, we purposely included more urban schools. For Phnom Penh Municipality, all schools are classified as urban schools[1], so there was no rural school to be studied in this specific location.

In Kampong Cham province, seven selected urban schools in Soung town were dropped during the study due to the lack of host NGO capacity. Instead, seven rural schools replaced this shortfall. Although the sample size of urban schools in Kampong Cham is lower than rural schools, this would

[1] Based on comments from technical staff of the Curriculum Department who participated in the research study.

not affect the generalized finding on the number of teaching hours lost as there are more rural schools in this area.

Data collection did not go as planned in Preah Vihear, resulting in only 3 schools, all urban, being included in the fieldwork. For this reason, Preah Vihear is excluded from provincial level analysis, but results from fieldwork are included in other analyses.

Table 2: Sample size by province

Provinces	All schools				Sample schools			
	Urban		Rural		Urban	%	Rural	%
Battamabang	35	6%	543	94%	10	36%	18	64%
Preah Sihanouk	17	5%	56	95%	4	36%	7	64%
Kg Cham	22	3%	765	97%	3	9%	28	91%
Preah Vihear	13	7%	172	93%	3	100%	0	
Mondolkiri	8	11%	68	89%	3	33%	6	67%
Phnom Penh	115	100%	0	0%	9	100%	0	
Whole country	635	9%	6275	91%	32	35%	59	65%

In each school, three to four teachers from grades 4-6 were selected to take part in this study at the start of the school year. Researchers used a purposive sampling technique to include a teacher who started their class early, started class a little late and started class very late on the day of the first spot check. Depending on the grade(s) those teachers taught, the remaining teachers were selected to ensure that each grade and the afternoon shift were all represented in our sample. In total 309 teachers were part of the study.

Table 3: List of study areas and sample size

Provinces	# of Primary Schools			# of Grade 4, 5 & 6 classes			
	Total	Selected	%	Urban	% Urban	Rural	% Rural
Battambang	578	28	5%	39	37%	66	63%
Preah Vihear	205	3	1%	9	100%	0	0%
Preah Sihanouk	72	11	15%	14	39%	22	61%
Phnom Penh	164	9	5%	31	100%	0	0%
Kg Cham	792	31	4%	11	10%	96	90%
Mondolkiri	76	9	12%	10	48%	11	52%
Total	1887	91	5%	114	38%	195	62%

Table 4: Teacher sample by gender and teaching shift

Grades	Gender			Teaching shifts			
	Male	**Female**	**Not recorded**	**Morning**	**Afternoon**	**Double shift**	**Rotated shift**
4	45	60	2	41	17	21	28
5	41	50	4	40	17	28	10
6	64	29	5	46	16	25	11
Multi-grade	6	2	1	5	4	0	0
Total	156	141	12	132	54	74	49

3.3 Data Collection Approach

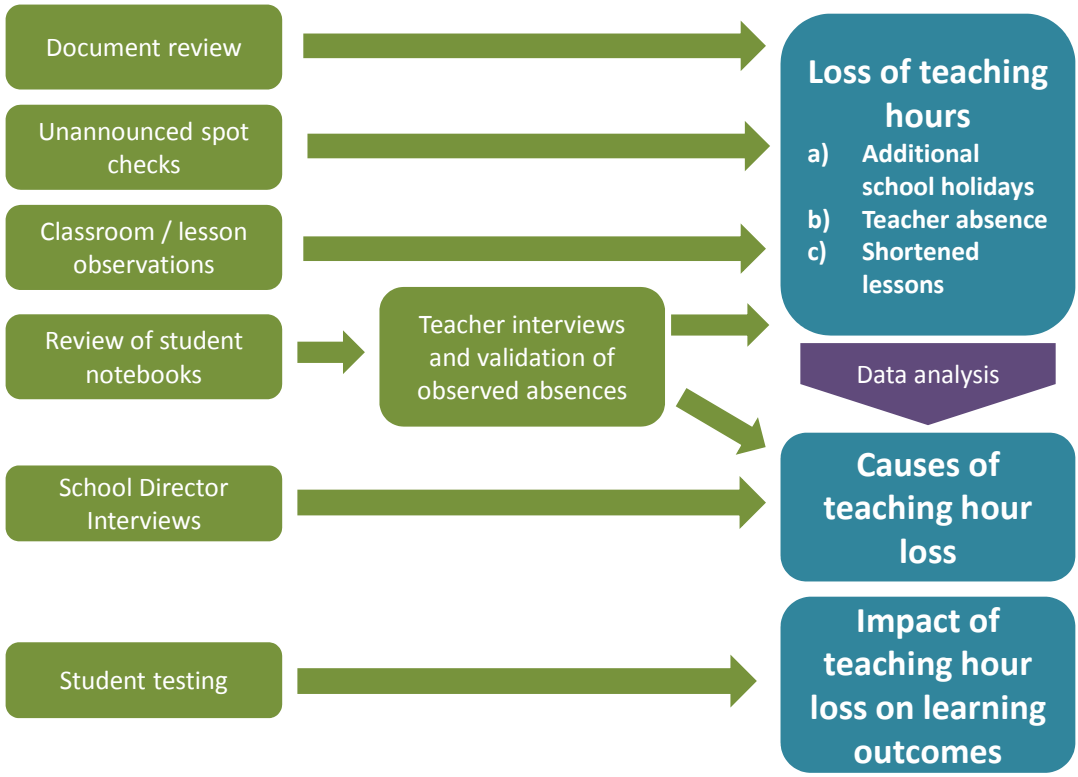
This study took place over 9 months during the academic year 2012/13. Permission was sought from the Ministry of Education Youth and Sport. MoEYS' staff participated in this research from the methodology design until the end of data collection. NGO members of NEP based in the studied provinces/municipality were selected and supported to undertake the fieldwork activity at their respective province during the research period.

This research used different methods to gather primary and secondary data. The secondary data was collected through the reviewing of existing research studies, relevant reports, and existing policy and guidelines related to teaching hours. Primary data collection methods included:

- reviews of student notebooks to identify possible teacher absences
- unannounced spot checks (school visits) to check on teacher attendance
- classroom observations to establish lesson duration
- interviews with teachers to report and explain absences
- interviews with School Directors to identify teacher management practices
- tests of student to identify their abilities in Math and Khmer subjects

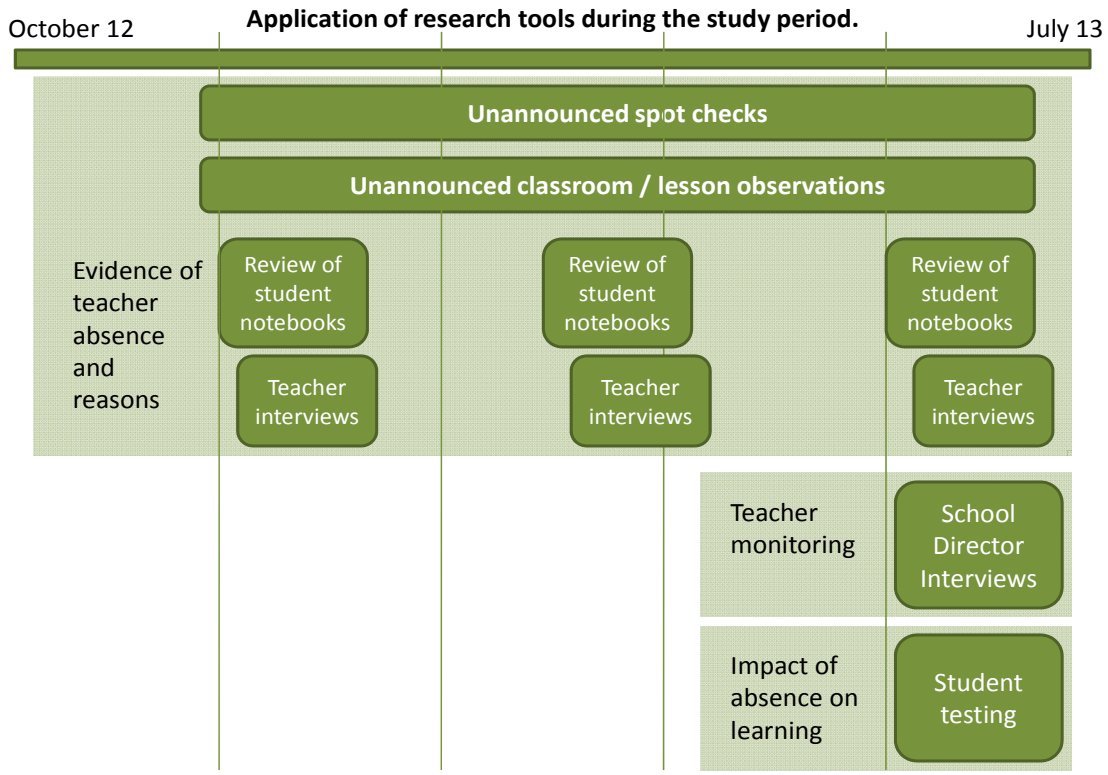
This range of sources was intended to give a balance of objective and subjective evidence across the school year. Some data sources contributed to more than one of the research questions. The aim of different activities is shown in the diagram below.

Figure 4: Diagram of research methodology



Activities took place across the 9 month period of the research as follows:

Figure 5: Data collection methods and timeframe



Each source of primary data and the instruments used are detailed below.

3.3.1 Reviewing student notebooks and school records

Researchers reviewed 6 notebooks of Mathematic and Khmer subjects from three students per selected class to identify days on which students did not record lessons. The three students in the class were selected based on their top learning performance in the class identified by teacher on the assumption that the best performing students were more likely to be regularly present in the class.

The researchers used their judgment to identify possible days of absence from the student notebooks based on students recorded lesson on specific dates. Those dates were checked against two other sources of information—teacher attendance record book and teaching record book[2]. If either one or all sources (student notebooks, teaching record book or teacher attendance record book) suggested that teachers were present that day was excluded from the list of possible absences. In most schools we could not find the teacher attendance record book and teaching record book, so the judgment was mostly made based on the student notebook.

The possible absence dates identified from this review were collated for each teacher, and in individual interviews they were asked to confirm the dates when they were absent, and if they accepted that they were not at school they were asked to give a reason for absence. These interviews were conducted confidentially.

The number of days of the school year reviewed in this way varied from 147-165 depending on the timing of the final interview for each teacher. In this report, we mostly refer to percentage absence calculated by using the number of absences during the study period of each individual teacher.

[2] The book completed daily that records the title of lessons been taught in the class.

The process of reviewing student notebooks and the follow-up interviews was undertaken 2 or 3 times per class/teacher per school year. The rationale for this was to ensure that records were recent and to make it more likely that teachers could recall reasons for their absence. The output of this element of the study was a set of data indicating verified days of absence for the 309 teachers in the study, with reasons attributed to each of these days.

3.3.2 Unannounced spot checks

Unannounced spot checks were conducted by NGO partners to gain additional objective information on school attendance. A total of 1,733 of these spot checks took place during the study period, all focused on the classes / teachers selected to take part in the study. As several classes were being monitored in each school, multiple spot checks could take place on the same day. Schools and teachers were not given advance warning of when spot checks were to happen. The checks were undertaken mostly from outside of the school premises and recorded whether the teacher was absent or present, whether any teaching cover arrangements had been made if they were absent, whether the School Director was present, and whether any classes in the school were open.

The sampling of days on which to conduct spot checks was purposive based on a hypothesis that teachers were more likely to be absent on particular days around official holidays, at the weekend, and during holidays that are not official school holidays such as Valentine's Day and Chinese New Year. A larger percentage of spot checks happened during these times to test the hypothesis, but checks also took place on what are referred to in this report as 'normal' school days.

3.3.3 Class period observations

Class period observations were conducted between 1 and 3 times per class by using a set checklist to examine the overall time that teachers and students were in the classroom. The observations were done from outside of school compound and without prior notice to teachers and School Directors to minimize any changes in behaviour as a result of activities being observed. In some cases where the schools were big and independent observers could not find suitable places to observe teaching hours outside of school compound, observations were conducted from within the school compound however. These observations recorded the start time, duration of short breaks and end time of lessons to calculate overall duration.

3.3.4 Teacher interviews

Face-to-face interviews were conducted with teachers of the selected classes by using a set questionnaire. The potential dates of teacher absence identified from reviewing student notebooks were included in the questionnaire to seek teachers' verification, and to explain the cause of that particular absence. Teachers were also able to note further dates of absence that had not been suggested by student notebook review. When the research team verified the dates of absence confirmed by individual teacher and the date of their absence identified from spot check, very few dates of teacher absence found in spot checks were not reported by those individual teachers during interview with them. Very few absences indicated by student notebooks were refuted by teachers.

Teachers were interviewed in two or three rounds. The first round was conducted in January 2013 to cover teacher absenteeism from the start of the school year, the second round was conducted in March 2013, and the third one was conducted in June 2013. Interviews with teachers also asked a number of questions to establish teacher demographics and for their opinion on a range of issues including personnel management, school facilities, and curriculum length.

3.3.5 School Director interviews

Face-to-face interviews were conducted with School Directors in selected schools using a separate questionnaire to find out the frequency and means of teacher monitoring conducted by the School Director and district and provincial officers, actions taken by School Directors to discipline absent teachers, and their views on personnel management issues.

3.3.6 Testing the ability of students

Ten students per class were systematically randomly selected based on their seat location to undertake a test on Khmer literacy and Mathematic subjects. Test questions of both subjects were developed by the NEP research team in collaboration with technical staff from departments of Primary Education and Curriculum Development of the Ministry of Education, Youth and Sport. Textbooks and the grade 6 standard test developed by MoEYS were used as a guide document to develop appropriate questions for each grade at the time at which the test was conducted. Different tests were used for each grade.

3.4 Data Analysis

Evidence from data sources on teacher absence, lesson durations, and pupil test results was combined to enable analysis of patterns, explore averages, and summarise the results. In order to calculate the average absence rate of each teacher, the information from spot checks was combined with validated absence in the questionnaires. This resulted in a dataset covering each day of the study period for each teacher, noting any absence and the reason for that absence. This ensured that absences were not double-counted. This dataset also included the demographic characteristics of teachers and their responses to open-ended questions.

A significant amount of work was undertaken to code responses to open-ended questions, including reasons given for teacher absence, and narrative responses given during interviews. Additional data fields were added and questionnaires and checklists coded within the dataset for the purposes of analysis. In addition, data on spot checks was analysed separately to establish patterns and trends in this objective source.

A range of analytical methods were used to explore patterns and correlations within the data. Given the diversity of data sources different ways of assessing of statistical significance were required and used, the results of which are indicated in the later chapter on results and analysis.

A consultative workshop with NEP's NGO members, MoEYS, some of teachers and School Directors in the studied areas was held following the end of the study to discuss emerging findings. Following the completion of the first draft and data analysis, a small consultative workshop was held to open the findings to interrogation and agree the direction of recommendations.

3.5 Observation effects

The major potential bias in this study is that the behaviour of the teachers followed during the year was different because they were aware that they were being observed. It is possible that behaviour may have changed because teachers knew that they were part of this study and it could be easily inferred which behaviours were deemed positive (eg. regular attendance) and negative (regular absence). This is sometimes referred to as the 'Hawthorne effect'.

MoEYS and the local offices of education did not know which schools were included in the study. In late December prior to any spot check taking place, visits were arranged to each school and School Directors were informed that they would be part of the study, but not the individual teachers that had been selected. It is therefore possible that School Directors may have encouraged their teachers

to pay more attention to their attendance and teaching duration. Teachers themselves first found out that they were part of the study between January and March 2013 when the first review of student notebooks and interviews took place. This to some extent may have affected behaviour from that point.

It is also possible that behaviour changed during individual spot checks. Observers mostly undertook their roles from outside of school and were encouraged to be unobtrusive, but there is a possibility that they themselves were observed and teachers' or School Directors' behaviour changed as a result. This is most likely to affect the part of the study on lesson duration, but could also have had an effect on teacher attendance in the afternoon shift if they had noticed a spot check and class observation taking place during the morning shift. It is also possible, although there was no evidence to suggest this, that teachers or School Directors could have communicated with their colleagues to let them know that a spot check was taking place, potentially leading to higher attendance in the afternoon shift or recording of late arrival rather than absence.

In the study design we sought to minimize this 'observer-expectancy' effect in a range of ways. During initial conversations, teachers and School Directors were guaranteed anonymity in the study. To avoid errors of validity researchers triangulated data in student notebooks, school records, and unannounced spot checks. Teachers themselves were involved in validating the information on absence. Finally, the research design was based on following teachers' attendance behaviour across a period of 9 months during which an unspecified number of spot checks may take place; if participants modified their behaviour (for example made more effort to attend school regularly or taught longer lessons) these efforts would need to be sustained for a significant period.

Given that it is clear that this study would be considering high attendance good and low attendance bad, we can be relatively confident in assuming that any behaviour change by teachers would have been towards improved attendance during the study period. Therefore this may have resulted in the teacher absence rates found in the study being under-stated rather than over-stated.

IV. KEY FINDINGS AND ANALYSIS

The following sections present and analyze key findings on teaching hours potentially lost in primary school for grade 4-6 in school year 2012/13, the nature and causes of teaching hour loss and their impacts on students' academic performance as represented by Mathematics and Khmer test scores. Teacher monitoring by School Directors and the MoEYS hierarchy will be discussed as well. Contextual discussions are also provided to shed further light on teaching hour loss issues in Cambodia.

The loss of teaching hours in this study will be categorised by three different types of teaching hour loss.

Type 1: The loss of hours due to additional official school holidays.

Type 2: The loss of hours due to teachers being absent from class.

Type 3: The loss of hours due to teachers starting classes late and / or finish early and therefore teaching shorter lessons. In this study, this type of loss is characterized as "lessened contact hours".

The total loss of teaching hours in this study will be calculated by adding up the amount of time lost by these three types. How we have calculated the loss of hours will be presented in the sections that follow.

4.1 Teaching hour loss by additional official school holidays

For the school year 2012-13, additional official school holidays added after the school year had already been published presented one of the main causes of loss of teaching hours in Cambodia. In the policy for Curriculum Development 2005-2009, there are 38 weeks to be allocated for learning and teaching encounter per academic year. All classes are held from Monday to Saturday, with Thursday devoted to such extra-curricular activities such as sports, sewing, carpentry, etc. Thursday was not viewed as a formal learning-teaching encounter for this study. Therefore, students are expected to experience formal learning only for five days per week, equivalent to 190 days per academic year (38×5days). It should be noted that the actual number of school days set out in the 2012-13 school calendar was actually 186 days.

The number of days students are actually in class per academic year, however, is lessened to a great extent by additional official holidays announced after the school year has been set. A review of the academic calendar for 2012-2013 showed that 14 days, equivalent to 70 sessions (14 days×5 sessions/day) or 47 hours, were lost due to the following events: ASEAN meeting, King Father Cremation Ceremony, grade 6 semester exams, state teacher exams and an unprecedented break before the national election. Many urban schools close for state teacher exams as the school is used as an examination centre.

No classes were offered to students during those days due to the officially approved school closure. The largest number of days were lost to the 7 day closure associated with the 2013 national election. Table 5 presents the event and duration of holiday throughout the 2012-2013 school year. **The 2012/2013 school year was in effect shortened to 172 days (186 days -14 days = 172 days). This is a reduction of 8% of the school year.**

Table 5: Additional official school closures during 2012-2013

Event	Date	Month	Year	Total days
ASEAN meeting	19-20	November	2012	2
King Father Cremation Ceremony	1 &4	February	2013	2
Grade 6 semester exam	22	February	2013	1
State teacher exam		November	2012	2
Break before national election		July	2013	7
Total				14

It is noteworthy that to some degree unofficial national school closures occur in every school year in Cambodia. The total days of additional holiday varies from year to year depending on events. In the school year 2011-2012, School Directors in some schools reported additional school closures due to floods and disease outbreak (H1N1). In the school year 2013/14, the additional official school closures occurred as depicted in the table below.

Table 6: Additional official school closures in School Year 2013-14

Event	Month	Year	Total days
Grade 6 semester exam	February	2014	1
Grade 6 exam scoring	February	2014	1
State teacher exam		2013	2
Grade 9 exam[3]	July	2014	2
Total			**6**

The Grade 6 and national teacher exams happen every year, effectively shortening the school year by 3 days, and there could be more effective planning of the school calendar to organize official holidays around known events whilst maintaining the total 190 day school year.

4.2 Teaching hours lost by teacher absence

Teacher absence refers to circumstances where teachers, regardless of reasons, do not attend school to teach scheduled classes. The largest part of this research study focuses on this area of teaching hour loss. Through monitoring student notebooks, unannounced spot checks, and interviews with teachers, NEP tracked the absence rate of teachers selected to be part of the study. Teachers were asked to report the number of scheduled teaching days that they had been absent from school, and to verify any absences indicated by the researchers' review of student notebooks and unannounced spot checks. These data sources were merged to calculate each teachers' absence rate, and the average absence rates of different groups of teachers. Data of teacher absence rates identified from spot checks and from teacher interviews gave slightly different results because spot checks were purposefully undertaken more often at times when attendance was less likely.

4.2.1 Unannounced Spot-checks data

1,733 spot-checks were conducted to the classes selected for this study to provide objective evidence as part of this study. Spot checks began in December 2012 and were spaced across the school year until July 2013, with spot checks days chosen specifically to be those where anecdotal evidence suggested that schools may not be open. Therefore the largest percentage of checks were undertaken in the months of February during Chinese New Year and Valentine's Day, and in May

[3] Some primary schools which are attached to lower secondary school were closed during grade 9 exam, although MoEYS guidance No. 21, 2010, advises against this practice.

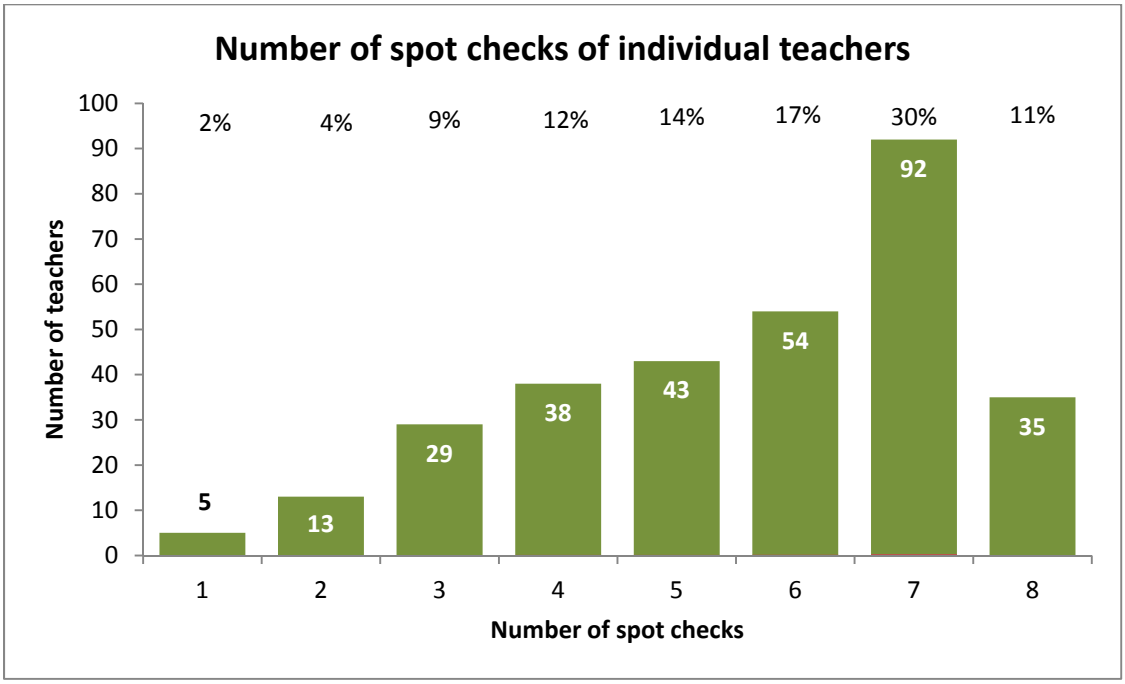
between the Khmer New Year and King's Birthday holidays as shown in table below. The low percentage of spot checks in April is due to the short vacation being in that month.

