



Classroom Practices

**Classroom Practices of Primary and
Secondary Teachers Participating in
English in Action:
Third Cohort (2014)
Large-Scale Quantitative
Study**

Research Report

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Classroom Practices of Primary and Secondary School Teachers Participating in English in Action: Third Cohort (2014)

Executive summary

a) Background

This study reports on the third cohort of teachers and students to participate in EIA (2013–14). While the students and teachers in Cohort 3 underwent an essentially similar programme to those in Cohorts 1 and 2, they are much greater in number (there are over 8,000 teachers and 1.7 million students in Cohort 3, compared to 751 teachers and 118,000 students in Cohort 1). To enable ongoing increases in scale, the SBTD programme became increasingly decentralised, with less direct contact with English language teaching (ELT) experts, a greater embedding of expertise within teacher development materials (especially video) and a greater dependence upon localised peer support.

The purpose of this study was to ascertain whether there had been changes in the classroom practice of teachers and students participating in EIA Cohort 3 (2013–14). Previous research in language teaching has established that when teachers take up most of the lesson time talking, this can severely limit students' opportunities to develop proficiency in the target language (Cook 2008); a general goal of English language (EL) teachers is to motivate their students to speak – and to practise using the target language (Nunan 1991). This study therefore focuses upon the extent of teacher and student talk, the use of the target language by both, and the forms of classroom organisation (individual, pair, group or choral work) in which student talk is situated.

The study addresses two research questions:

1. To what extent do the teachers of Cohort 3 show classroom practice comparable to the teachers of Cohort 1, particularly in relation to the amount of student talk and the use of the target language by teachers and students, post-intervention?
2. In what ways do the teachers of Cohort 3 show improved classroom practice (particularly in relation to the amount of student talk and use of the target language by teachers and students) in contrast to the pre-intervention baseline?

This study is a repeat of studies on Cohorts 1 & 2 (EIA 2011a, 2012a & 2014).

b) Research methodology

The EIA classroom practice baseline (EIA 2009a & b) was originally adapted from a general classroom observation study, and was geographically limited, due to an uncertain social and political context at the time of the fieldwork, but provides an indication of the types of activity that happened in English classes in Bangladesh, prior to the EIA intervention.

Subsequently the methodology was revised to give more fine-grained data about aspects related to communicative language teaching, specifically student and teacher talk, use of the target language, and forms of classroom organisation. The revised methodology was planned as pre- and post-test for Cohort 1 (the pilot programme). However, continued political uncertainties and delays in government approvals meant the intended pre-test took place four months after the EIA programme launch (June 2010). The findings from this 'early intervention' study (EIA 2011a) showed substantial changes over the 2009 baseline, including increased use of the target language by both teachers and students, increased student talk-time and some student-student talk in pairs or groups. The planned post-test was carried out 12–16 months after the programme start (EIA 2012a); findings were comparable to those of the early intervention study, except with somewhat lower levels of pair and group work.

The Cohort 1 early intervention study (2010) is used here as a statistical comparison for Cohort 3 post-intervention, to explore whether the improvements in practice achieved at the large scale of Cohort 3 are comparable to those achieved at the relatively small scale of Cohort 1. The early intervention study is chosen for comparison, as these data represent the most improved practices observed in Cohort 1.

The classroom practices observed in Cohort 3 are also contrasted broadly against those found in the 2009 pre-intervention baseline, although no direct statistical comparisons can be made.

Cohorts 1 and 3 are not substantially different in terms of composition by urban-rural location, gender or phase, although they were carried out in different upazilas.

The research instrument is a timed observation schedule (see Appendix 1), directly comparable to that used in the earlier studies on the EIA pilot intervention (2010 and 2011).

The sample comprised 346 lesson observations – 266 observations of primary teachers and 80 of secondary teachers.

c) Key findings: primary classrooms

i) Teachers' talk and activity

Primary teachers' talk fell to below half of the total lesson time (47%). This is educationally significant, as prior research indicates that excessive teacher talk limits students' opportunities to develop competence in the target language (Cook 2008). Teachers' use of spoken English increased substantially, accounting for 81% of all teacher talk. The largest proportion of Cohort 3 teachers' talk-time was spent organising student activities (33%), although they still spent significant time presenting (29%).

Improvements in primary teacher practices achieved at the large scale of Cohort 3 are broadly comparable to those observed at the smaller scale of Cohort 1. While teacher talk-time in Cohort 3 was more extensive (47%) than in Cohort 1 (34%), this was not reflected in a reduction of student talk or other activities.¹ Teachers' use of English (81%) and time spent organising student activity (33%) were both greater than in Cohort 1 (71% and 27% respectively). However, Cohort 3 teachers spent more time presenting (29%) and less time asking questions (18%) than Cohort 1 teachers (23% and 28% respectively). The extent of giving feedback (19%) was the same for both cohorts.