Table 7: Frequency of spot checks by month

Year	Date	Number of Spot Checks conducted	Percentage of spot checks
2012	Dec	279	16%
2013	Jan	46	3%
	Feb	362	21%
	Mar	188	11%
	Apr	59	3%
	May	552	32%
	Jun	244	14%
	Jul	3	0%
Grand Total		1733	100%

The number of spot-checks varied from one teacher to another. Of the 309 teachers in the sample, 291 were subject to more than 3 spot checks. 60% had 6 or more checks on their attendance.

Figure 6: Number of spot checks of individual teachers



Individual teacher absence varied significantly. 136, or 44% of teachers, were present during all spot checks. The remaining 56% of teachers were absent at least once, with a small number absent during all checks.

Table 8: Frequency of teacher absence during spot checks

Absence rate	Frequency (# teachers)	Percentage of total	Cumulative Percentage
Never absent	136	44%	44%
0 - 10%	0	0%	44%
11 - 20%	58	19%	63%
21 - 30%	31	10%	73%
31 - 40%	26	8%	81%
41 - 50%	32	10%	92%
51 - 60%	9	3%	94%
61 - 70%	6	2%	96%
71 - 80%	3	1%	97%
81 - 90%	0	0%	97%
91 - 100%	8	3%	100%
	309		

Teachers were absent from school during 19% of the spot checks. It is crucial to remember that the sampling for spot check was purposeful; spot checks were conducted more often on days when teachers were suspected to be absent, especially during the periods close to official holidays such as Pchum Ben, and during festivals that are not school holidays such as Chinese New Year and Cheng Meng[4]. However a large number of checks also took place on 'normal' school days, and in 12% of these teachers were found to be absent.

It is important to note that there were only 2 occasions during spot checks where researchers could confidently record that the class of an absent teacher was being taught by another teacher. By far the most common experience was that if the teacher was absent then their class did not receive any teaching.

The pictures below show the evidence of school closure during Chinese New Year on 9 February, 2013.

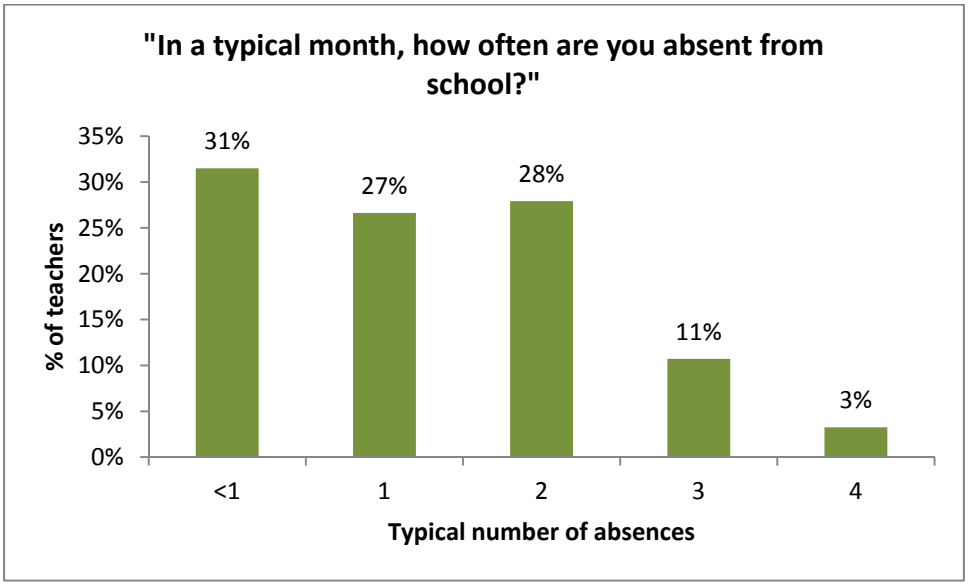
Picture 1: School Spot Check during Chinese New Year

[4] Cheng Meng is a Chinese festival to commemorate ancestors.

4.2.2 Teacher verified and reported absence

During teacher interviews, teachers were first asked to estimate their level of absence. Overall, the majority (58%) reported that they were absent from school once per month or less. Nearly a third reported that they were not absent every month, but that they may be absent at some point during the year. A small percentage of teachers reported an equivalent of one day's absence each week.

Figure 7: Teacher reported absences in a typical month



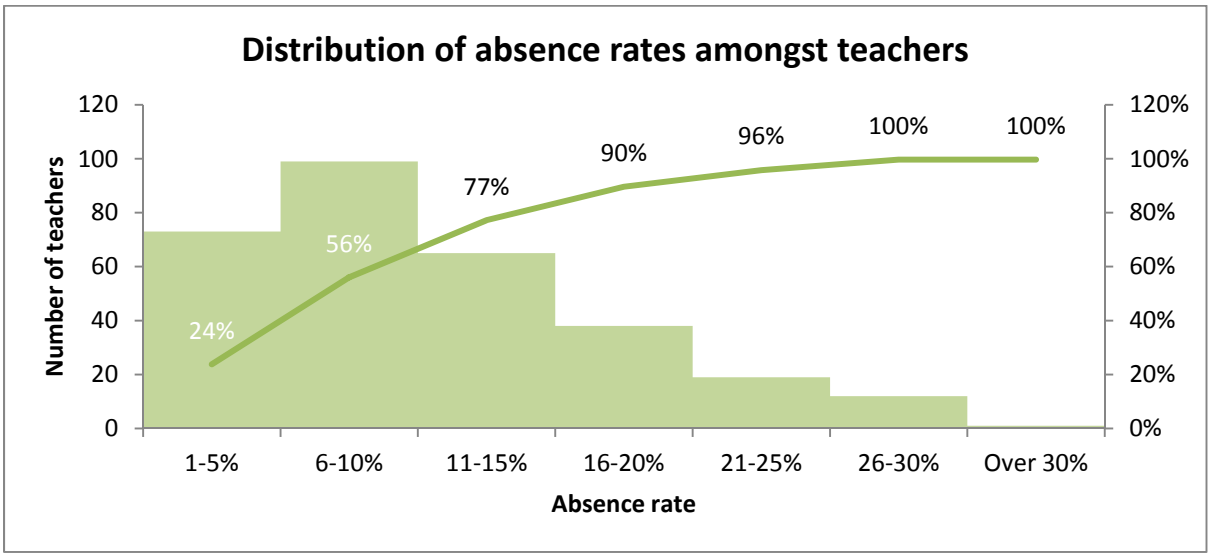
After they had given these estimates, teachers were then asked to validate the data collected from the review of their students' notebooks that suggested days that they had been absent in the previous three month period. They were also asked to give the reason for their absence on those days if they accepted that they had not been in school. **When unannounced spot check data were added to the teacher interview data, we found that teachers were, on average, absent for 16 days from school, accounting for 10.50 %** of the observed teaching days during the academic year 2012-13. Teacher verified absence during this study was thus substantially higher than the rates reported by teachers when asked to estimate how often they did not attend school. Applying this 10.5% average absence rate across the full school year of 186 teaching days in 2013/14 then **teacher absence would account for an average loss of 19.5 teaching days, or 78 hours, if there were no additional official school holidays**.

The table below shows the significant variation amongst observed teachers. 23% of teachers were absent less that 5% of their teaching schedule. This was a very positive sign indicating that a majority of sessions were delivered to students. However, a significant concern emerges as 32 teachers (11%) confirmed being absent from their class one fifth of the school year and two teachers confirmed missing nearly one third of their classes.

Table 9: Teacher absence rates – combined data verified by teachers themselves

Teacher absence	Percentage
Average teacher absence rate	10.50 %
Maximum teacher absence rate	31%
Minimum teacher absence rate	1%
% of teacher have absence rate <5%	23 %
% of teacher have absence rate >20%	11%

Figure 8: Distribution of absence rates amongst teachers



4.2.3 Teacher identified reasons for absence

Once data were collected on indicated absences of individual teachers from school, teachers were interviewed and asked to give a reason for those absences that had been correctly identified. Teacher interviews also asked for demographic information used in the analysis that follows, and asked for teachers' own perceptions of their absence rate from school.

Reasons for teacher absence

In interviews with teachers on their absence from school, many detailed reasons for absence were given. These reasons were subsequently classified into seven broad categories:

- **Income related reason:** Teacher absence to engage in income generating activities or doing a second job – for example transplanting, harvesting and running another business.

- **Family responsibilities:** Teacher absence to take care of family members such as looking after children, taking family members to hospital or taking children to school.

- **Official mission:** Teacher absence to perform their other professional tasks besides teaching. This includes attending meetings, training, workshops, study tours, greeting delegations and other tasks assigned by the School Director/management team.

- **Personal reason:** Teacher absence primarily for personal interests/reasons such as pursuing their study, sickness, medical checkup and taking an exam for university. In some places, teachers were absent to process their land titling or getting married.

- **Ceremonies:** Teacher absence to attend ceremonies such as friends'/relatives' wedding, funerals, Kathin[5] and other religious ceremonies. Most of the surveyed schools in Phnom Penh organized school blessing just before the start of short vacation in April. This type of blessing was categorized into ceremony.

- **Common practice:** Teacher absence due to an understanding that their school would not open or very few teachers and students would come to school at specific times. This includes starting the school year late (after the Pchum Ben festival), festivals which are not official school holidays,

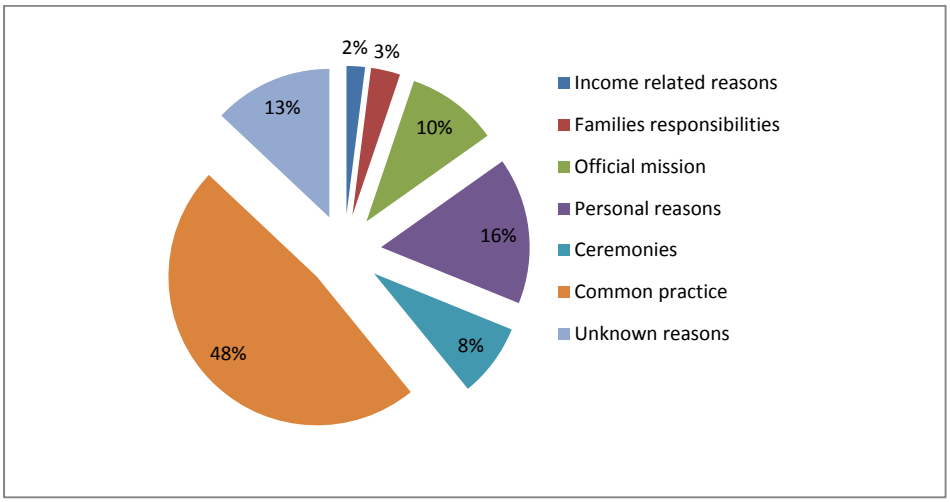
[5] A ceremony organised to raise funds for local pagodas.

and extended school closures around official holidays – for example closing the school on a Monday if there is a holiday on Tuesday. It is worth noting that teachers may use these absences to engage in any of the other activities – farming, attending ceremonies or taking care of family members.

- **Unknown:** Teacher absence for which teachers could not remember the reason for absence or didn't want to indicate the reason.

Interviews showed that teachers' absence was mainly attributed by them to a common practice perceived among the teachers (48% of absences), followed by their personal reasons (16%), unknown reasons (13%), official missions (10%), and ceremonies (8%) (see Figure 9).

Figure 9: Reasons given for teacher absences



As shown in Figure 9, **'common practice'** was the most frequently cited cause of teachers' absenteeism. 'Common practice' points to a situation where teachers, and arguably the community, perceive that schools are not open on particular days before or after special festivals or events, be it religious or non-religious, such as the Pchum Ben Day. Teachers explained that at these times students may be in a holiday mood, and that many students do not come to school. This has a significant impact on the presence of teachers and students at school and teacher interviews revealed it to be a deeply embedded practice. The evidence from the data revealed that 'common practice' absence of teachers was likely to take place during specific periods:

- Classes were not regularly taught before Pchum Ben ceremony. The data indicated that 19% of the observed classes were closed 5 days or more during the first two weeks of the school year (just before Pchum Ben day).
- The short vacation in April was usually longer than is stated in the government's policy on national holiday. 81% of the observed classes had extended the holiday by at least 2 days
- The classes on the days that are in-between holidays, especially on Saturdays, were frequently cancelled.
- Chinese New Year is not an official holiday, but schools were often closed.

The results showed that **personal reasons** were described as the second most frequent cause of teacher absence. Teachers reported absence from school either for academic reasons or for sickness/medical checkup. In some places, teachers were absent to process their land titling and weddings. A study on Effective Teaching Hours released by NEP in 2005 found that the most frequently mentioned reason for absence by teachers was sickness, which falls under the category of 'personal reasons' in this study. However, the previous study covered only a three month period and

did not cover the months of October and April during which we found many 'common practice' closures in this new study.

Some teachers were also reported to be absent from teaching while on **official missions** to attend technical training or workshops. However, absence due to this cause seemed to be relatively low, at roughly 10% of absences. It is important to note however that at these times it was very unusual for spot-checks to find that alternative teaching arrangements had been made for classes. When teachers were sent on official missions it was usual for their classes to be cancelled.

Results showed **income-related factors** only accounted for 2% of absences. It is important to state that having an additional job is officially prohibited for teachers in Cambodia, and therefore teachers may have had an incentive to identify other causes for their absences. Interview evidence suggested that maintaining another income is a priority for many teachers in the study. This low prevalence of teacher absence due to income-related factors differs from the findings of NEP 2005 study that found it was the second main reason for teacher absence. Because of the different categorization systems used in the two studies we cannot conclude that absence due to income-related factors has reduced; in particular the 2005 study did not include whole school closure for 'common practice' reasons. Other evidence, for example the NEP 2012 study on teacher motivation, has established how common it is for teachers in Cambodia to have second jobs. In this study, 65% of responding teachers reported that they had other jobs or ran businesses alongside their teaching commitments. This is likely to be underreported. However it is interesting how few teachers reported absence from school to generate other income, reportedly undertaking other business or other jobs outside of school hours.

There was very little difference between the reasons given for absences in rural and urban areas, although teachers in urban areas reported fewer absences for income generation reasons (0.4% of absences in urban areas against 3.3% of absences in rural areas). Interview evidence suggested that urban teachers were more able to make additional income through teaching extra private lessons in school, which, unlike the farming or business activities in the rural areas, were more likely to incentivize school attendance.

Family responsibilities accounted for 3% of the absences. 38% of interviewed teachers said that they were the primary child carers in the family. Just over half of these teachers said that to some extent it affected their attendance and punctuality at work; that they may go to school late as they need to take their children to school and finish class early to pick up them.

4.2.4 Analysis: Patterns in teacher absence

Two clear patterns were found in relation to the nature of teacher absence in this study. The first relates to the timing of absences according to events; the second relates to the coinciding absence of School Directors and teachers.

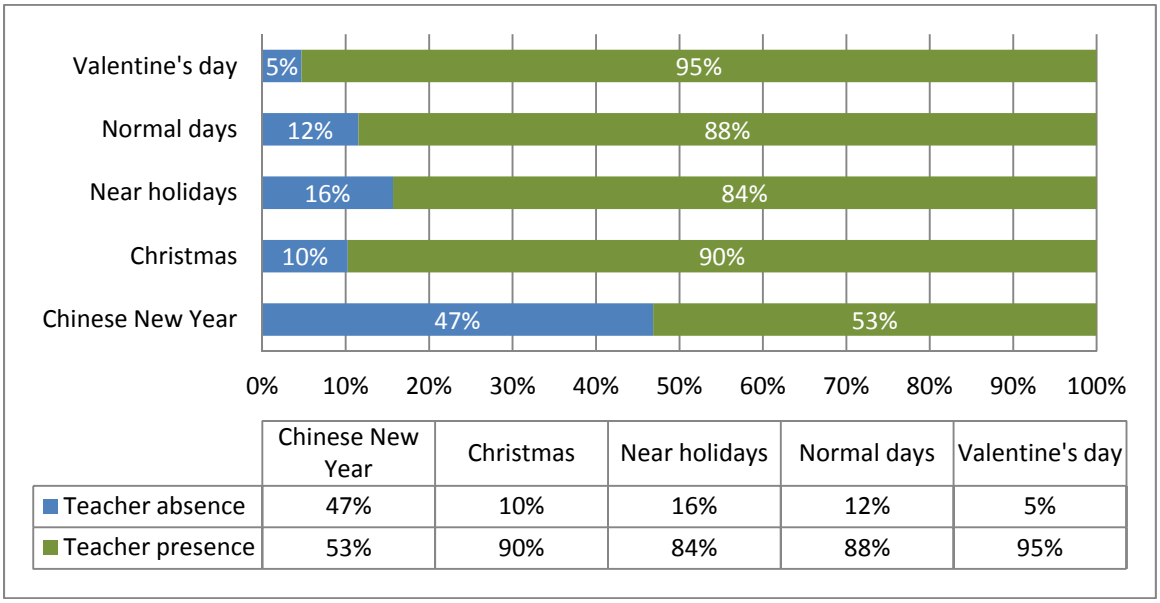
Absence during unofficial holidays and in 'near holiday' periods

Data from spot checks suggested that teacher absence was particularly likely to take place during Chinese New Year and 'near holiday' periods (χ^2= 131.50, *df* = 4, *p*< .001) (see Figure 10). By 'near holiday' periods we mean the days either side of school holidays which are officially scheduled teaching days. Whilst teacher absence in spot checks was highest for Chinese New Year – not an official holiday in Cambodia - teacher absences also occurred frequently in the days near to holiday periods such as Cheng Meng and Khmer New Year, the festivity in the first half of April. This reflects the data obtained from teacher interviews which show that common practice was the most frequent reason for teacher absence and the dates that teachers reported that the common practice were the dates near to holidays or unofficial holidays in Cambodia. Nearly half of the teachers spot checked

during Chinese New Year were absent (74 absences in 158 spot checks). 30% of these spot checks found that the whole school was closed.

During normal school days, the number of teacher absences was lower, with 12%[6] of spot checks finding teachers absent. This is still a significant percentage of absence, but there is a clear issue in teacher attendance at particular times of the year.

Figure 10: Teacher absence by time of year

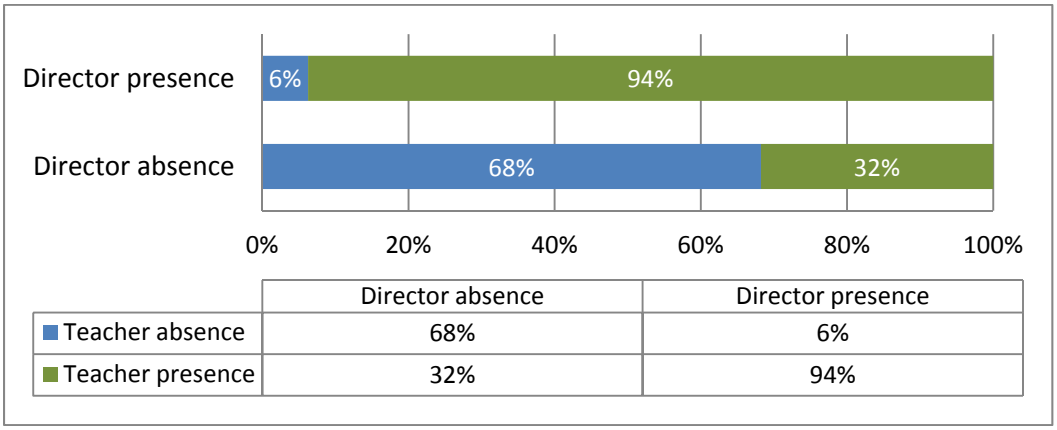


	Chinese New Year	Christmas	Near holidays	Normal days	Valentine's day
Teacher absence	47%	10%	16%	12%	5%
Teacher presence	53%	90%	84%	88%	95%

School Director absence and whole school closures

Of equal significance, spot checks found that absenteeism among teachers happened more when the School Director was not present at school (χ^2= 645.41, *df* = 1, *p*< .001) (see Figure 11). In the checks undertaken teachers were absent on 6% of the occasions that the School Director was present. 68% of teachers were absent during spot checks where the School Director was absent.

Figure 11: Teacher absence and School Director's attendance



	Director absence	Director presence
Teacher absence	68%	6%
Teacher presence	32%	94%

School Directors themselves were absent from school during 16% of spot checks, slightly lower than teachers, and it is possible that many of these absences can be explained by official business outside of the school. 38% of School Directors were absent during spot checks at Chinese New Year, again lower than teachers themselves. This is less likely to be explained by official business outside of the school.

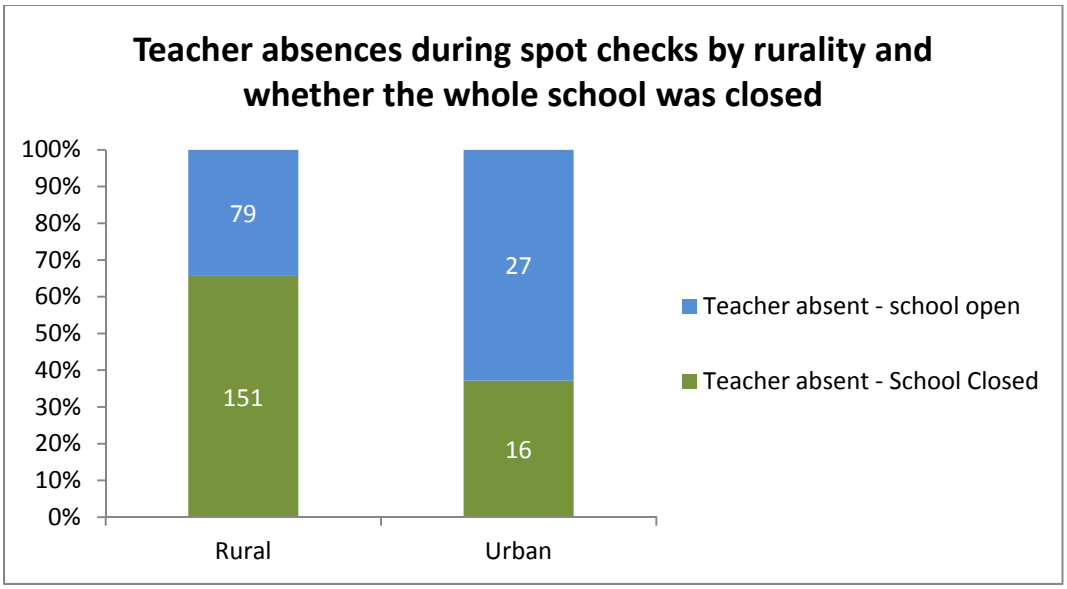
[6] A small number of spot checks did not record the type of day. These are excluded from this analysis.

At times, teachers in the study were absent at the same time as School Directors but other teachers were present, meaning that the school was open. This may indicate that there is a link between the extent of their supervision and teachers' attendance. At other times all teachers and School Directors were absent and the whole school was closed.

In our spot checks, we found whole school closure to be common, with 10% of spot checks finding that the whole school was closed that day[7]. In 61% of the spot checks that discovered a teacher to be absent, their whole school was closed. In interviews, one School Director estimated that in the previous year his school was fully closed for 15 days due to students and teachers not attending.

We observed substantial regional variation in this analysis, with no whole school closures identified in Phnom Penh, and 16% of spot checks in one province discovering whole schools closed. Moreover there was significant rural / urban variation as indicated in Figure 12. 66% of identified teacher absences in spot checks in rural areas coincided with whole school closures against 37% in urban areas. In rural areas, with smaller schools and fewer staff and classes the absence of one or two teachers could mean that the whole school is closed, whilst in larger urban schools more teachers would need to be absent to cause school closure.

Figure 12: Teacher absences and whole school closures during spot checks by location



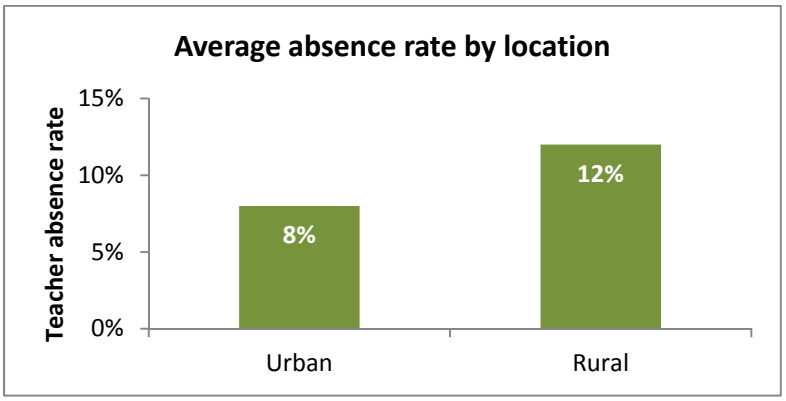
[7] School open or closed status was not recorded in 54 of the 1733 spot checks. Results in this section are of the 1679 checks were that status was recorded.

4.2.5 Analysis: Variations in teacher absence by location, grade, and shift

Variation by school location

In both spot check and combined data sources, there was significant variation between teacher absence rates in rural and urban schools. The absence rate of rural school teachers in spot checks was as high as 24%, compared with an average absence rate of 12% in urban areas. The combined absence data also indicated that teachers in rural areas were absent on significantly more occasions than those in urban areas (t (240) = -6.18, p< .001 (Mean $_{Urban}$ = 12; Mean $_{Rural}$ = 19)). When converted to a percentage, the average absence rate for the whole school year amongst rural teachers was 12% and amongst urban teachers was 8%. Likelihood of teacher absence was related to the location where teachers offer the services to their students, with a disproportionate number of absences being detected in the rural area. This mirrors the evidence on rural / urban variance in teacher absence in India and many other countries (Chaudhury et al., 2006). Thus, we can conclude that teacher absence is a more significant issue in rural schools in Cambodia.

Figure 13: Teacher absence rate by location (combined data)

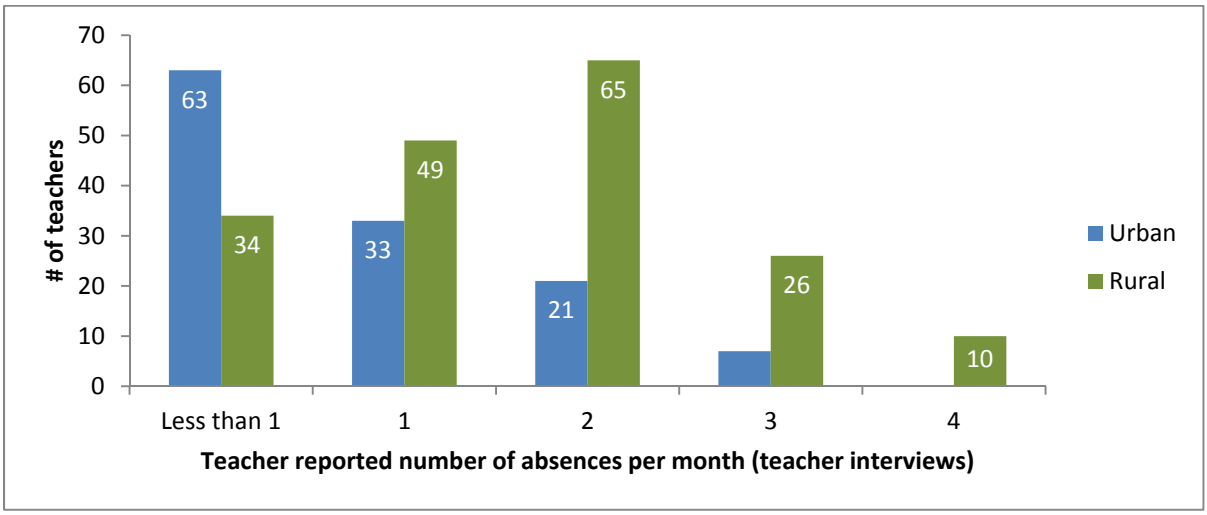


This difference is further supported by teacher interview data. When teachers were asked about their general level of absence, teachers in rural schools estimated higher levels of absences, as indicated in the following table. When data were disaggregated by geographical areas—urban and rural, it is noteworthy that the number of teachers who claimed that they were never absent[8] in urban schools is almost twice as high as that in the rural schools, while a much greater percentage of rural teachers identified 2 or 3 regular absences per month. 55% of rural teachers identified having 2 or more absences per month, against 23% of urban teachers. NEP's 2005 research study on "Effective Teaching Hours in Primary Schools" revealed the same trend of teacher absence rates in urban areas being much lower than in rural and remote areas[9].

[8] Although many teachers said that they had zero absence per month, all recognized that they would have some absence during the year.

[9] In this study location is analysed by MoEYS classifications of urban and rural schools, while the 2005 study used three classifications—urban, rural and remote.

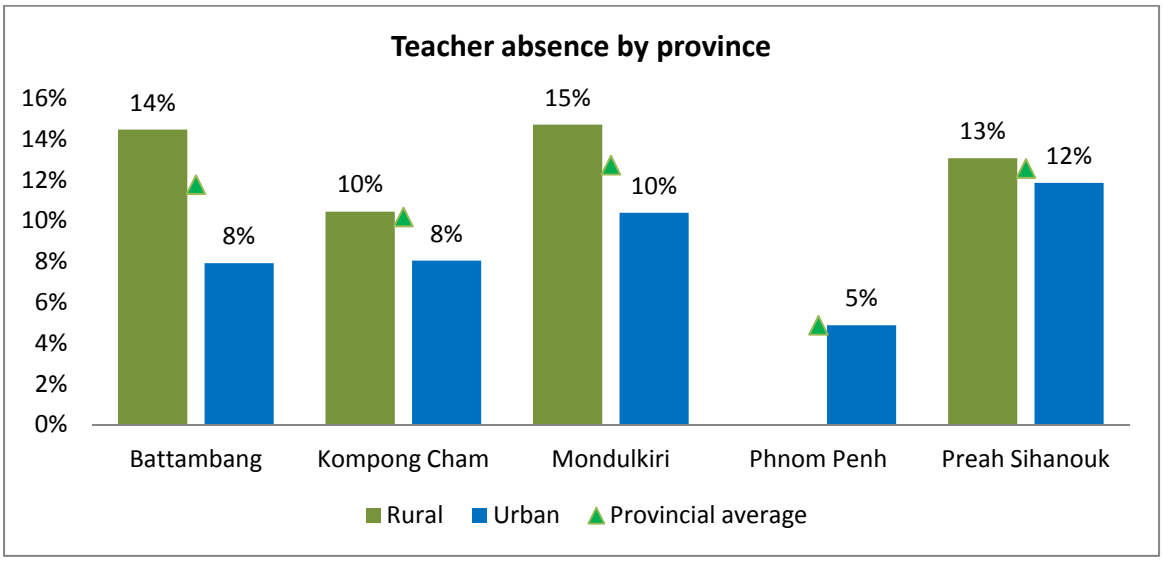
Figure 14: Monthly absence estimated by teachers



Different provinces also showed a significant difference in the number of teacher absences (F (5, 281) = 8.39, p< .001 (see Figure 15)). The analysis of variance showed that teacher absence in Phnom Penh was significantly lower than that in other provinces, with teachers being absent on average only 7 times per academic year; whereas in other provinces studied, teachers reported absence for almost 20 days during the same academic year.

In the chart below, provincial differences are shown to be strongly influenced by urban and rural differences. The exception is in Preah Sihanouk province where the difference between rural and urban absence was not as great.

Figure 15: Teacher absence by province (combined data)[10]

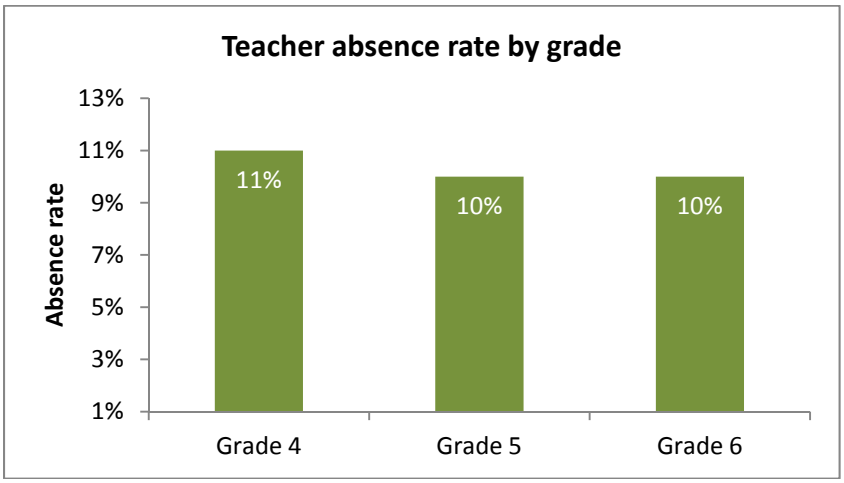


Variation by school grade taught

The average absence rate of teachers varied slightly from grade to grade. However, based on the combined dataset the results suggest that there is no significant difference between teaching grades in relation to which teachers were more likely to be absent.

[10] Results from Preah Vihear are excluded from this analysis given the small sample size in that province.

Figure 16: Teacher absence by grade taught (combined data)

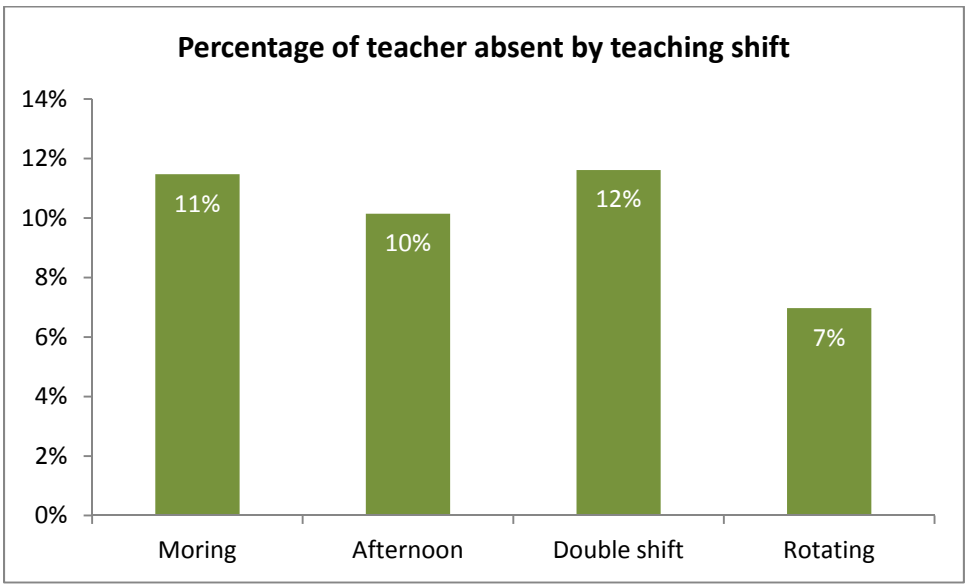


Variation by teaching shift of teachers

We tested against the possibility that whether classes happen in the morning or the afternoon (teaching shift) might influence teacher absence. When spot-check data was disaggregated by teaching shift, it suggested that the teacher absence rate for morning shifts was 19% - 3% higher than the afternoon shift at 16%. A possible explanation for this may be that when a spot check was conducted in a school in the morning, the afternoon teachers may have been made aware of the presence of the researcher and more likely to attend. However analysis suggests this difference was not statistically significant.

In Cambodia, some teachers are assigned to rotate teaching shift every month, teaching their class either in the morning or the afternoon. It is worth noting that teachers who were assigned with rotated shifts every month were statistically more likely to report fewer absences than their counterparts (F (3, 279) = 10.19, p< .001 (see Figure 17)). However rotated shift teachers were teaching in primary schools in Phnom Penh, where absence rates were generally lower, and therefore it is not possible to generalize this finding.

Figure 17: Teacher absence rates by teaching shift



4.2.6 Analysis: Variance in teacher absence by teacher characteristics

The detailed information gained on teachers enables analysis of whether any particular groups of teachers displayed higher absence rates. Whilst significant differences could be established, many of these factors and characteristics are inter-related and within the sample size we cannot be conclusive about any particular characteristics being a dominant factor.

Teacher's age

Combined absence data was explored to establish whether teacher's age might be a factor in rates of absence. Evidence showed that younger teachers were more likely to be absent from school when compared to their older counterparts (see Figure 18). However the younger teachers in our study were more likely to be teaching in a rural area ($\chi^2 = 24.38$, $df = 2$, $p < .001$ (see Figure 19)), which we have already established as a major factor in absence variance.

Figure 18: Teacher absence by age group

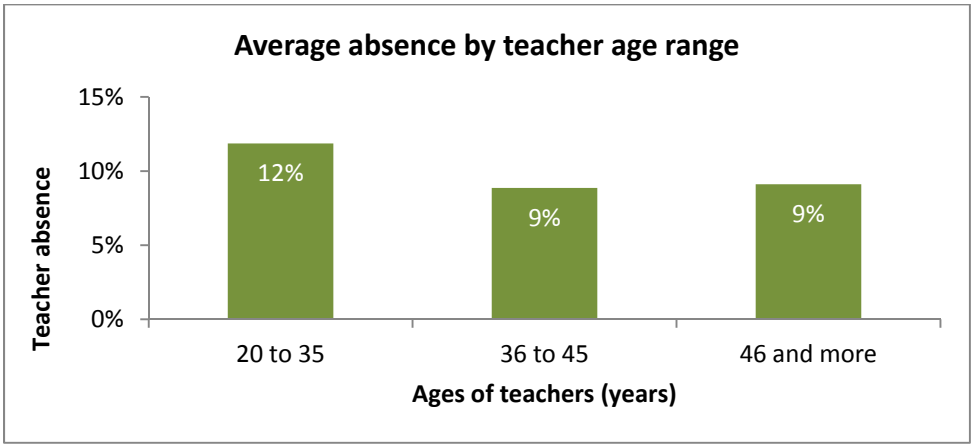
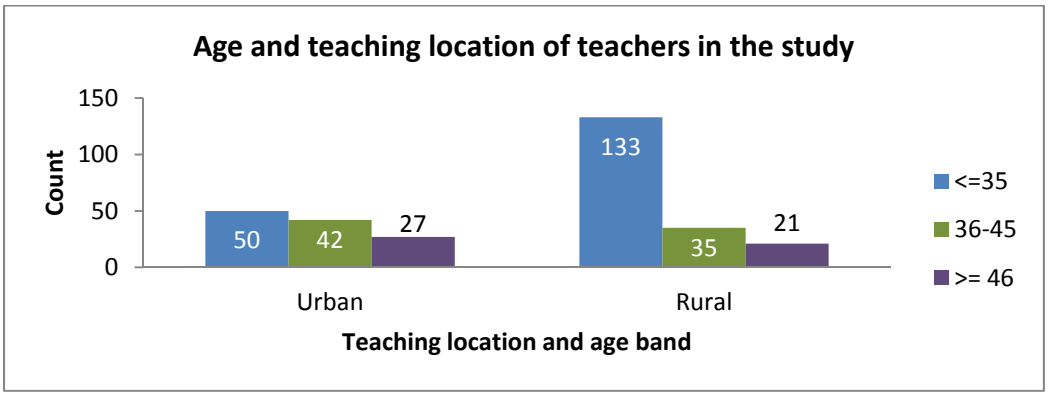
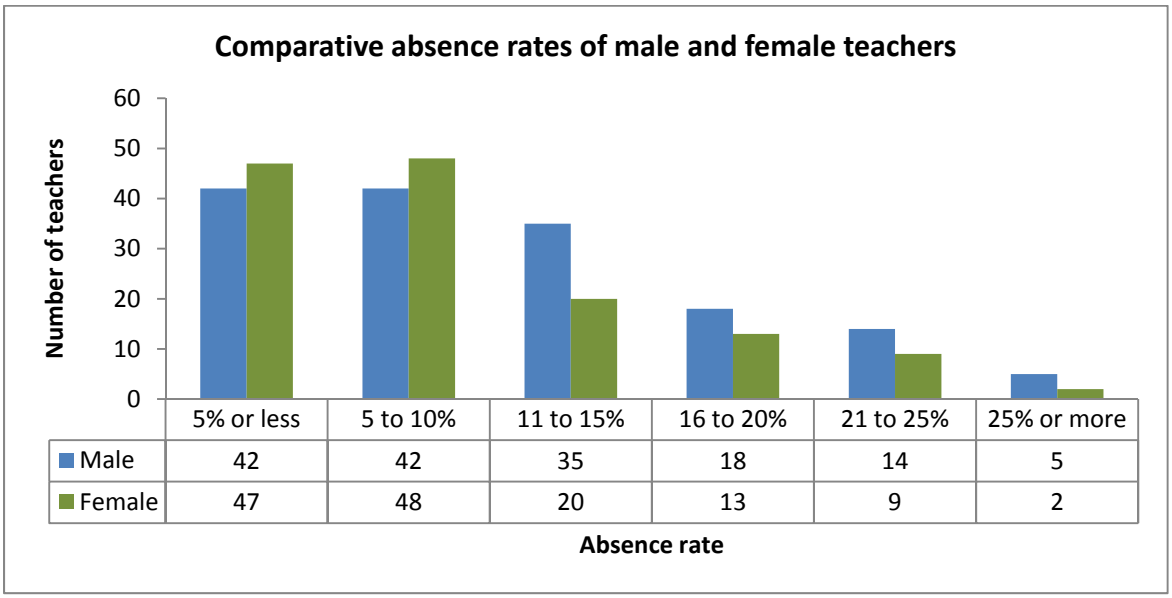


Figure 19: Teacher age and location



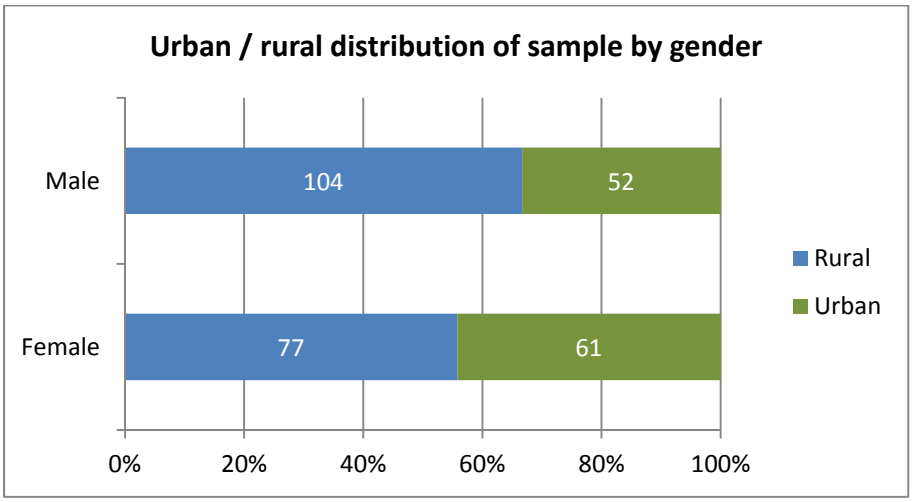
When we look at the teacher absence rate by gender, the data shows that male teachers in our study were more frequently absent than female teachers. The average male teacher absence was 11.5%, 2 percent points higher than female teacher at 9.5%. Figure 20 depicts the distribution of absence rates by gender amongst the sample. 68% of female teachers had absence below 10%, compared with 54% of male teachers.

Figure 20: Absence rates by gender



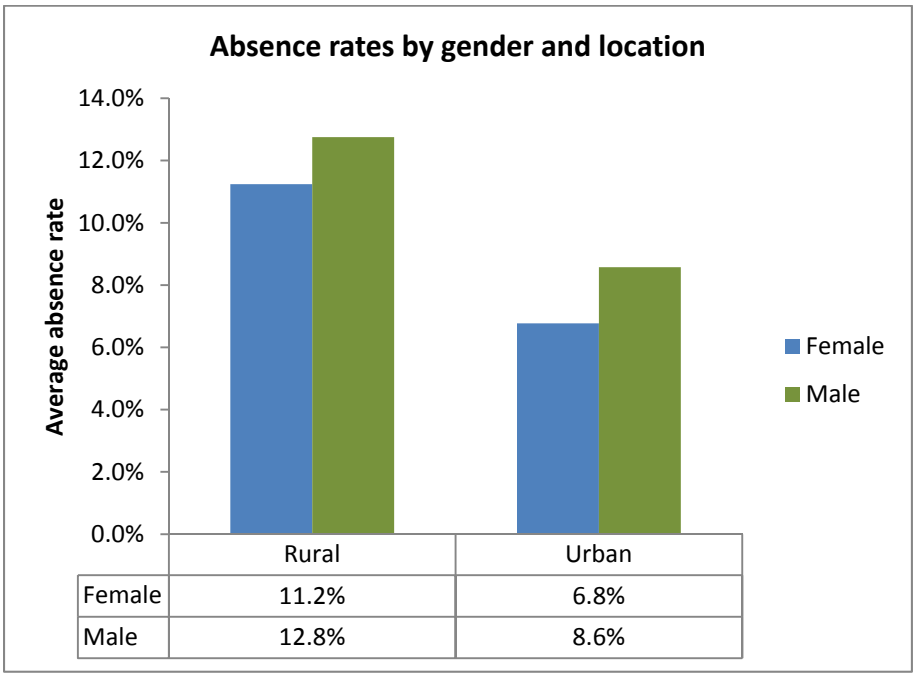
A possible explanation may again be related to rurality, as male teachers are more likely to be deployed in remote rural schools than female teachers, following the staff deployment policy set by MoEYS. Within our study sample a higher proportion of male teachers were working in rural schools, as shown in figure 21, and rural / urban differences in attendance rates were evident for both genders. However, even in rural areas, male teachers had a higher average absence rate than female counterparts, as shown in figure 22.

Figure 21: Working location and gender of teachers in the sample[11]



[11] Gender was not recorded for 13 teachers; the description is of those where gender was recorded.

Figure 22: Absence rates by gender and working location



Analysis: Variance in teacher absence by proximity to school and place of birth

We explored whether the distance that a teacher lives from their school showed any correlation with teacher absence. One hypothesis might be that rural teachers have further to travel to school and that might impact on their absence. However, apart from the small number of teachers with extremely long journeys (over 25km), who had notably higher absence rates, no significant difference was found.

Table 10: Teacher absence by distance of home from school

Distance teachers live from school	Average absence	Number of teachers	Std. Deviation
1 Km or less	10.24%	95	.07
More than 1 Km to 5 Km	10.06%	65	.07
More than 5 Km to 10 Km	10.49%	96	.07
More than 10 Km to 15 Km	10.28%	29	.06
More 15 Km to 20 Km	9.00%	11	.04
More than 20 Km to 25 Km	8.40%	5	.04
More than 25 Km	15.50%	2	.09

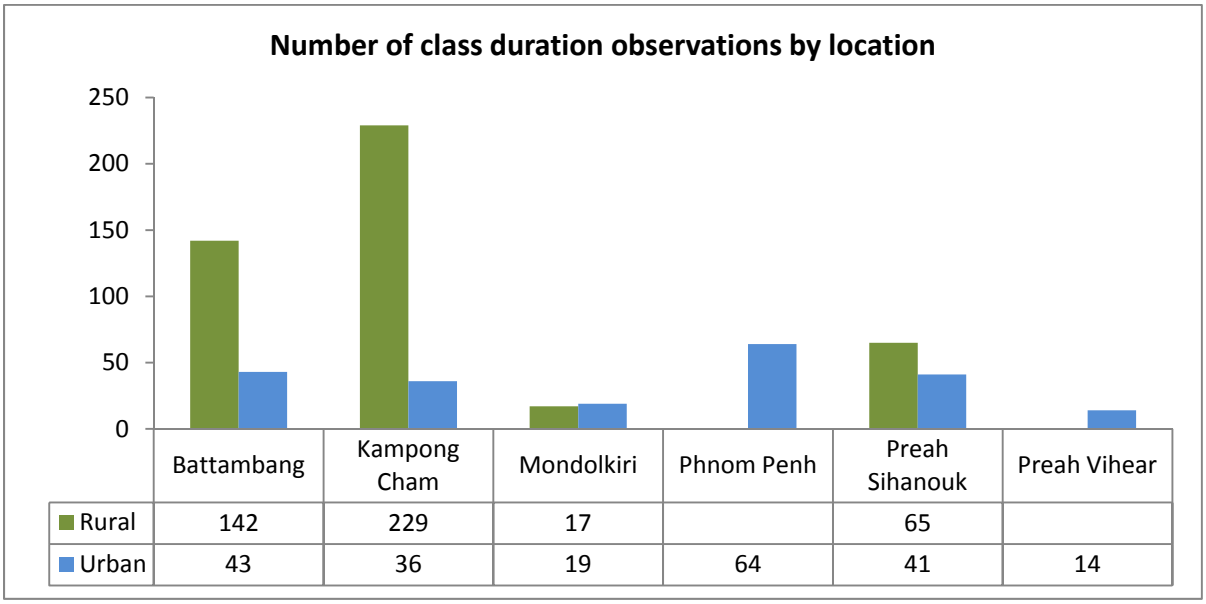
Another hypothesis put forward during the study was that teachers who had been deployed or re-deployed to teach in areas where they did not have family connections may have higher absence. Those putting forward this hypothesis suggested that this was either because they felt less commitment to the local community or because they needed to take more time away from school to visit family in another part of the country. However although 31% of teachers in our study were teaching in a different province to the one that they were born in, statistical tests showed no significant differences in absence rates based on this variable and no evidence to support this hypothesis.

4.3 Hours lost through lessened contact hours

The other form of teaching hour loss is related to the actual length of lessons taught by teachers. 670 class observations were conducted of 303 teachers[12] as part of this research. Results showed that teaching hours provided to students were not in line with what is officially stated in the ministry's policy. As a requirement, students have to study five teaching sessions per day, with each session lasting for 40 minutes. Thus, in normal school days, students are supposed to have 200 minutes of teaching-learning encounter in class per day. The results from the class observation indicated that the loss of teaching hours due to shortened lessons was significant, suggesting that teachers, on average, were teaching for 176 minutes each day. According to class observations, the largest proportion of shorter lessons were because classes started late, but we also observed classes finishing early and extended break times. On average 24 minutes, or 12% of instructional hours were lost each day.

To put this into perspective, if there were no other absences or additional official school holidays, the loss of teaching hours through shortened lessons could constitute 22 days out of a school year of 186 days.

Figure 23: Number of class duration observations

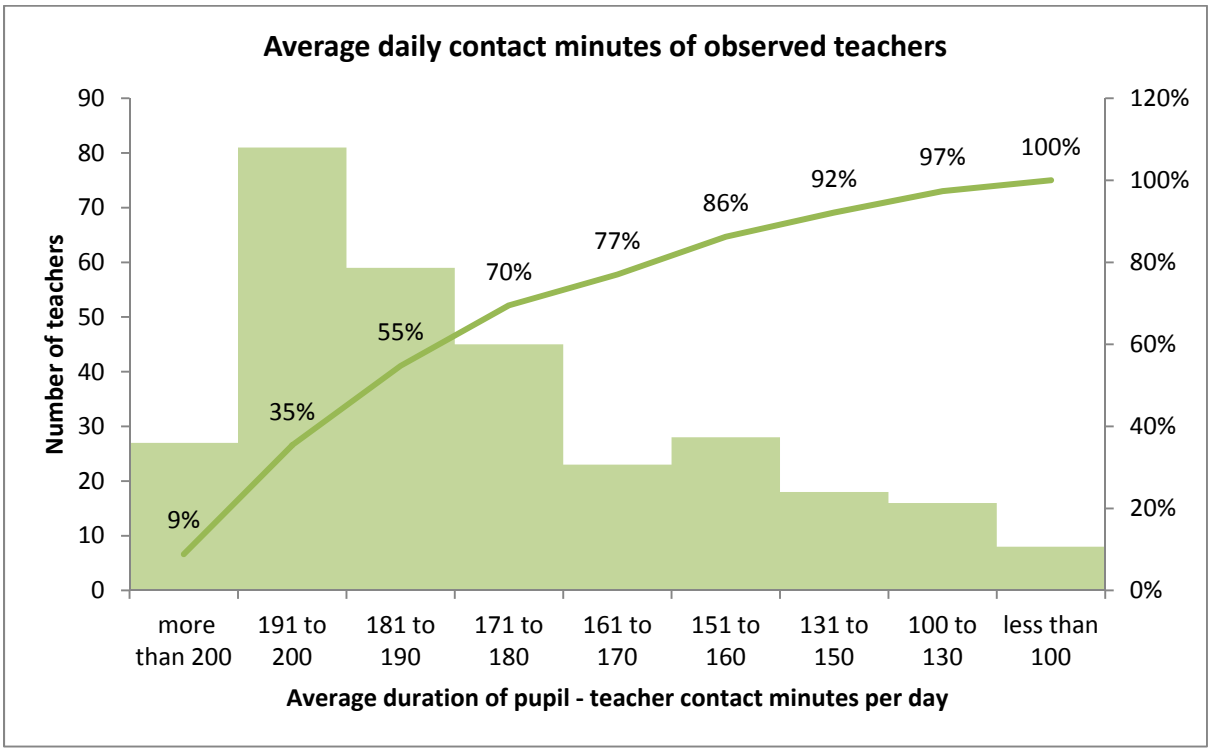


	Battambang	Kampong Cham	Mondolkiri	Phnom Penh	Preah Sihanouk	Preah Vihear
Rural	142	229	17		65	
Urban	43	36	19	64	41	14

As in teacher absence, there was substantial variation of teacher student contact time between individual teachers. It is interesting to note that nearly a third of observed teachers shortened the school day by 30 minutes or more. It is positive that another one third of teachers were observed to deliver more than 190 minutes of teaching.

[12]The total number of teachers included in this study was 309, but number of teachers that included in the class observation was only 303 as some teachers were absent on the observed dates and some were teaching multi-grades.

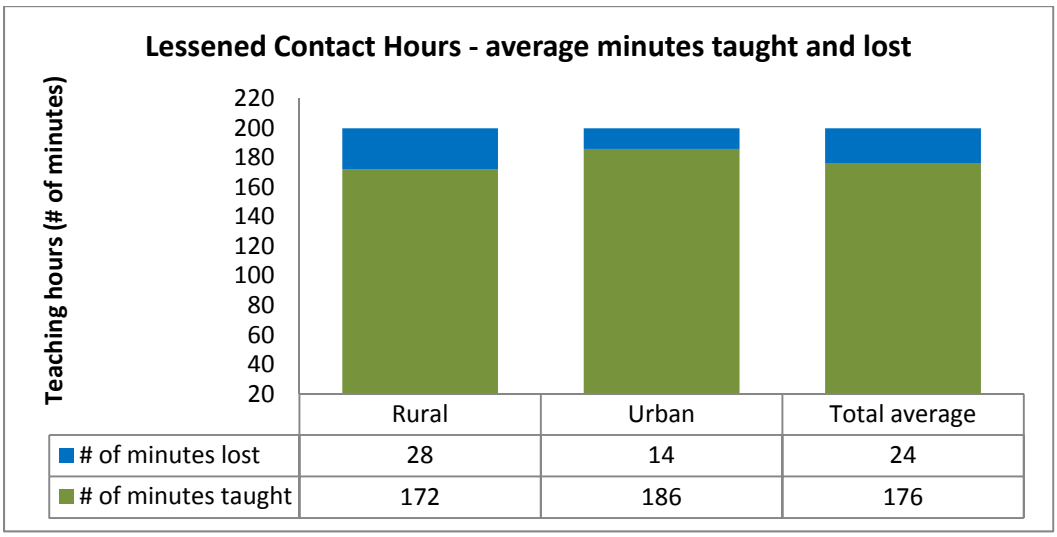
Figure 24: Histogram of average daily contact minutes



Lessened contact hours by location

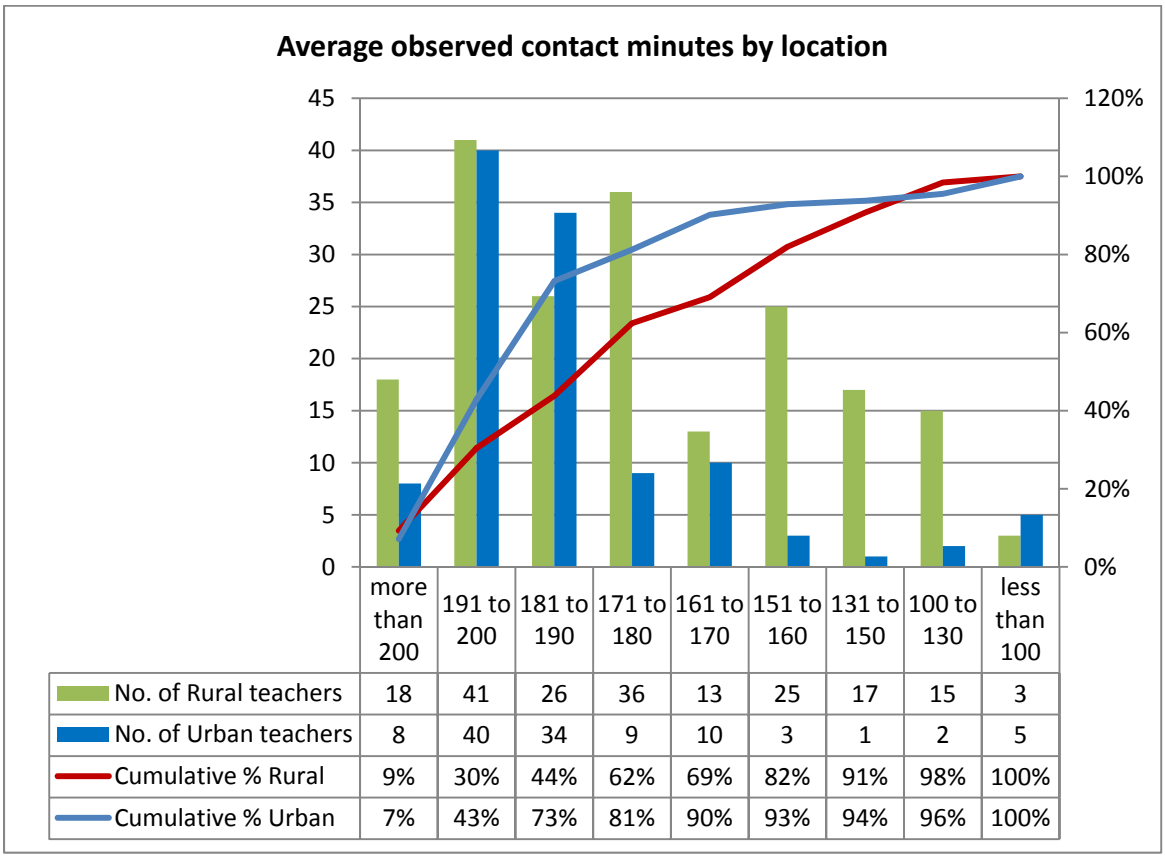
The class observation data showed that teachers in rural areas taught significantly shorter lessons than their counterparts in the urban area. Teachers in rural areas taught on average for 172 minutes during observations whereas teachers in the urban area averaged 187 minutes (t (301) = -6.05, p< .001). The average loss in rural areas was therefore 28 minutes a day, against 14 minutes a day in urban areas.

Figure 25: Lessened contact hours by location



When we disaggregated data by location, statistics showed nearly 40% of teachers in rural areas shortened the school day by 30 minutes or more. This is twice the percentage of urban teachers who did the same. 73% of teachers in urban areas delivered at least 180 minutes of contact time per day compared with only 44% of teachers in rural areas.

Figure 26: Average observed contact minutes by location

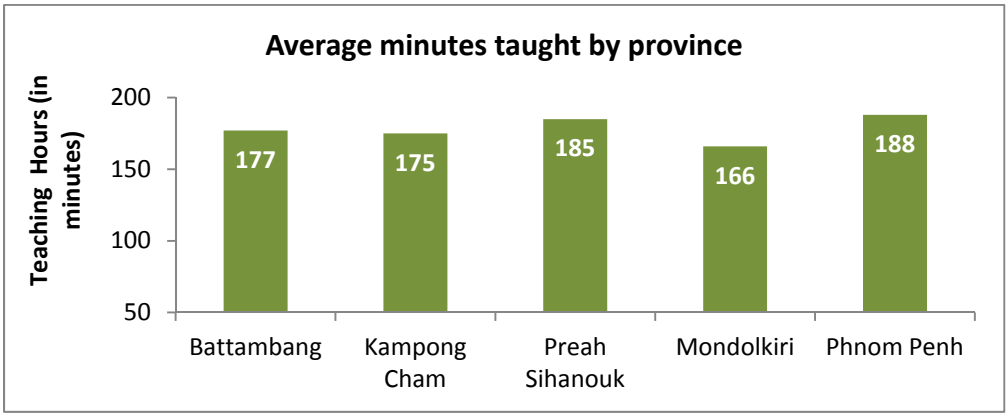


	more than 200	191 to 200	181 to 190	171 to 180	161 to 170	151 to 160	131 to 150	100 to 130	less than 100
No. of Rural teachers	18	41	26	36	13	25	17	15	3
No. of Urban teachers	8	40	34	9	10	3	1	2	5
Cumulative % Rural	9%	30%	44%	62%	69%	82%	91%	98%	100%
Cumulative % Urban	7%	43%	73%	81%	90%	93%	94%	96%	100%

Lessened contact hours by provinces

A further analysis found that the lessened contact hours differed across provinces (F (5, 295) = 3.62, p< .01 (see Figure 27)). Phnom Penh City experienced the least loss of teaching hours from this cause, followed by Preah Sihanouk. Kampong Cham and Battambang experienced similar loss of teaching hours through shorter lessons. Mondolkiri province displayed the shortest teaching contact time, with only 166 minutes of daily teaching observed on average. With this loss, teaching hours in primary schools in this province were significantly different from the provinces that witnessed relatively little loss, i.e. Preah Sihanouk and Phnom Penh.

Figure 27: Daily contact hours (minutes) by province[13]

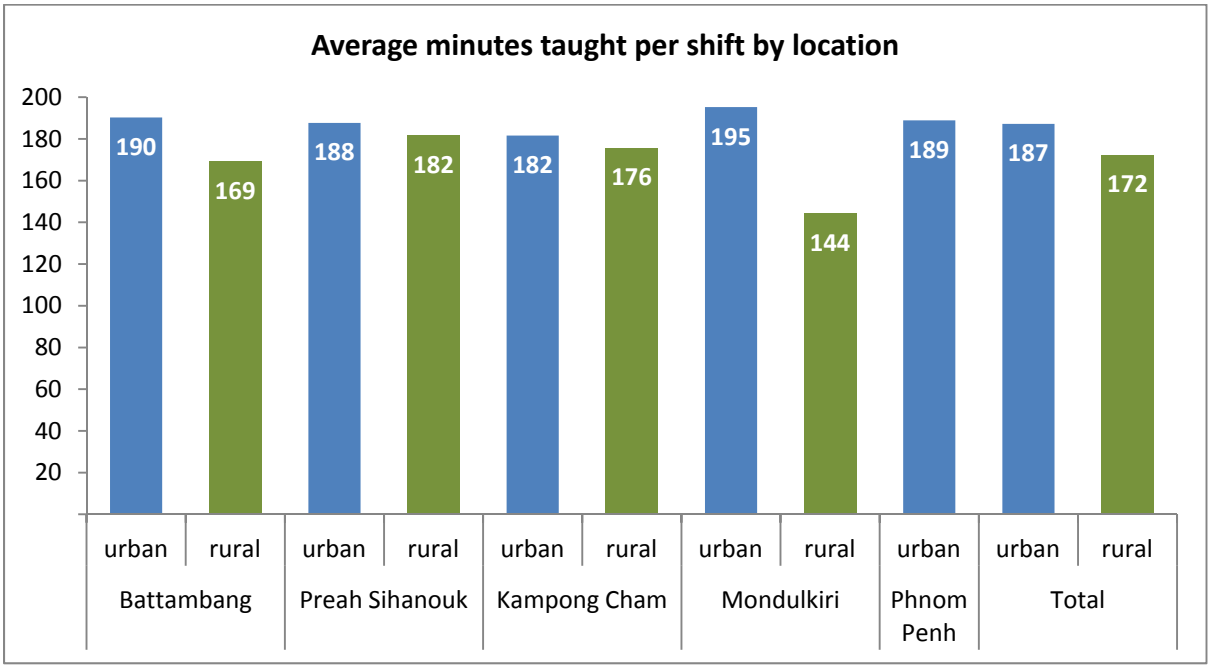


When we look at these data by rural and urban schools, we can see a similar pattern to that on teacher absence. Teachers in urban schools in all provinces were found to teach longer lessons. For

[13] As in previous provincial analysis, results for Preah Vihear are not displayed given the small sample size.

the most part, the results showed far greater variation within rural areas, with higher standard deviation, and greater consistency in urban areas. It is notable that although Mondolkiri had the shortest average lesson length, in urban schools in the province the lessons observed were longer on average than in any other province.

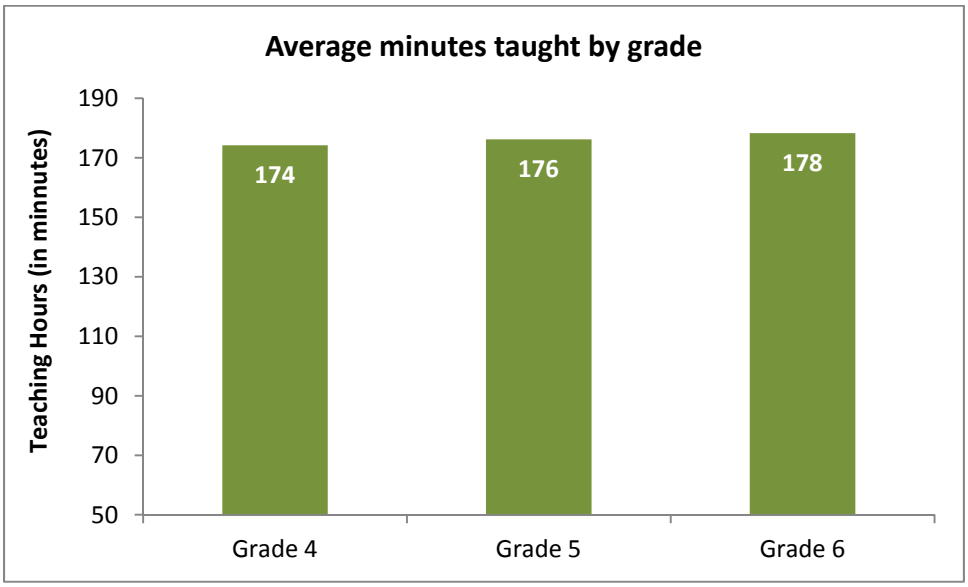
Figure 28: Average minutes taught by location



Lessened contact hours by grade

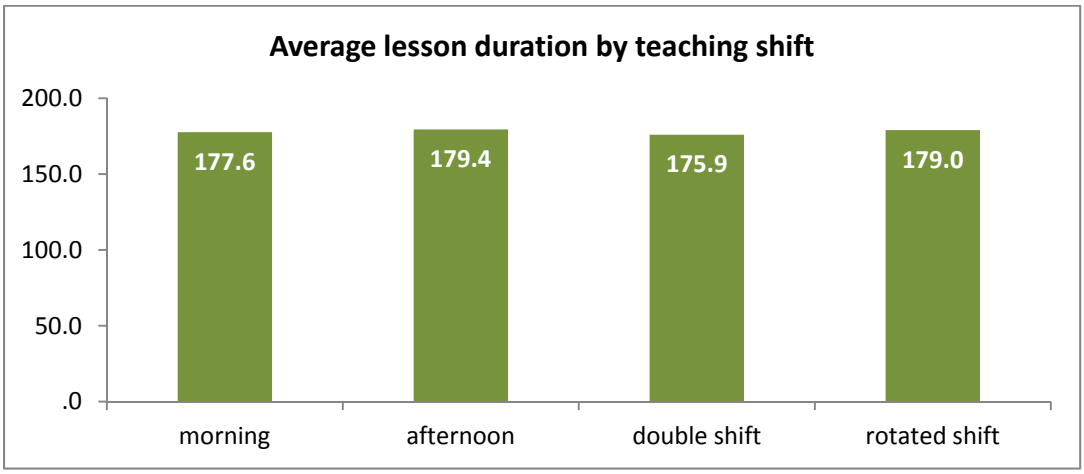
Daily loss of teaching hours through shorter lessons did not vary significantly across grades (F (3, 299) = 1.98, p> .05)). The data showed that grades 4, 5, and 6 witnessed similar losses of teaching hours, with a mean of 174 minutes, 176 minutes and 178 minutes, respectively.

Figure 29 Lessened contact hours by grade



The same test was applied with the purpose of improving the understanding of daily loss of teaching hours by teaching shift. Whilst the average duration of teaching sessions in the morning was slightly lower, this was not found to be statistically significant.

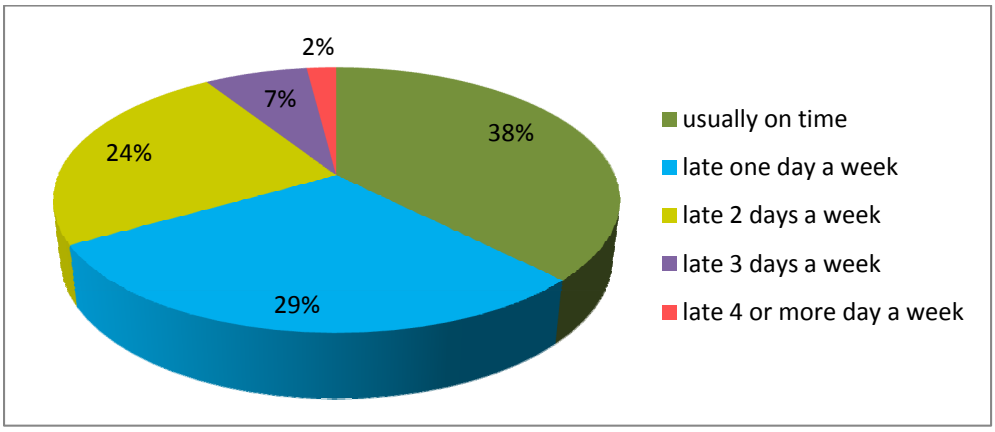
Figure 30: Average lesson duration by teaching shift



Teacher interview responses on lessened contact hours

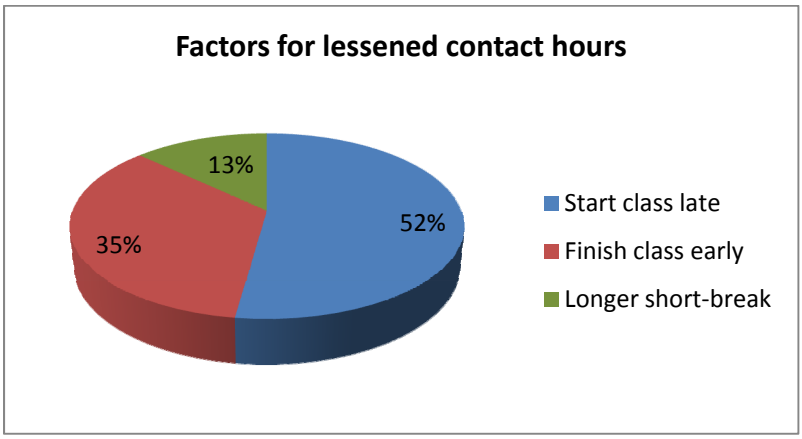
Where class duration was shortened, teachers reported that this was most often because classes started late. 62% of interviewed teachers said that they started class late at least one day per week, and one third of teachers reported starting late 2 or more days per week. Teachers estimated that these delays were on average about 10 minutes.

Figure 31: Frequency of teachers who start class late



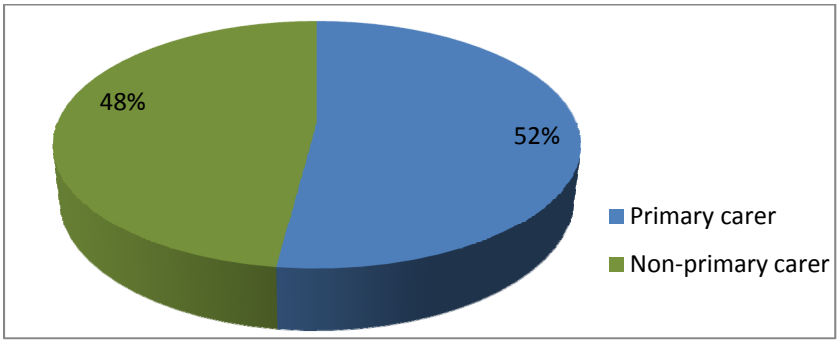
Class observation also found that teaching sessions starting late was the most frequent cause of shorter lessons. Figure 32 shows the percentage of each behaviour leading to lessened contact hours.

Figure 32: Factors for lessened contact hours (class observations)



Taking care of their family was particularly raised as an issue that caused teachers to teach shorter lessons. 30% of the teachers who acknowledged that they sometimes came to school late said that this was because they were busy with family responsibilities. Of 202 teachers who had children living with them, 106 identified that they are the primary carer for their children. About 30% of them reported it to have a negative impact on their teaching attendance and punctuality.

Figure 33: Teachers playing a role in child care



Distance to travel to school was also reported to be a major cause of lateness and shorter teaching sessions. The teacher interview data demonstrated that about 15% of teachers who mentioned coming to school late said that this was due to their homes being distant from school. In Mondolkiri, where the observed lesson duration was shortest, teachers particularly mentioned this, and extended this to include a concern over the distances that students needed to travel between home and school.

4.4 Implications of teaching hour loss on student learning outcomes

A key assumption which was verified as part of this study is that contact time and delivered teaching hours are associated with student performance. Whilst low contact time or irregular teaching hours may also have an impact on the community perception of and value of schooling, the major relationship is assumed to be with learning outcomes.

To examine this relationship, the research study included testing of the abilities of students in two subjects—Mathematics and Khmer. 2957 students undertook tests that were agreed with the Primary Education and Curriculum Development Departments. Tests were administered by local researchers, and not shared with teachers prior to the testing. No control group was used as comparisons were intended to be made between students based on the absence rates of their teachers. For the purpose of analysis we use the average score of students in the class of each teacher in the study. Students averaged a score of 66% of correct answers in both the tests, but with variance depending on their teacher and location.

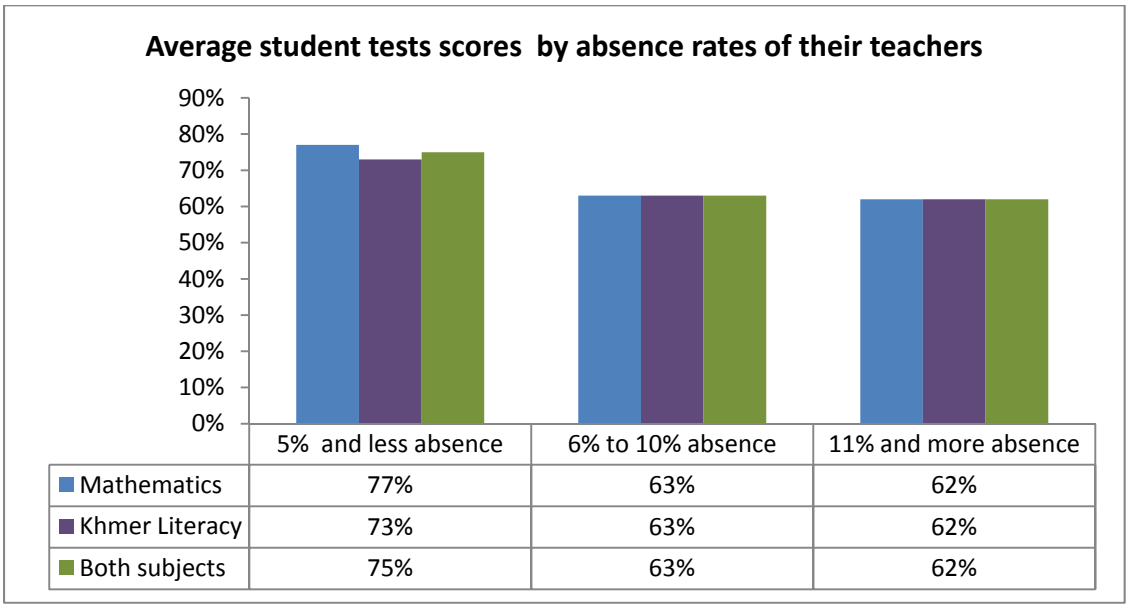
Student test scores and teacher absence

Student test data combined with the teacher absence data showed that teacher absence was negatively correlated to students' test scores in both subjects (r_{Math} = -0.22, p< .001; r_{Khmer} = -0.21, p< .001). Students who studied with teachers with more absences tended to perform less well than those who studied with teachers with fewer absences. When the absence rates of teachers were grouped in to three categories, this pattern is displayed clearly. This difference came in to effect as soon as teacher absence increased above 5%.

Table 11: Student test scores compared to teacher absence rates

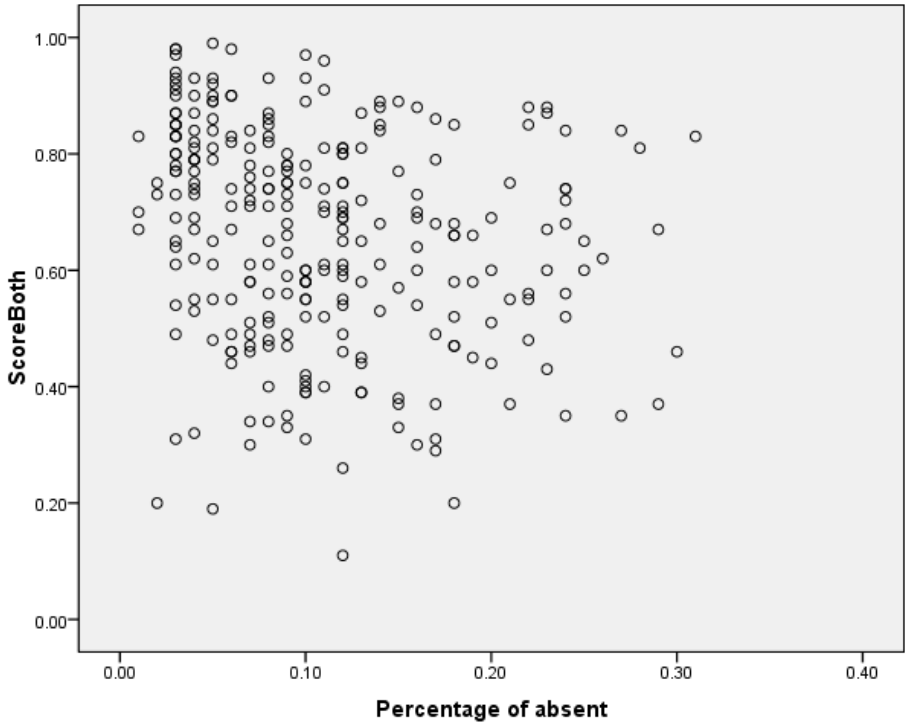
Teacher absence	Mathematic Score		Khmer literacy score		Both subjects	
	Mean	Std	Mean	Std	Mean	Std
5% and less	77%	.19	73%	.20	75%	.19
6% to 10%	63%	.22	63%	.19	63%	.17
11% and more	62%	.24	62%	.19	62%	.17

Figure 34: Average student tests scores by teachers' absence rates



A more detailed picture is given by the following scatter plot chart, which indicates the distribution of average student scores against the absence rates of teachers, and the general downward trend in scores as teacher absence increases.

Figure 35: Scatter plot of student tests scores by teachers' absence rates



Given widely observed differences between urban and rural education provision it is possible that differences in achievement could be affected more by location and associated issues of infrastructure and level of teacher qualification than by teacher attendance. Indeed, students in urban areas did perform significantly better in the tests we conducted compared to their rural counterparts ($p < .001$).

Table 12: Students' test scores by location

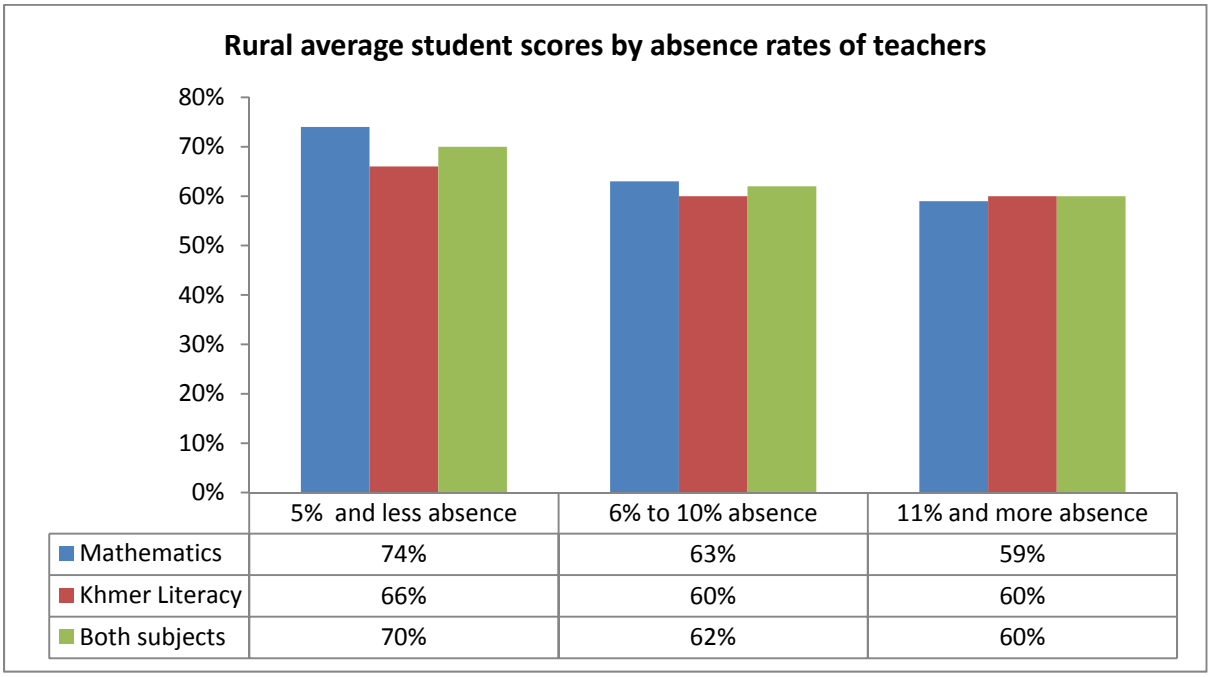
Test scores	Mathematics (Percentage of correct answers)	Khmer (Percentage of correct answers)	Both subjects
Overall mean score	65.62 %	65.70 %	65.72 %
Mean score of urban students	71.64 %	73.61 %	72.60 %
Mean score of rural students	61.95 %	60.90 %	61.52 %

However when we look at only rural students, the link between teacher attendance and performance in the tests remains. In rural areas, higher teacher attendance was still associated with better performance in student testing. It is worth noting that standard deviation is higher amongst the rural cohort, indicating greater variability of performance in the tests.

Table 13: Student test scores in rural areas by teacher absence

Teacher absence	Mathematic Score		Khmer literacy score		Both subjects	
	Mean	Std	Mean	Std	Mean	Std
5% and less	74%	.23	66%	.21	70%	.20
6% to 10%	63%	.24	60%	.19	62%	.18
11% and more	59%	.25	60%	.18	60%	.18

Figure 36: Rural average student tests score by absence rates of teachers



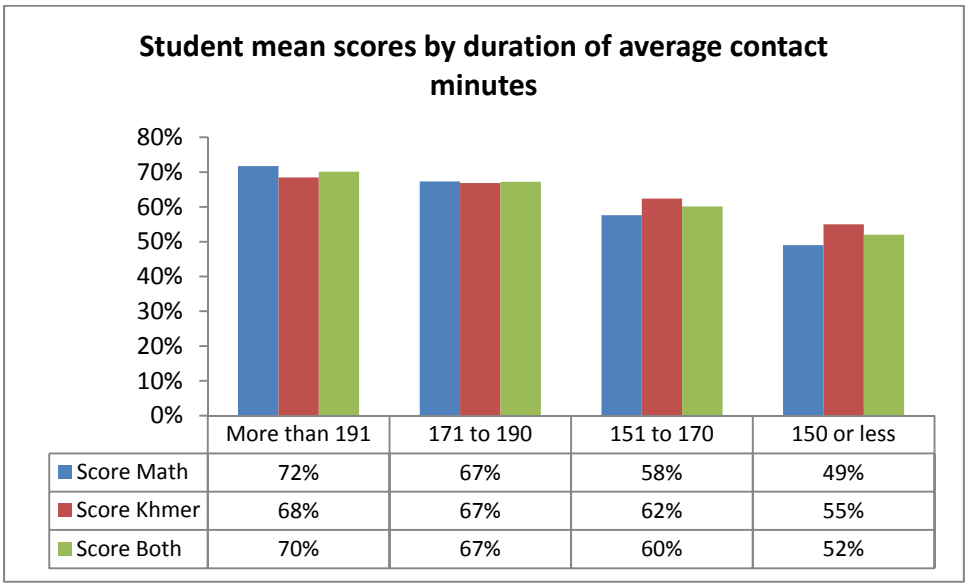
Student test scores and shorter lessons

When the contact hours taught by teachers were grouped in to four categories, statistics showed that the students who studied with teachers with longer contact hours performed much better than the students of teachers with shorter contact hours for both Mathematics and Khmer subjects. When student test scores were examined in relation to the observed length of lessons taught by their teachers, significant correlations were found for both Mathematics and Khmer subjects at 0.01 level (2-tailed). Students who studied with teachers who taught 'full' classes – ie. did not start late or finish classes early - outperformed those who experienced more teaching hour loss due to teachers' lateness and/or early class finishes.

Table 14: Student mean scores compared to number of minutes taught by teacher

# of minutes taught	Score Math		Score Khmer		Score Both	
	Mean	Std	Mean	Std	Mean	Std
More than 191	72%	.20	68%	.20	70%	.17
171 to 190	67%	.24	67%	.20	67%	.19
151 to 170	58%	.27	62%	.18	60%	.19
150 or less	49%	.23	55%	.21	52%	.19

Figure 37: Student mean scores by average lesson duration of their teacher

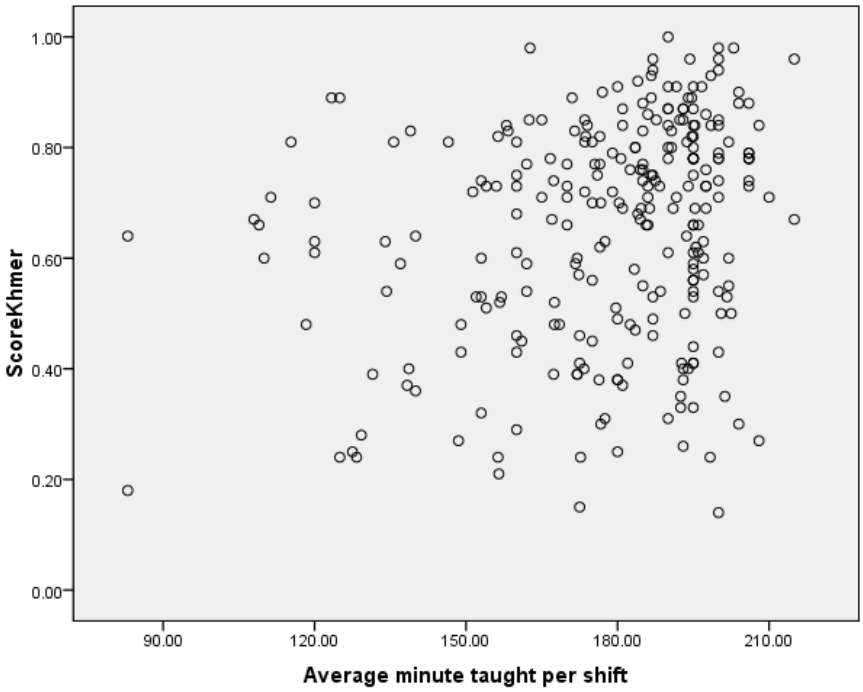


	More than 191	171 to 190	151 to 170	150 or less
Score Math	72%	67%	58%	49%
Score Khmer	68%	67%	62%	55%
Score Both	70%	67%	60%	52%

When data were disaggregated by rurality, analysis showed the links between contact hours and performance both in rural and urban schools. Longer contact hours provided by teachers was associated with better performance in student testing regardless of location.

The scatter plot below illustrates this association between Khmer literacy scores and average duration of teacher-student contact time.

Figure 38: Scatter plot of Khmer scores with contact minutes



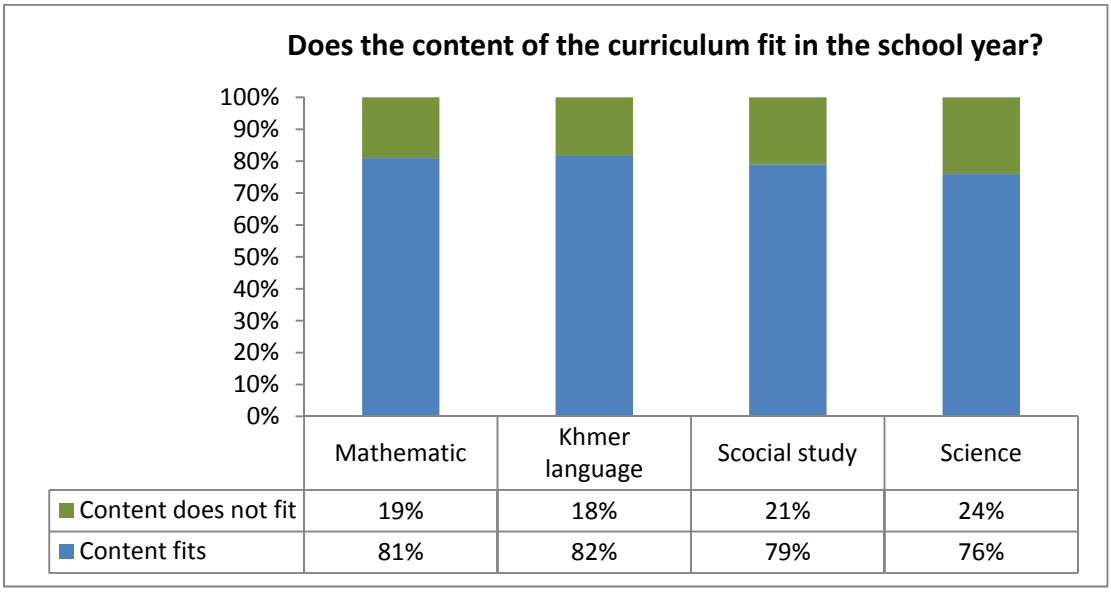
The correlation of student test scores and low teacher attendances does not prove causality, and there is not necessarily a link between teaching quality and teacher attendance, however these results provide some Cambodian evidence in line with the international literature on the importance of the teaching-learning encounter to student outcomes. This is perhaps not surprising as the learning and teaching encounter in Cambodia only happens in the classroom. Recent research has indicated that teachers play a key role in determining student learning considering the fact that self-

study and independent learning remains rare amongst students (Heng, 2013). Furthermore, in the structured centrally directed curriculum model used in Cambodia there are a prescribed number of lessons for each subject and little flexibility. When teaching hours reduce, in particular where whole lessons or days are lost, this increases the pressure on delivery of the curriculum content and we can assume reduces the likelihood that the full prescribed curriculum will be taught.

During interviews teachers taking part in the study were asked about the extent to which the current curriculum at primary education level could be realistically taught within the scheduled school year established by MoEYS. Across all subjects, 20% of teachers said that the curriculum was too long to accommodate in the school year. Teachers also explained that they found that they needed to spend longer on individual lessons in the mathematics curriculum because detailed explanations were needed.

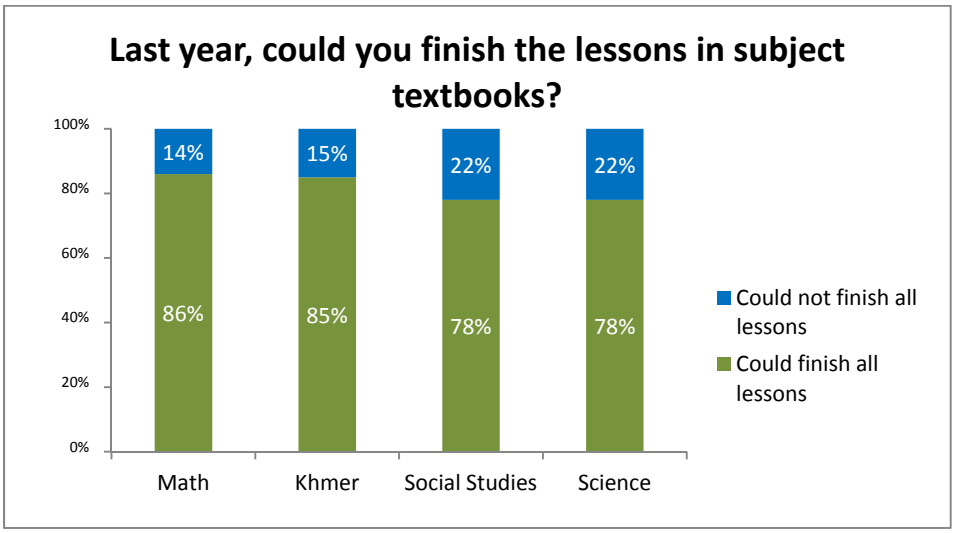
The 1999 MoEYS report on teaching hours stated:"*the number of instructional hours received in Cambodia by primary school pupils is insufficient to do justice to the curriculum and much below international standards regarding number of instructional hours needed to meet the defined standards*".

Figure 39: Teacher views on length of curriculum vs school year



As result of this, and arguably of the gap between actual and prescribed teaching hours, teachers reported finding it hard to finish all the lessons in the curriculum textbooks. This particularly affected social studies and science textbooks, with over a fifth of teachers reporting that they did not complete the curriculum. Teachers frequently said that they needed more time to explain the curriculum content than allowed in the textbook and teachers' guides. Faced with choices about which subjects to focus on, teachers reported spending more time on Khmer and Mathematics, which corresponds with a significantly lower number and percentage reporting that they could cover all lessons for science and social studies.

Figure 40: Teachers' experiences in finishing all lessons in previous year



The issue of whether the national curriculum can realistically be taught in the teaching hours available to teachers and students is an important one. Lack of content coverage disadvantages students in testing and exams, particularly national and standardized testing, and theoretically impedes learning when students move to the next grade without understanding prior concepts.

4.5 School and teacher monitoring to ensure delivery of teaching hours

Through interviews with both teachers and School Directors, we sought to explore the ways in which school and teaching monitoring contributes to ensuring good teacher attendance and regular school opening hours. Teachers and School Directors were interviewed in detail about teaching hour implementation, absence, and the monitoring mechanisms in place. This includes the use of personnel policies currently in place to enable good management of staff in primary schools.

4.5.1 Monitoring and inspection by MoEYS, PoE and DoE

School Inspection is one of the current reform priorities of MoEYS, and a comprehensive new system of internal and external inspection has been developed and is currently being operationalized. The fieldwork for this study took place prior to these developments, but can potentially give some considerations for operating this new framework.

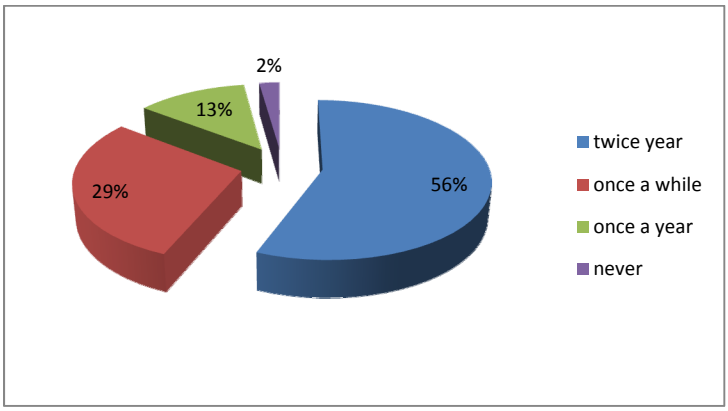
In 2010 MoEYS issued a guideline aimed at strengthening the implementation of the Prakas on regulation for public primary schools to ensure the quality of education service set in the Education Strategic Plan and Education for All National Action Plan (MoEYS, Directive No 21, dated 4 June 2010). This directive states that "all provinces and municipalities [are] to implement teaching hours based on [the] school calendar". In addition, sub-national education authorities are expected to:

- *"Prepare mechanisms, by using working groups in the education office and district training and monitoring team (DTMT), to monitor school from the school start until the end of the school year, especially during before and after short vacation, and during exams to prevent any inactivity in school.*
- *In case any school operates irregularly, immediately coordinate with relevant stakeholders in school (village authority, commune authority, community, parents and teachers) to avoid and prevent the official closure of school which leads to student drop out and impacts on the quality of learning among students."*

This directive clearly acknowledges the risk of school closure at times which this study also identified frequent closures. Interviewed School Directors reported that there was some monitoring done of their schools by either central MoEYS teams, the PoE or the DoE. 56% of School Directors reported that monitoring visits took place twice a year. The graphic below depicts the frequency of school monitoring by MoEYS, PoE, and DoE as identified by School Directors.

However none of School Directors interviewed mentioned that their schools were monitored / visited by the District Training and Monitoring Team (DTMT) during the period before and after the short vacation in April, 2013, as would be required by the guideline above. This would mean that DTMTs were not able to identify schools that were operating irregularly at these times or gather evidence on which to base any follow up actions. It is also important to note that at the time of writing DTMT inspections are announced to the school in advance, and therefore even less likely to identify these issues.

Figure 41: Frequency of monitoring conducted by MoEYS, PoE and DoE



According to the responses from teachers, most of the monitoring and inspection undertaken by MoEYS, PoE and DoE focused on the classroom environment, preparation of lesson plans and teaching methods. Only a few teachers said that the recommendations during the monitoring included those on strengthening teacher attendance and punctuality. School Directors gave the impression that monitoring these aspects of personnel management was left to them.

It is positive that school monitoring and inspection focuses on quality issues, but it is important that it captures basic issues such as school adherence to the school calendar, and teacher attendance, as set out in the central directive. This raises a concern that teacher attendance and teaching hour adherence are not seen as priority issues by education officials and managers, and that teachers and School Directors therefore do not prioritise them themselves.

4.5.2 Monitoring of teachers by School Directors

Besides the monitoring conducted by MoEYS, PoE, and DoE School Directors reported conducting monitoring of their teachers in different ways. Classroom and teaching inspection was the most common method of monitoring reported. The table below depicts different methods of teacher monitoring by School Director reported during interviews. Some School Directors reported using more than one method.

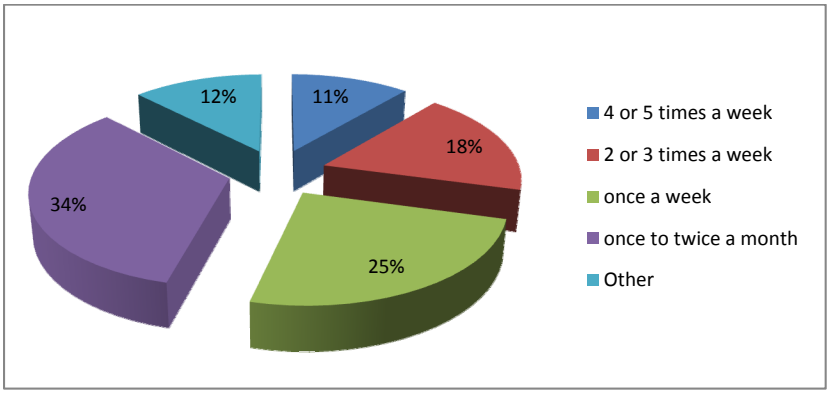
Table 15: Forms of monitoring conducted by School Directors

Ways School Directors monitor teachers	# of Respondents
Class and teaching inspection	29
Check teacher attendance list and classroom	13
Monitoring lesson plans and classroom administration	13
Patrol the school	7
Observe outside classroom	7
Classroom inspection and feedback	5
Evaluate teaching	4
Meeting	2
Look at the teacher self evaluation report	2

Frequency of teacher monitoring reported by School Directors varied greatly depending on the method of monitoring used. School Directors mostly reported that they undertook one or two classroom inspections each month. Classroom inspections were focused on the teaching methodology and classroom management, with the aim to provide constructive feedback that would help teachers to improve. 13 School Directors mentioned that they monitor the attendance of their teachers through checking the attendance list and observing classrooms.

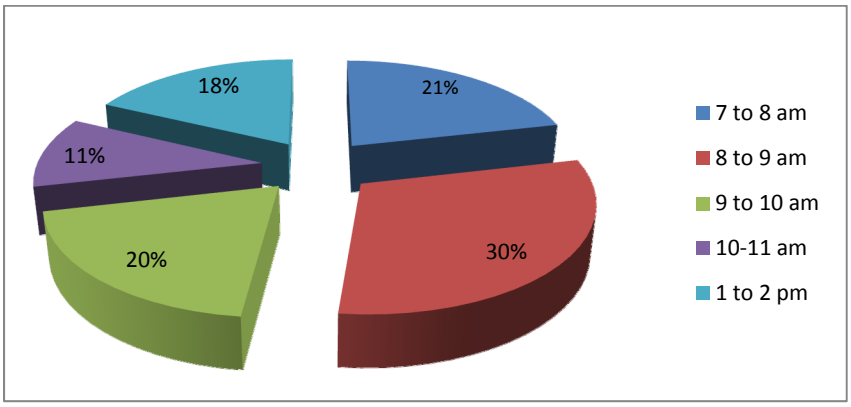
Frequency of teacher monitoring varied greatly from school to school depending on the management. 34% of School Directors said that monitored their staff once or twice a month, while the other 54% said that they did so more frequently. The frequency of monitoring reported by School Directors was not significantly different from rural to urban areas.

Figure 42: Frequency of teacher monitoring by School Director



It is notable that more than 50% of School Directors reported conducting monitoring sometime after first hour and before the last hours of teaching shifts. This means that if teachers started class late or finished class early this would not be observed in the monitoring activity. Again, this shows the lower priority given to punctuality and teaching duration in the monitoring system.

Figure 43: Timing of classroom monitoring by School Directors



Similar to the monitoring done by MoEYS, PoE and DoE, teachers reported finding the monitoring by School Directors useful in improving their practice — in particular classroom decoration, teaching skills, and producing teaching materials. Few teachers reported that the recommendations from School Directors included the issues of attendance and punctuality of teachers or students. However, School Directors provided the opposite point of view. 65% of them reported that their monitoring contributed to the improvement of teacher punctuality and attendance while only 25% reported that it contributed to the improvement of teaching skills and classroom management.

Table 16: School Directors' views on the impact of teacher monitoring

Impact	# of responses
Improved teacher punctuality and attendance	58
Improved teaching skill and classroom management	22
Teachers pay more attention to their teaching	14
No improvement as teachers are busy in their second jobs	4
Teacher pay more attention to slow learners	2

In addition to formal monitoring, School Directors reported that they encouraged teachers to come to class more regularly in a number of ways.

Table 17: Activities done by school to encourage teacher come to class regularly

Activities	# of responses
Monitor, provide advice and encourage teachers	31
Award appreciation letter to good performing teachers	12
Provide incentives	9
Monthly meeting (explore and solve the problem)	8
Annual evaluation to select good teacher	6
Provide opportunities (attend field visit, workshop or salary promotion)	3
Participate in school activities	2
Act as a good role model to teacher	2
Provide individual feedback	2

4.5.3 Disciplinary action taken in response to teacher absence

Through interviews with teachers and School Directors the research team tried to establish the functioning of current personnel management processes intended to ensure good teacher attendance. The results showed differences of opinion and perception between School Directors and teachers. Partly this is related to whether teachers requested permission to be absent. For example, 40% of School Directors (35) reported teachers being absent without asking permission or authorisation, whilst only 10% of teachers (29) identified that they had been absent without asking permission or authorisation.

In Cambodia, teacher absence is regulated within the Ministry of Education, Youth and Sport through the Human Resources Policy Framework, Staff Management directives, and other announcements made every school year. The Law on the Co-Statutes of the Civil Servants in the Kingdom of Cambodia N^{o} …94 dated 26 Oct 1994 as follows:

"Civil servants may not, except for legitimate reasons, cease their service or leave without having preliminarily obtaining the authorization of a qualified authority. Any cessation of service or unauthorized absence shall automatically entail either the placement on leave without pay status, or the suspension of salary; it may in addition give rise to the application of the disciplinary sanctions provided in Article 40.

MoEYS issued a Letter (No.738 dated 9 May 1994) explaining the procedures for education civil servants:

Removing the name of any civil servant or education official from the list of civil servants, will be based on the following:

- *Civil servants and education officials who have been absent for more than 15 working days without permission or clear reasons.*
- *New civil servants and education officials that do not fulfill their assignment according to their mission letter within the timeframe issued by MoEYS."*

Article 40 describes the type and level of sanctions to be imposed on teachers as follows:

Disciplinary sanctions:

Sanction level 1:

a. Verbal warning from managers
b. Written warning with comments on teacher's record
c. Transfer to other school
d. Remove from possibility of rank and grade promotion

Sanction level 2:

a) Serious reproach leading to removing name from possibility of rank and grade promotion if they are in the list to be promoted or slowdown the process of promotion in a fixed period, but not more than 2 years of their promotion mandate or seniority.
b) No salary, but not more than one year
c) Demotion by 1 or more rank or grade level
d) Force to take early retirement or to resign
e) Dismissal

The Human Resource Policy Framework names the School Director as the qualified authority to either deduct or suspend salary of teachers in cases of unauthorized absence, or to enact disciplinary sanctions.

When interviewing teachers, we asked what actions were likely to be taken if they were absent from school without permission. 40% of the responding teachers said that they may receive a warning, either verbal or a written letter from the school management, whilst only 2 teachers pointed to salary deduction and nearly one fifth said that no action would be taken.

Thirty-three teachers (13 %) said that they would have to compensate for the day that they had been absent. However, they acknowledged that this was unlikely in practice due to the fact that there are not many extra days on which teachers could compensate.

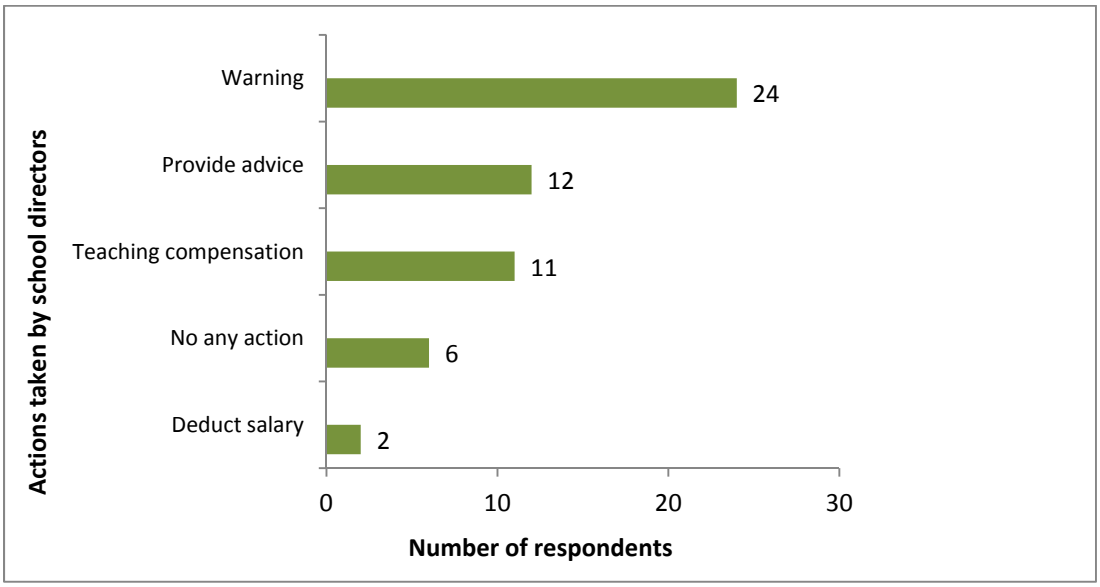
Table 18: Consequences if teachers are absent without permission (multiple responses allowed)

Possible repercussions of unauthorized absence identified by teachers	# of responses	Percentage of responses
No action	45	18%
Salary deduction	2	1%
Teaching compensation	33	13%
Warning	114	46%
Asked by a School Director for reasons	53	21%

The interviews with School Directors indicated some actions taken toward teachers who took leave without asking for permission, including sanctions— warning and advising as included in the figure below. Issuing a warning was the most often reported action of School Directors in response to teacher absence. This was consistent with the view expressed by teachers as 46% of them reported that they would receive such a warning if they are absent without asking permission from their School Directors. In interviews, school directors referred to giving advice rather than using the more formal term of warning, which is used in the policy.

33 teachers (13%) reported that they were asked to compensate for missed teaching days whilst 11 School Directors reported using this sanction. Only 2 School Directors in this study reported ever taking action to suspend or deduct salary, and 2 of the 309 teachers also reported that they would expect a salary reduction if they were frequently absent.

Figure 44: Action taken by schools toward teachers absent without permission



4.5.4 School Directors' views on improving teacher attendance

In interviews, School Directors noted many challenges in reducing teacher absenteeism. The most commonly raised issue was that teachers were busy with their personal affairs such as looking after children, generating other income, and continuing to study. School Directors expressed in particular that they did not feel able to enforce teacher attendance rules and convince some teachers to give more commitment to their teaching role as the teachers needed to have additional income to support their families. School Directors were also sympathetic to teachers who were teaching outside of their home towns and needed to travel a long way during holiday periods. Low management capacity and facing the same financial pressure as teachers may also be a factor hindering School Directors from taking tougher actions in response to absenteeism (*Teaching matters: A policy report on the motivation and morale of teachers in Cambodia*, 2008). It is worth noting that 76% of School Directors in this study reported having a second job or source of income themselves.

More in-depth interviews with a small number of School Directors suggested that they were hesitant to punish or take concrete action towards their staff as a result of their familial feelings towards teachers and the long working relationships that some School Directors have with their teachers. School Directors were also fearful of 'forcing' teachers to resign or leave the school and the resultant issues of staffing and large class sizes. This was particularly the case in rural schools where new teachers were deployed from outside of the district. It is important to remember that School Directors do not have the delegated authority to recruit new teachers, so any vacancies may need to wait until the new school year.

In interviews we also asked School Directors what policy actions may help to reduce teacher absenteeism and the impact on student learning. Forty-six percent (46%) of interviewed School Directors said that salary increases would enable them to enforce the policy and reduce absenteeism. It is notable that these responses were made before the MoEYS announced a series of salary increases for teachers in 2014. In a similar vein, teachers receiving their salary on time was another issue raised by School Directors, as this they felt this reduced motivation and increased the need for teachers to raise additional income. Again, this issue has been overtaken by national policy, by which teacher salary is paid monthly through bank transfer. The other suggestions made by School Directors are shown in the table below.

Table 19: Suggestions from School Directors on how to improve teacher absenteeism

Suggestions from School Directors	# of Responses
Salary increase/ improve teacher living conditions	42
Strengthen teacher discipline	14
Encouragement (provide incentive, appreciation letter, training, technical support, field visit)	13
Provide salary on time	9
Frequent monitoring from PoE and DoE	9
Class monitoring/meetings	9
Improve school facilities (library, toilet, teaching and learning material)	7
Identify problems of individual teachers and help them to solve	6
Improve solidarity in school	6
School Directors should be a good role model	6
Provide accommodation/transportation to teachers	6
No Problem	4
Strengthen self management/ clear role and responsibilities	4
N=89	

Only a few School Directors suggested that the School Director should be a good role model to their teachers on the issues of attendance and punctuality. This potentially aligns with the findings from unannounced spot checks that showed the attendance of School Directors is closely associated with the attendance of school teachers.

Encouragement through training courses and field visits to other schools were also suggested to motivate teachers. Through these methods, it was felt that teachers could upgrade their knowledge and skill to help them perform better. Field visits were felt to provide the opportunity to teachers to see good examples from other schools, teachers and School Directors, helping them to have broader ideas to improve their school and learn from each other. However, findings from teacher interviews revealed that 10% of teacher absence was already due to official missions such as these. More teacher engagement in official missions means more teacher absence and a greater loss of contact time for students unless a more effective system of covering their teaching commitments is introduced. One suggestion was to have training events on weekends or during the vacation, or to organise them in half-day sessions so that teachers can go to school during the other shift as usual.

It seems reasonable to conclude from this interview data that in the schools in this study, teacher absence does not result in significant sanctions or personnel actions. Whilst some School Directors may be following the central policy at times, there was little evidence that serious actions such as salary reduction or dismissal from school were implemented. School Directors justified this lack of action as being in the interests of retaining teachers and avoiding teacher shortages, and as part of a realistic approach to teachers' need for additional income. The priority given to teacher attendance within school management might to some extent explain the level of teacher absence found in this study. Where teachers have reasons not to attend school they appear to be able to do so without fear of significant repercussions, and as we have already established, many instances of teacher absence are during times when School Directors are not present or whole schools have closed as a result of long-term practices to extend holidays, or to close the school on particular days.

V. CONCLUSIONS

This report provides a wide range of evidence that delivery of mandated teaching hours in Cambodia remains a significant concern. The gap between mandated teaching hours and those actually available denies the right to education of many children in Cambodia and undermines the key objectives of the Education Strategic Plan 2014-18. Rural students are particularly disadvantaged against their urban peers, promoting greater inequality, and all students are disadvantaged against those growing up in neighbouring economies where they simply spend more time in school. Furthermore our evidence indicates that teacher absence itself negatively impacts on students' education. In this section we will look at some key themes across the sources of evidence gathered in this study and recommendations associated with those themes, and assess the combined impact of the types of teaching hour loss explored in the study.

Actual versus mandated teaching hours in the 2012/13 school year

In this report we have looked at three ways in which teaching hours actually delivered in schools vary from the national expectation; additional official school holidays, teacher absenteeism, and lessened contact hours through shorter teaching sessions. We should remember that because teachers in this study knew that they were being observed the results are more likely to be under-estimations than over-estimations.

Together, these causes accounted for a very significant reduction in teaching hours in many of the schools that we studied, and they can be used to create an average teaching hour loss across our sample of schools and provinces in the 2012/13 academic year. Note that these calculations are made based on the national curriculum hours, excluding Thursday / Local Life Skills teaching as this was out of the scope of this study.

To do this we first remove additional official school holidays from the mandated school year[14] - an 8% reduction:

	Reduction (%)	Days	Sessions (5 per day)	Actual Hours (3.33 per day)
Teaching time in the school year 2012/13		186	930	619
Reduction from additional official holidays	8 %	14	70	47
Remaining teaching time		172	860	573

The teachers in this study were absent on average for 10.5% of the remaining 172 teaching days, leading to the following average reduction in national curriculum study days and hours:

	Reduction (%)	Days	Sessions (5 per day)	Actual Hours (3.33 per day)
Official teaching time 2012/13		172	860	573
Reduction from average teacher absence	10.5 %	18	90	60
Remaining teaching time		154	769.7	513

Of the remaining average 154 days taught, the same teachers taught on average for 24 minutes (12%) less than the scheduled teaching time per day, leading to further loss:

[14] Note that the actual school year in 2012/13 of 186 days is used, rather than the 190 days set out in the national policy.

	Reduction (%)	Days	Sessions (5 per day)	Actual Hours (3.33 per day)
Official teaching time 2012/13 adjusted for average teacher absence		154	769.7	513
Reduction from average length of lessons	12 %	18.5	92	61.5
Remaining teaching time		135	677	451

Using this method of calculation, those in our study therefore taught on average 27% less than the school year as set out in MoEYS policy; a reduction of 50.5 school days, 253 teaching sessions, or 168 hours during the year.

	Days	Sessions (5 per day)	Actual Hours (3.33 per day)
Mandated School Year 2012/13	186	930	619
Combined average loss of teaching hours	50.5	253	168
Percentage loss	27 %	27%	27%

It could be argued that this calculation is artificially high because of the events leading to additional official school holidays in that particular year. However, if we assume no additional holidays in a standard school year of 190 teaching days, the reduction from teacher absence and lessened contact hours suggests that 21% - more than a fifth – of the school year would still be lost on average:

Theoretical year	Reduction	Deduct days	Days	Sessions	Actual hours
Mandated School Year			190	950	633
Teacher absence average	10.50%	20	170	850.25	566
Lessened contact hours average	12%	20.4	150	748	498
Total loss		40.4		202	134
Percentage loss		21%		21%	21%

As detailed in the analysis above, we observed significant variations in both teacher absence and the length of lessons between individual teachers, between schools, and between urban and rural areas. The largest difference was between urban and rural averages. If we use the same calculation as above for only rural schools the average loss of teaching hours in a standard school year (excluding additional official holidays which affect both equally) would be **24%** - nearly a quarter of the school year.

Theoretical year (rural)	Reduction	Days	Sessions	Actual hours
Mandated School Year		190	950	633
Reduction from average teacher absence (rural)	12%	167	836	557
Reduction from average lessened contact hours (rural)	14%	144	719	479
Total loss			231	154
Percentage loss			24%	24%

In 2012/13, if we include the additional official holidays, **the average school year in the studied rural schools was 30% shorter than the mandated school year. This compares with a school year that is 21% shorter in urban areas.**

2012/13 - rural	Reduction	Days	Sessions	Actual hours
Mandated School Year 2012/13		**186**	**930**	**619**
Additional official holidays	**8%**	**172**	**860**	**573**
Reduction from average teacher absence (rural)	**12%**	**151**	**756.8**	**504**
Reduction from average lessened contact hours (rural)	**14%**	**130**	**651**	**433**
Total loss			**279**	**186**
Percentage loss			**30%**	**30%**

Conclusion 1: Loss of teaching hours in Cambodia

Loss of teaching hours in Cambodia remains a significant issue in delivering an efficient public schooling system.

This study found that a large proportion of teaching time was lost in the school year 2012/13 due to three main phenomena— additional official holidays, teacher absence from class and lessened contact hours during teaching days.

Although it can be argued that the year studied was exceptional in terms of **additional official holidays**, this had a clear impact on the teaching time delivered to students. Furthermore, several of the events causing additional holidays actually occur each year and it is reasonable to argue that they can be anticipated when the school calendar is devised. It is not clear why school closures are not anticipated for teacher training exams, for example, when they happen each year. Additional official holidays also have the potential to lead to further closures given the common practice evidenced in this report to close schools for additional days if holidays fall on Fridays or mid-week.

Teaching hour loss due to **teacher absence** was equally serious, resulting in a significantly diminished amount of learning-teaching encounter in class. International evidence suggests that this would have a significant impact on student learning outcomes, and in this study frequent teacher absence was correlated with lower achievement of students in standardized testing. Whilst some level of teacher absence – for example when teachers are ill – can be expected, the extent of absence identified here goes well beyond that and we should also remember that teaching sessions were very rarely found to be covered by the School Director or another member of staff meaning that teacher absence usually meant missed lessons for their students. When a fifth of teachers report that the curriculum does not fit within the school year, and more than a fifth report that they could not finish the science or social science textbooks. The impact that this has on what students are able to learn is clear.

Loss of teaching time through **lessened contact hours**, which a more hidden issue, also greatly affected the annual teaching hour loss in our sample of schools, highlighting a concerning number of teachers shortening lessons through late arrival or finishing classes early, and a concerning common practice in rural areas to teach shorter lessons that in urban areas. It can be argued of course that the length of lessons is no indication of their quality, but the key issue is that a particular subset of teachers routinely teach short lessons and are not effectively offering the same opportunities to their students as other teachers. This seems to us a 'culture and practice' issue that is closely related to School Directors capacity to act as a manager of their teaching staff, and the level of priority given to teacher attendance and punctuality. That in itself is influenced by issues of teacher recruitment and deployment.

From the findings of this research we can conclude that the provision of teaching hours to students remains considerably lower than stipulated in the Policy for Curriculum Development 2005-2009. Although there have been previous studies in this area and a range of action taken at a policy level to address the issues, the issues appear of a similar magnitude to previous evidence. Different calculation methods, and whether studies include Thursday teaching, make direct comparisons difficult, but it is clear that significant challenges remain in guaranteeing children the opportunity to study the full curriculum in many Cambodian schools. There is a need for renewed action to address these issues and communicate their priority amongst the education community and amongst Cambodian society at large.

Conclusion 2: Inequality between rural and urban areas

School hours delivered are much lower in rural areas, embedding inequality.

Our findings suggest that teaching hour loss is a more serious issue in rural schools and remote areas. Teacher absence, whole school closures, and lessened contact hours through shorter lessons being taught are all significantly more prevalent in rural schools, and in our study the most absent teachers were all in rural schools.

There are a great many factors at play here, and this is an experience found in other developing countries in similar research. One hypothesis could be that lower quality infrastructure in rural areas acts as a barrier to teacher attendance, and this may be the case. However when we examined our research findings we did not find that teachers who live further from school, with the exception of those living more than 25km away, were more frequently absent or late. Similarly it has been suggested that as rural teachers are very often deployed away from their home district or province journeys to visit their families, or a lower level of personal commitment to the local community, may reduce their attendance. Again, in this study we found no significant correlations between being born or living locally and teacher attendance.

Of perhaps more interest is a hypothesis based on teacher earnings and livelihoods. Previous studies by NEP and others have established the very common practice of teachers securing additional income to supplement their teaching salaries (NEP, 2012; VSO, 2008). Although the teachers in our study did not frequently cite income generation as the cause of their absences, attributing only 2% of absences to these activities, one of the main reasons that School Directors gave for being lenient in managing teacher absence was that they recognised that teachers needed to make additional income to provide for their families. The rural / urban factor in this analysis relates to the ways in which teachers make that additional income. Previous NEP studies have found that teachers in urban areas are more likely to make additional income through teaching extra lessons at the school they work at, and also that informal school fees that some teachers benefit from are significantly higher in urban areas (NEP,2012). During our teacher interviews in this study, teachers in urban areas gave loss of income as a reason why they rarely miss school. Rural teachers were more likely to make additional income through farming, where seasonal factors are relevant, or businesses away from their school. It is reasonable to assume that this plays a part in the rural / urban difference we observed in this study.

There were also a small but significant number of teachers in rural areas who, having recently graduated from teacher training college, were seeking to gain a BA qualification from a local university. This resulted in very frequent absences on Saturdays, when their classes should be taught, so that they could travel to and attend university courses. Achieving their qualifications entitles them to a higher salary in their role as a teacher. This will not explain the size of the differences we found, but does explain some individual rural teachers' high absence rates. As Cambodia moves towards BA equivalency in teacher training this should become less of an issue, however it is an important reminder that when teachers are pursuing studies – privately or through official teacher training events – this study found it very likely indeed that their classes would be cancelled and students miss another day of the curriculum.

Associated with accepting that some younger teachers may be missing school days to pursue higher qualifications, School Directors frequently reported a tension between accepting the attendance and punctuality of their teachers and the likelihood that any teacher who left the school would be replaced. Exacerbated by well-evidenced teacher shortages in rural areas of Cambodia in particular, rural School Directors may find themselves making a decision over whether a poorly attending teacher is better than no teacher at all. This adds another potential hypothesis on the differences between rural and urban area; that stronger personnel management action is possible in urban areas without resulting in teacher shortages.

The final factor of significance in the rural / urban divide in this study is the extent of 'common practice' holidays, which were far more common in rural than urban areas. These practices are discussed in more detail in the next section, but an interesting area for further discussion and grassroots research would be whether community expectations of schooling differ in rural and urban areas, and whether 'citizen power' plays a part in the priority given to school opening hours in rural and urban schools.

Conclusion 3: 'Common practice' closures

'Common practice' closures mean that teachers and education managers are actively choosing to reduce the annual school year and children's access to the curriculum.

Teachers reported that nearly half of their absences relate to 'common practice' decisions to close schools around the times of official holidays or for unofficial holidays such as Chinese New Year. 16% of spot checks on teaching days either side of public holidays found teachers to be absent, and very frequently the whole school was closed. 61% of teacher absences during spot checks coincided with whole school closures. This shortens a school year that already includes significantly fewer instructional hours than other countries.

In this and other studies by NEP we have found that teachers and School Directors claim that parents do not send their children to school at these times, so it is not efficient to open schools. Conversely we have found parents to say that they cannot send their children to school because schools are not open. It seems likely that at least in some communities there is an unspoken consensus that values other activities or factors over school attendance at these times. In one of our study areas, for example, parents suggested that the heavier traffic at the start and end of holiday periods made it too dangerous to send their children to school at those times. However it is the responsibility of schools to provide opportunities to learn and access the curriculum, and by closing at these times children who are able to attend school are denied this opportunity.

The issue of Chinese New Year is particular within this analysis. As noted, 47% of teachers in this study were absent from work during spot checks undertaken in Chinese New Year, and one third of schools checked were closed. The education community in Cambodia needs to consider whether it is acceptable that this number of children have their schooling reduced in this very predictable way.

Guidelines have existed for several years that mandate local authorities to particularly focus school inspections on these 'near holiday' periods. The results of this study suggest that if these guidelines are followed then local authorities must be aware of the extent to which children are denied opportunities to go to school. However in interviews with School Directors very few identified any DTMT visits at those times, and we should remember that the inspection system during the time of this study was based on announced or pre-planned inspections.

This conclusion identifies that there is a major challenge in what is considered acceptable within both the education and the wider community when it comes to school holiday periods. Tackling these potentially deep-seated societal attitudes will be complex and take time, but this can start with what education managers themselves believe to the best way to ensure good access to the curriculum for Cambodian children.

Conclusion 4: Teacher management, recruitment, and deployment

Teacher management, recruitment, and deployment practices contribute to significant teaching hour loss

In addition to triangulated monitoring of teacher absence and teaching hours delivered, our study also explored the ways in which current personnel management practices address, or fail to address,

the issue of teaching hours. When School Directors were not at school, teachers were much more likely to be absent. Whilst School Directors could identify many ways in which they try to motivate teachers to attend school regularly and the sanctions at their disposal, teachers' experiences were of very limited use of sanctions. Personnel policies exist that name the School Director as the relevant authority for teacher management, however in interviews it was clear that they felt their role was to make recommendations to the District Office of Education level.

40% of School Directors reported that teachers in their school are sometimes absent without permission, but ultimately the study found either a reticence or a lack of capacity or authority from School Directors to fully address this. Non-technical barriers to enforcing higher expectations of teachers were identified as close relationships between School Directors and their teachers and School Directors' recognition that teachers need to maintain other sources of income. A more technical barrier, as noted above, is the perceived difficulty, particularly in rural schools, in securing and retaining sufficient teachers. Using sanctions that might lead to teacher resignation is understandably difficult when that may lead to teacher shortage in a school.

At the same time, it is important to recognise that School Directors were also frequently absent from their schools during spot checks – absent during 16% of checks. The study did not set out to explore reasons for School Director absence and therefore it is possible that many of their absences were for official business. However it is reasonable to assume that School Directors play a role in agreeing whether the whole school will close on days that are officially part of the school year – 'common practice' closures - and 38% of School Directors were absent during Chinese New Year spot checks.

Most of the time, when School Directors discussed monitoring of teachers they did so in relation to quality of teaching and classroom practice, rather than basic issues of attendance and the length of lessons taught. This was also reflected to be the focus of DTMT inspections or monitoring visits. Whilst it is positive to hear that monitoring is undertaken of classroom practice, and that teachers feel this helps them, it is a significant omission that personnel management issues are not considered relevant to these monitoring activities. This is particularly the case given that the guidance to DTMTs referenced above specifically identifies the need to check whether schools are open around the times of official holidays. The logistics of this for small DTMT teams are undoubtedly difficult, and it is understandable that if the focus of inspection is classroom practice then education officials want to be sure that the school is open and teachers are present before visiting. However this means that the current external monitoring system is not well-designed to identify these fundamental issues, and the internal monitoring system depends on the motivation and prioritisation of the School Director.

It is important that local education managers have the authority and ability to enforce personnel policies that are designed to ensure that teachers perform well. Attendance is an important part of this, but appears to be de-prioritised. Policy developments in the area of School-Based Management need to take account of this, but also recognise the technical and personal barriers that we have found to exist in local managers using their current authority to tackle teacher absence or loss of teaching hours through school closures.

VI. RECOMMENDATIONS

With key findings showing the varying nature of teaching hour loss in Cambodia, NEP makes the following recommendations to maximize student learning time and give better and more equal access to learning for children in Cambodian primary schools. There should therefore be a clear focus on ensuring equal implementation of these recommendations in both rural and urban areas.

1. **MoEYS should initiate a fundamental review of the school year and school holidays that includes:**

a. Incorporating regular 'additional official holidays' in to the school year, and adding additional school days or learning hours to compensate

The school year established by MoEYS of 190 teaching days does not make allowance for school closures required nationally for some examinations and other regular events. This means that the school year starts with reduced curriculum hours, and that it is not possible for schools to adhere to the Policy for Curriculum Development even before unofficial school closures or teacher absence are taken in to account. If, for example, it is considered necessary to close schools for several days prior to elections, the school year should be made longer in election years to give teachers the chance to cover the whole curriculum.

b. Deciding whether Chinese New Year will be enforced as part of the school year, or should be should be an official school holiday

Chinese New Year is not an official public holiday in Cambodia, but it is widely observed as a holiday, and has become an important part of local culture for many families. Our findings suggested that almost 50% of spot checked teachers were absent on Chinese New Year days and one third of schools were closed. One option is to increase enforcement of school opening in this period. Another is to include a new school holiday at the time of Chinese New Year to recognise this developing cultural norm, adding additional days at either end of the school year.

c. Consulting on guidance on School Year flexibility and any decentralisation of the school year, and ensuring that there are adequate monitoring mechanisms within this guidance

Pilots have been conducted on school year flexibility particularly to allow rural schools to recognise teacher and pupil absence at planting and harvest times in rural areas. If MoEYS plans to expand this pilot and decentralize the school calendar, there should be consultation with education managers, teacher associations and NGOs on clear guidance, and PoEs and DoEs especially in rural areas need to be resourced to provide schools with technical support to implement this guidance. This technical support should include community consultation on local needs, ensuring minimum standards of teaching hours are met in any revised school calendar, and evaluation of impact on learning and attendance of students.

Given our findings in this report on the current prioritization given to teacher attendance and school opening hours by School Directors and to some extent PoE and DoE officials, any decentralization of the school year needs to be accompanied by increased monitoring in order to be sure that those living rurally are not further disadvantaged by decreased learning hours.

2. MoEYS needs to continue to prioritise action on teacher recruitment, retention, and deployment in order to enable stronger personnel management without leading to greater teacher shortages, including

a. Continuing to improve teachers' professional status, salary and incentives

NEP strongly supports recent improvements to teacher salaries and recognizes the priority that the MoEYS has placed on improving teacher living conditions. Increases to teacher salaries and incentives play a key role in enforcing laws and regulations related to School Director andteacher attendance and professionalism. The existing package of teacher salary and incentives, though significantly improved, remains at a level where it is considered reasonable by many that teachers have other jobs to secure additional income. School directors, especially in remote areas,are reluctant to take any concrete action to sanction frequently absent teachers in the interest of retaining teachers and avoiding teacher shortages, and as part of a realistic approach to teacher's need for additional income. Improving the additional payment incentives to work in rural and remote areas is also essential to ensure better deployment of teachers to schools where they are needed.

b. Recruiting more teachers at Primary School level

School Directors are placed in an unenviable position when faced with poorly performing teachers. Their concern that tackling poor attendance will lead to the loss of teaching staff is understandable. The number of primary school level teachers in Cambodia has been declining over the past five years, and there is significant drop out in the teacher training system. The number of teachers recruited needs to increase in order to enable more robust staff management. Allowing re-entry in to the teaching profession from previously qualified teachers, and older entrants to teacher training, may help with this.

c. Improving the teacher deployment system so that in-year vacancies can be filled.

Currently the majority of teacher deployment activity takes place at the start of the school year with new teacher training graduates. This leads School Directors to feel that if teachers leave their jobs during the year that they will not be replaced through re-deployment. Whilst teacher shortages remain it is challenging to respond to urgent teaching vacancies. However consideration should be given to the use of a flexible pool of teachers that provide cover for in-year vacancies or teachers with long-term absence, with a specific incentive package for this group of teachers.

3. MoEYS and sub-national education officials should strengthen personnel management and school inspection to improve teacher attendance and reduce school closures, by:

a. Ensuring that attendance and punctuality issues are recorded well and that these are linked to opportunities for promotion for teachers and School Directors

As seen throughout this report, a considerable proportion of teaching hours are lost due to teacher absence but the system for responding to this does not work adequately. Strengthening the monitoring system is, thus, a priority. Having a warning system in place to identify underperforming teachers is as important as having a system to reward the best performing teachers. Many teachers in our study showed high levels of commitment, but a significant number showed poorer performance with limited repercussions.

International evidence on teacher attendance shows a direct relationship between the effectiveness of monitoring and improved attendance. We recommend that information on

teachers' unauthorised absences and punctuality should be included within teacher appraisal records, and performance on these issues should be linked to opportunities for promotion or reward. The information should also be aggregated and analysed by sub-national authorities to identify schools with particular challenges so that this can addressed with the School Director, and at Provincial and national level to identify areas of good practice and challenges and enhance accountability.

b. Reviewing personnel management policies to improve implementation as part of School-based Management

Personnel management policies exist that should enable School Directors and DoEs and PoEs to take action where teachers are underperforming on attendance or punctuality. However amendment of personnel management policies should be considered to make these processes simpler and to ensure that continued poor attendance leads to increasingly significant disincentives for teachers. This may be an area where international technical assistance, and use of guidance such as the good practice published by the ILO, could be helpful. Teachers and Teacher Associations should be involved in any revision of procedures.

Any delegation of greater authority to School Directors through implementing School-based Management approaches needs to be done carefully. The capacity of School Directors to take on greater authority needs to be carefully assessed, and their capacity built in personnel management. One view is that their authority in these processes is too limited, but in this study we found them reluctant to use the existing mechanisms for wider social and personal reasons that need to be addressed if School-based Management is to work effectively.

c. Using personnel procedures to improve the performance of under-performing School Directors

The behaviour of School Directors sets the culture of the school and establishes norms that other teachers will follow; they are a role model for their teachers. A number of School Directors in this study oversaw regular whole school closures, and were part of establishing and sustaining the 'common practice' of reducing the school year by adding additional holidays. Increased monitoring of this activity should lead to firm personnel actions that use the disincentives already laid out in policy, so that DoEs are fulfilling their role in overseeing the effectiveness of School Directors. This needs to be done in a transparent manner to avoid accusations of politically motivated sanctions.

d. Improving internal and external inspection so that school closures, teacher attendance, and the length of the school day are recognized as important issues.

Whilst inspection ideally focuses on the quality of education, it should also be able to identify and address the reduced access to education provided in some schools. We found no evidence that the current guidance that requires DTMTs to visit schools at times when unofficialclosures are more likely was being followed in our study areas. There are various issues here, including the financing of DTMTs and their reluctance to make 'wasted visits' to schools, but ways should be found for the guidance to be enforced. This should lead to increased reporting of DTMT inspections at these critical times, and increased reports of unofficial school closures.

School inspections need to be genuinely unannounced, and the framework for school assessment should include adherence to the teaching hours set out in the Policy for Curriculum Development. Inspectors should examine records of school opening and teacher attendance, and seek information from students and the local community to add to this information.

e. Publish anonymised personnel data on an annual basis, including the number of teachers and School Directors subject to different levels of sanction.

Doing this would enable greater community and civil society confidence that under-performance is being addressed, and would enable progress to be monitored year on year. Inclusion of the data in EMIS may be an option, but if this is not the appropriate publication, a separate personnel management report should be issued annually.

4. **In the medium term, more options and better planning for providing 'cover' for absent teachers should be considered, so that teacher absence does not impact as much on children's access to education, including**

a. **Revising the national guidance and options for a regular system to respond to teacher absence, particularly long-term absence, in consultation with the teaching profession**

Current expectation and practice is that in the event of teacher absence the School Director, another teacher, or a member of administrative staff, should replace them. Our study found this to be rare, potentially because of a lack of available staff and potentially because there is no system of recompense for any teacher covering a teaching session.

A certain level of teacher absence can be expected in any system, particularly as a result of ill-health or family emergencies. In the medium-term, MoEYS should develop a way of allocating budget, potentially at DoE level, for a backup or 'reserve' group of teachers (potentially retired teachers or contract teachers) that can teach if homeroom teachers are absent – particularly if they need to be absent for several days. This is a particular priority in rural areas.

b. **MOEYS, Development Partners, and NGOs should avoid reducing teaching hours when planning teacher training and other events involving teachers.**

It is important to recognise that without a more reliable 'cover' system, events for teachers during the school year can easily lead to reduced learning hours for their students. The positive effects of teacher training on motivation and performance are recognized, but where possible such events should be organized at vacation times, or as local half-day events.Alternatively, clear provision should be made for how classes will be covered whilst teachers are absent or teaching hours compensated on another day.

5. **Community engagement in school monitoring, and holding schools to account, needs to be increased. This should include:**

a. **Making it clear what teaching hours parents and students should expect from their schools.**

Increasing the role that community members play in holding public services to account is a key part of the Decentralisation and Deconcentration programme. One of the key strands of social accountability approaches, increasingly common in Cambodia, is ensuring that citizens know what their local services should provide so that they can hold them to those standards. We recommend that civil society actors such as NGOs and local community groups should work toraise community awareness of the number of school days that children are entitled to under MoEYS policy, so that parents if their school is meeting the expectations. Development Partner investment in the area of Social Accountability should continue in order to enable this.

b. **Developing the opportunities for School Support Committees, Commune Councils, and local people to provide feedback on school opening and teacher absence**

The functioning of School Support Committees in Cambodia has been the topic of several studies highlighting implementation challenges, but they remain a potential mechanism to engage local people in what schools should be providing. The substantial guidance on the role of SSCs includes reference to addressing any issues of teacher or pupil absence, but SSCs need more support to fully meet this role. Empowering Commune Councils to engage in school

accountability is also important in order to support the effectiveness of the monitoring system and provide an alternative source of feedback to MoEYS. Finally, community members have a role to play in highlighting where local governance is not working, and there should be clear, well-publicised, and confidential routes by which they can raise concerns within the MoEYS hierarchy. Empowering citizens in this way would further engage them in local public services, potentially leading to a higher value being placed on those services.

6. **In the long-term we need to increase the learning hours provided in Cambodian schools to meet international standards.**

   As ASEAN integration approaches, Cambodia needs to be ready to respond to increased competition and international standards of education. MoEYS, and the Royal Government of Cambodia, recognise that the quality of education is central to building the human resources for sustainable development and ensure economic competitiveness in the future. The most pressing issues of economic competiveness may be around the provision of skills and knowledge that meets economic demands; overcoming what is commonly referred to as the 'skills gap'. However in the longer term, serious consideration needs to be given to the impact of Cambodian students simply spending less time learning than their counterparts in other countries.

   As established in our literature review, the Cambodian education system is still mostly reliant on pupil-teacher contact time and therefore the prescribed instructional hours are crucial for students to acquire knowledge and skills. The currently mandated 684-760 hours in the Primary School year falls behind the international averages and the UNESCO recommendation of between 850 and 1000 hours per year. Furthermore, evidence cited from other countries with developing education systems has shown that incremental increases in pupil-teacher contact time have a positive association with learning outcomes.

   Whilst a first priority should be eliminating the unequal availability of the currently mandated school year in Cambodian schools, establishing our ambition for the instructional hours we should be providing in public schools is also important. MoEYS should oversee a professional and public dialogue about this issue to set an ambition to increase instructional hours over a number of years.

   This dialogue should include a thorough study of the implications for the education system of a longer school day, learning from pilots of full day teaching that have taken place in Cambodia, and reflecting on the physical infrastructure and human resources required. It should also include a review of the effectiveness of the current approach to Thursday teaching, which was out of the scope of this study. Most of all, efforts need to be made to engage the community to develop a shared understanding of the value added by a longer school day.

ANNEXES

Research Study: Teaching Hours

Form to be used during Spot check checklist

Date: ---------- Observers:----------

1.01 Province:

1☐ Battambang 2☐ Koh Kong 3☐Preah Vihear

4☐ Kampong Cham 5☐ Mondolkiri 6☐ Phnom Penh

1.02 Name of District: _____

1.03 Type of District: 1☐Urban 2☐ Rural

1.04 Name of School: _____

1.05	Is the school is open on the visit day: *(if no, skip the question from 1.07 to 1.14)*	1-Yes	2-No
1.06	Does school director/head master come to school?	1- Yes	2- No
1.07	Does the school have garden?	1- Yes	2- No
1.08	Does the school have bio garden?	1- Yes	2- No
1.09	Does the school have water supply?	1- Yes	2- No
1.10	Does the school have clean water?	1- Yes	2- No
1.11	Does the school have playground?	1- Yes	2- No
1.12	Does the school have functioning toilet?	1- Yes	2- No
1.13	Does the school have library?	1- Yes	2- No

1.14 Is teacher (grade 4-6) is present and teaching on the visit day?

Grade	Is teacher is teaching		Teaching shift	
	Yes	No	Morning	Afternoon

Research Study: Teaching Hours

Date: ---------- Observers:----------

1.1 Province:

1☐ Battambang 2☐ Koh Kong 3☐Preah Vihear

4☐ Kampong Cham 5☐ Mondolkiri 6☐ Phnom Penh

1.2 Name of District: _____

1.3 Type of District: 1☐Urban 2☐ Rural

1.4 Name of School: _____

1.5 Is the school is open on the visit day: 1☐Yes 2☐No

School Environment

1.6	Does school director come to school?	1- Yes	2- No
1.7	Does school director come to school on time?	1- Yes	2- No
1.8	Does the school have garden?	1- Yes	2- No
1.9	Does the school have bio garden?	1- Yes	2- No
1.10	Does the school have water supply?	1- Yes	2- No
1.11	Does the school have clean water?	1- Yes	2- No
1.12	Does the school have playground?	1- Yes	2- No
1.13	Does the school have functioning toilet?	1- Yes	2- No
1.14	Does the school have library?	1- Yes	2- No

Class Observation

1.15 Is the class (grade 4-6) operating on the visit day?

Grade	Number of classes	Is teacher teaching		Teaching shift	
		Yes	No	Morning	Afternoon
4					
5					
6					

1.15 Class period of grade …….

Session	Starting	Finishing	Duration	Remarks
First				
Second				
Third				
Fourth				
Fifth				
		Total =		
What is the hygienic condition of the classroom: 1)Very clean 2)moderate clean 3) dirty 4) very dirty				

1.16 Class period of grade .....

Session	Starting	Finishing	Duration	Remarks
First				
Second				
Third				
Fourth				
Fifth				
		Total =		
What is the hygienic condition of the classroom: 1)Very clean 2)moderate clean 3) dirty 4) very dirty				

1.17 Class Period of grade .....

Session	Starting	Finishing	Duration	Remarks
First				
Second				
Third				
Fourth				
Fifth				
		Total =		
What is the hygienic condition of the classroom: 1)Very clean 2)moderate clean 3) dirty 4) very dirty				

1.18 Class period of grade .....

Session	Starting	Finishing	Duration	Remarks
First				
Second				
Third				
Fourth				
Fifth				
		Total =		
What is the hygienic condition of the classroom: 1)Very clean 2)moderate clean 3) dirty 4) very dirty				

1.19 Class period of grade .....

Session	Starting	Finishing	Duration	Remarks
First				
Second				
Third				
Fourth				
Fifth				
		Total =		
What is the hygienic condition of the classroom: 1)Very clean 2)moderate clean 3) dirty 4) very dirty				

Date: ---------- Observers:----------

1.1 Province:

1☐ Battambang 2☐ Koh Kong 3☐Preah Vihear

4☐ Kampong Cham 5☐ Mondolkiri 6☐ Phnom Penh

1.2 Name of District: _____

1.3 Type of District: 1☐Urban 2☐ Rural

1.4 Name of School: _____

1.5 Is the school open on the visit day: 1☐Yes 2☐No

1.6 Does school director/head master come to school? 1- Yes 2- No

1.7 Does school director come to school on time? 1- Yes 2- No

Please select the 3 most regular attending students from each selected classes of grade 4, grade 5 and grade 6. Then collect their notebooks on Khmer and Mathematics to review and record the days on which classes were or were not held.

Please tick (✓) in each day of the provided calendar (by month) if there were classes in the student notebooks. Tick (×) in each day if there is no class. Do not fill in the some days such as Sunday and holiday (in grey cell). Please provide note under each month if there is any available explanation.

Grade:----------

October 2012

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15 Pchum Ben Day បុណ្យភ្ជុំបិណ្ឌ	16 Pchum Ben Day បុណ្យភ្ជុំបិណ្ឌ	17 Pchum Ben Day បុណ្យភ្ជុំបិណ្ឌ	18	19	20	21
22	23	24	25	26	27	28
29 King's Coronation Day, Norodom Sihanouk	30	31 King Sihanouk Birthday				

November 2012

Mon	Tue	Wed	Thu	Fri	Sat	Sun
			1	2	3	4
5	6	7	8	9 Independence Day	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27 Water Festival	28 Water Festival	29 Water Festival	30		

Note:.....

December 2012

Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8	9
10 Human Rights Day	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

January 2013

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1 International New Year Day	2	3	4	5	6
7 Victory Day Over Genocide	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February 2013

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

Note:.....

March 2013

Mon	Tue	Wed	Thu	Fri	Sat	Sun

				1	2	3
4	5	6	7	8 International Women's Day	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Note:.....

April 2013

Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
1	2	3	4	5	6 Short vacation	7
8 Short vacation	9 Short vacation	10 Short vacation	11 Short vacation	12 Short vacation	13 Short vacation	14
15 Short vacation	16 Short vacation	17 Short vacation	18 Short vacation	19 Short vacation	20	21
22	23	24	25	26	27	28
29	30					

May 2013

Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**

		1 International Labor Day	2	3	4	5
6	7	8	9	10	11	12
13 King Norodom Sihamoni's Birthday	14 King Norodom Sihamoni's Birthday	15 King Norodom Sihamoni's Birthday	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Note:.....

June 2013

Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18 Queen Mother Birthday	19	20	21	22	23
24	25	26	27	28	29	30

Note:.....

Teaching Hours: Teacher Questionnaire

Name of interviewer:_____ Date : _____

Introduction:

My name is_____I am carrying out research as part of NEP's study on teaching practices in Primary School. I am meeting you today to explore with you some information on your own experiences of teaching practice in school. Therefore, I'm asking for some of your time (about 1 hour) to discuss with you this matter. Please be as honest and accurate in your responses as possible, as doing so will help us in our efforts advocate for positive change in the education sector. We would like to assure you that you will not face any risks or problems from participation in this research and all information you provide us will be treated as strictly confidential. If we wish to use any identifiable information provided by you we will first get your written permission.

Instruction: [*Tick only one answer per question, exceptions will be indicated*]

1.1 Questionnaire code:_____(leave it blank. NEP will fill in later)

1.2 Province:

1) Battambang 2) Preah Sihanouk 3) Preah Vihear

4) Kampong Cham 6) Mondolkiri 4) Phnom Penh

1.3 Name of District:
1.4 Type of District: 1) Urban 2) Rural
1.5 Name of School: _____
1.6 Is it disadvantaged school? 1) Yes 2) No

Background Information

1.7 Age:

1) ≤ 19 Adolescence 2) 20-35 Young adulthood

3) 36-45 Middle adulthood 4) ≥46 Late adulthood

1.8 Sex: 1) Male 2) Female
1.9 Marital status: 1) Single 2) Married 3) Widow/widower
1.10 How many children do you have living at home? ----------

(if no children living with, please jump to question 1.13)

1.11 Are you the primary carer for the children?

1) Yes 2) No *(if no children living with, please jump to question 1.13)*

1.12 If yes, how does this role affect the fulfillment of your teaching duty?----------

Location of Teacher's Home

1.13 How far is the school from your house?-------

(skip to 1.16 if teacher stays in school dormitory)

1.14 How long does it take from home to school?--------Mn

1.15 How do you usually come to school

1) Foot 2) Bicycle 3) Motorbike

4) Motordub 5) Other (specify)----------

1.16 Were you born in this province?

1)Yes 2) No (if no children living with, please jump to question 1.19)

1.17 Were you born in this district?

1) Yes 2) No (if no children living with, please jump to question 1.19)

1.18 Were you born in this commune?

1) Yes 2) No

1.19 How many years have you lived in this commune for?----------

1.20 What is the level of involvement of parents (gradient) in their child's education (for your students)?

1) Very active 2) Somewhat active 3) Rarely active

4) Never active 5) I don't know

1.21 What is the level of involvement of parents in school activities?

1) Active 2) Somewhat active 3) Not so active

4) Not active 5) I don't know

1.22 What level of respect do you think the community has for you as a teacher?

1)High 2)Moderate 3)Low 4)Very low

1.23 What is your second job? (Check all apply)

1) Motodub 2) Teaching at private school

3) Teach extra class 4) Part time job with company

5) Sell food at school 6) Seller (petty trade goods)

7) Farmer 8) No other job (If no other job, please jump to 1.25)

9) Other (specify)_____

1.24 When do you do your second job? (Check all apply)

1) Before go to school 2) After school hours 3) On Sunday

4) During break time 5) Other (please specify)----------

1.25 On average, how many hours do you dedicate to your second job per week?----------h

Teaching shift

1.26 What is your teaching shift?

1) Morning 2) Afternoon 3) Double shift

4) Rotate, one month in the morning and another month in the afternoon

1.27 What is your teaching class?

1) Single grade 2) Multi-grade

1.28 What is your teaching grade?

1) Grade 1 2) Grade 2 3) Grade 3

4) Grade 4 5) Grade 5 6) Grade 6

1.29 What type of teaching contract do you have?

1) State teacher 2) Contract teacher 3) Floating teacher (volunteer)

Educational attainment and qualification

1.30 What is the highest level of education that you have attended?

1) Primary 2) Lower secondary 3) Upper secondary

4) Bachelor 5) Master 6) Other (specify)----------

7) No formal education (please jump to question 1.31)

1.31 What is your pedagogy attainment?

1) 4+1 2) 7+1 3) 7+3 4) 8+1

5) 8+2 6) 9+1 7) 9+2 8) 11+1

9) 11+2 10) 12+1 11) 12+2 12) No

13) Other (specify)----------

1.32 For how many months/years have you worked as a primary teacher?----M/---------Y

1.33 Why did you become a teacher? (Check all apply)

1) To get salary 2) Long term job

3) Part time job 4) Have more holiday

5) Like teaching career 6) No other alternative

7) Family pressure 8) Other (specify)----------

1.34 For how many months/years have you taught in this school?

1.35 How often do you receive in-service training?

1) Once a year 2) Twice a year 3) Once every two years

4) Never 5) Other (specify)----------

Teaching hour

1.36 At what time do you usually arrive at school?------

1.37 How many times do you start class (first hour) late per week?---------time

(if never late, jump to 1.39)

1.38 How many minutes do start class late per day (time)?---------Mn

1.39 Do you have any barrier in starting class on time?

1)Busy in take children to school 2) It takes a long time to reach school

3) Busy in helping family 4)Other (specified)----------

1.40 How often are you absent from class per month?--------days

(if never absence, jump to 1.42)

1.41 What are the reasons why you are absent from class? (check all apply)

1) Sick 2) To visit relatives

3) Engage with second job 4) The school is closed (reason----------)

5) Attend meeting/training 6) Seasonal work (harvesting, fishing…etc)

7) It is close to holiday 8) Join ceremonies (wedding, funeral…)

9) Other (specify)----------

1.42 What have you done when you are busy on your teaching day? (check all apply)

1) I request for leave from supervisor 2) I took leave without notice

3) I finish class early 4) I Start class late

5) I switch class (from morning to afternoon or from afternoon to morning)

6) Other (specify)----------

1.43 What would be the consequences if you were absent without asking permission from the school director beforehand? (check all apply)

1) Not any action 2) Deduct salary
3) Teaching compensation 4) Warning
5) Dismiss 6)Other (specify)----------

1.44 If you need support or want to consult with the head master/school director, are you able to access him/her?

1) Yes 2) No

1.45 If no, why?----------

1.46 Do you have enough teaching materials? 1) Yes 2) No

1.47 If No, why----------

1.48 What are the most important teaching materials that you do not get from school?----------

1.49 Are you comfortable with the school facilities?

1) Yes 2) No

1.50 If yes, why----------

1.51 If no, why----------

1.52 What is the most important facility that is not available in your school?

1.53 How do you feel to be a part of this school?

1) Well integrated with co-workers 2) Isolated from co-workers

3) Other (specify)----------

1.54 Do you think the amount of teaching hours stated in timetable fits with the length of textbook?

Subjects	Yes	No	Why, Please provide a detail explanations	
Mathematics				
Khmer				
Social Studies				
Science				

1.55 Last year, were you able to finish the curriculum

Subjects	Yes	No	what have you done with the unfinished curriculum	
Mathematics				
Khmer				
Social Studies				
Science				

Classroom monitoring

1.56 How often does the school director monitor classroom?
1) Once a week 2) Once a month 3) Once a year
4) Never 5) Other (specify)----------

1.57 What support do you receive from this monitoring?

1.58 How often does the school receive monitoring visits from MoEYS, PoE or DoE?
1) Once a week 2) Once a month 3) Once a year
4) Never 5) Other(specify)----------

1.59 What is the main comment/recommendation from these visits?----------

1.60 Is any NGOs working with your school in a regular basis?
1)Yes 2)No

1.61 If Yes, what are those NGO?----------

1.62 What are your suggestions to improve teaching and learning in Cambodia?----------

Additional sheet

Based on reviewing student notebooks, we observed some dates were no classes. What were the reasons for those as follows:

Date:----------, what was the reason for no class----------

Date:----------, what was the reason for no class----------

Date:----------, what was the reason for no class----------

Date:----------, what was the reason for no class----------

Date:----------, what was the reason for no class----------

Date:----------, what was the reason for no class----------

Date:----------, what was the reason for no class----------

Name of Interviewer:_____ Date of Interview: _____

Introduction:

My name is_____I am carrying out research as part of NEP's study on "teaching practices in Primary School". I am meeting you today to explore with you some information about teaching practice in your school. Therefore, I'm asking for some of your time (about one hours), to discuss this matter. Please be as honest and accurate in your responses as possible, as doing so will help us in our efforts advocate for positive change in the education sector. We would like to assure you that you will not face any risk or problems from participation in this research and all information you provide us will be treated as strictly confidential. If we wish to use any identifiable information provided by you we will first get your written permission.

Instruction: [*Note: Tick only one answer per question, exceptions will be indicated*]

1.1 Interviewee code:_____(leave it blank. NEP will fill in later)

1.2 Province:

1- Battambang 2- Preah Sihanouk 3-Preah Vihear

4- Kampong Cham 5- Mondolkiri 6- Phnom Penh

1.3 Name of District: _____

1.4 Type of District: 1- Urban 2- Rural

1.5 Name of School: _____

1.6 Is it disadvantaged school? 1) Yes 2) No

Background Information

1.7 Age:

1- ≤ 18 Adolescence 2- 20-35 Young adulthood

2- 36-45 Middle adulthood 4- ≥46 Late adulthood

1.8 Sex: 1-Male 2- Female

1.9 Marital status: 1- Single 2- Married 3- Widow/widower

1.10 How far is the school from your house?-------Km

1.11 How long does it take from home to school?--------Mn

1.12 How do you usually come to school

1- Foot 2- Bicycle 3- Motorbike

4-Motordub 5- Other (specified)----------

1.13 For how many years have you entered into teaching career :--------Years

1.14 For how many years have you served as school director?---------Years

1.15 What is the highest level of education that you have completed?

1 – primary 2 – lower secondary 3 – upper secondary
4 – Bachelor 5- Master degree 6- No formal education

7- Other (specify)----------

1.16 What are your second jobs? (Check all applied)

1) Motodub 2) Teaching at private school

3) Teach extra class 4) Part time job with company

5) Sell food at school 6) Seller (petty trade goods)

7) Farmer 8) No other job (If no other job, please jump to 1.18)

9) Other (specify)_____

1.17 When do you do your second job? (Check all applied)

1) Before go to school 2) After school hours 3) On Sunday

4) During break time 5) Other (please specify)----------

School Closure and Teacher Absence

1.18 Number of Classes and Teachers

Grade	Number of classes	Number of teachers	
		Total	Female
4			
5			
6			

1.19 Since the school start (in October 2012), how many day were you absence from school?

1.20 What are the reasons why you are absent from school? (Check all applied)

1) Sick (# of day-------)

2) To visit relatives (# of day-------)

3) Engage with second job (# of day-------)

4) The school is closed ((# of day-------, reason----------)

5) Attend meeting/training (# of day-------)

6) Seasonal work (harvesting, fishing…etc) (# of day-------)

7) It close to holiday (# of day-------)

8) Join ceremonies (wedding, funeral…) (# of day-------)

9) Other (specify)----------

1.21 Has the school ever been closed because of flooding? If yes, for how many days has the school been closed and when?----------
---

1.22 Has the school ever been closed because all of the teachers were absent? How many days when? What was the reason?----------

1.23 Has the school ever been closed because there were no children? How many days? What was the reason? When? ----------

1.24 Has the school ever been closed because of special event (e.g ASEAN meeting)? If yes, for how many days has the school been closed and when? ----------

1.25 Has the school ever been closed because of disease spread out (e.g EV71, H1N1)? If yes, for how many days has the school been closed and when? ----------

Class Monitoring

1.26 How do you monitor classroom to ensure a teacher is present ?----------

1.27 How often do you monitor classrooms (grade 4. 5 &6)

1- Once a week 2- Two to three times a week
3- Four to five times a week 4- Once to twice a month
5- Daily 6 -Other (specify)----------

1.28 How many classes (grade 4, 5 & 6) do you monitor per day? (or if they do not do it every day, per week?----------

1.29 At what time do you monitor classrooms? (Check all applied)

1- Between 7-8am 2- 8-9am 3- 9-10am
4- 10-11 am 5- 1-2 pm 6- 2-3 pm
7- 3-4 pm 8- 4-5 pm 9- Other (specify)----------

1.30 Does the classroom monitoring helps to improve teacher absenteeism? How does it help?----

1.31 If never conduct classroom monitoring, what are the reason for that?----------

1.32 How often do MoEYS, PoE and DoE come to monitor your school?

1) Never 2) Once a year 3) Twice a year
4) Other (specify)----------

1.33 Is any NGOs working with your school in a regular basis?

1) Yes 2)No

1.34 If Yes, what are those NGO?----------

1.35 Do you meet all teachers before class start?

1.36 If yes, at what time?----------

1.37 If any teachers are not able to teach their class, what do you do?

1) Find replacement teacher 2) Teach the class by myself
3) Combined classes 4) Shift time period of class
5) Cancel class 6) Other (specified)----------

1.38 Do you keep a record of teachers attendance?

1)Yes 2)No

1.39 If any teachers want to take leave, do they need to submit a formal leave form?

1)Yes 2)No

1.40 Is there any teacher absence without asking permission from you or school management committee?

1)Yes 2)No

1.41 If yes, what did you do to discipline them? (Check all applied)

1) No any action 2) Deduct salary
3) Teaching compensation 4) Warning
5) Dismiss 6)Other (specify)----------

1.42 What have you done to encourage teachers who are frequently absent to improve their attendance? Any improvement?----------
---

1.43 What are your challenges in reducing teacher absenteeism?----------
---

1.44 Do you have any suggestions to improve teaching hours and teacher absence in Cambodia?--
---

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NGO Education Partnership (NEP) is a membership organization that promotes active collaboration between NGOs working in education and advocates on behalf of its member organizations in policy dialogues and discussions with the Ministry of Education, Youth and Sports (MoEYS) in Cambodia. Over 130 education NGOs working in Cambodia are members of NEP.

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