In contrast to the 2009 baseline, this represents a substantial shift in classroom practice at a large scale. Teacher talk used to predominate lessons, whereas it now accounts for less than half the lesson. Teachers used to talk almost exclusively in Bangla, but now talk mostly in English.

ii) Students' talk and activity

A communicative classroom shows evidence of all four skills (speaking, listening, writing and reading) being used in an integrated manner. In the classes observed, students were speaking for 27% of the lesson time and 94% of student talk was in English. This is educationally significant, as creating opportunities for students to practise speaking in English is a general goal of ELT (Nunan 1991). Students were also engaged in listening activities with the audio for 9% of the time, reading activities for 6% of the time and writing activities for 6% of the time.

Primary students' talk rose to the same extent observed in Cohort 1 (27%), and an even greater proportion of that talk was in English (94%) than was observed in Cohort 1 (88%). Student-student talk in pairs

¹ Compared to Cohort 1, increased teacher talk-time in primary cohort 3 is reflected in reduced coding of 'other' (down to 5% from 21%) rather than any reduced student activity.

achieved the same level observed in Cohort 1 (14%), though less student-student talk in groups was observed in Cohort 3 (8%) compared to Cohort 1 (16%).

In contrast to the 2009 baseline, this represents a substantial shift in classroom practice, at a large scale. In the baseline, in two-thirds (68%) of lessons observed that 'none or hardly any' students spoke in English, with students being encouraged to speak in English in only 2–4% of classes at any of the times sampled. In Cohort 3, 27% of lesson time was taken by student talk and almost all (94%) of that talk was in English. In 90% of lessons observed for the baseline, there was no student-student talk, in either pairs or groups – students typically only participated in lessons by answering questions asked by the teacher. In Cohort 3, 22% of all observed student talk was student-student talk in pairs or groups.

d) Key findings: secondary classrooms

i) Teachers' talk and activity

Secondary teachers' talk fell to a little above half of the total lesson time (53%). This is educationally significant as prior research indicates that excessive teacher talk limits students' opportunities to develop competence in the target language (Cook 2008). Teachers' use of spoken English increased substantially, accounting for 87% of all teacher talk. The largest proportion of Cohort 3 teachers' talk-time was spent presenting (38%), but they also spent significant talk-time organising student activities (27%).

Improvements in secondary teacher practices achieved at the large scale of Cohort 3 are broadly comparable to those observed at the smaller scale of Cohort 1. While teacher talk-time in Cohort 3 (53%) was more extensive than in Cohort 1 (33%), this was not reflected in a reduction of student talk or other activities.² Teachers in both cohorts predominantly spoke in English (86–87% of talk-time). Teachers in Cohort 3 spent more time organising student activity (27%) than Cohort 1 teachers (20%). However, Cohort 3 teachers spent more time presenting (38% compared to 30%) and less time asking questions (21% compared to 26%) or giving feedback (15% vs. 24%) than Cohort 1 teachers.

In contrast to the 2009 baseline, this represents a substantial shift in classroom practice, at a large scale. Teacher talk used to predominate lessons, whereas it now accounts for a little more than half the lesson. Teachers used to talk almost exclusively in Bangla, but now talk predominantly in English.

ii) Students' talk and activity

A communicative classroom shows evidence of all four skills (speaking, listening, writing and reading) being used in an integrated manner. In the classes observed, students were speaking for 24% of the lesson time and 92% of student talk was in English. This is educationally significant, as creating opportunities for students to practise speaking in English is a general goal of ELT (Nunan 1991). Students were also engaged in listening activities with the audio for 5% of the time, reading activities for 5% of the time and writing activities for 6% of the time.

Secondary students' talk rose (24%) to a similar extent observed in Cohort 1 (23%) and an even greater proportion of that talk was in English (92% compared to 88%). While student-student talk was much more prevalent (23%) than in the baseline and marginally higher than levels observed in Cohort 3 primary classrooms (22%), there was less student-student talk than in the exceptional levels observed in secondary Cohort 1 (53%).³

² Compared to Cohort 1, increased teacher talk-time in secondary Cohort 3 reflects the reduced coding of 'other' (down to 7% from 28%) rather than any reduced student activity.

³ The levels of pair and group work observed in the early-post test of Cohort 1 were extraordinary in comparison to all other post-test observations of secondary students subsequently. For example, the later post-test of Cohort 1 secondary practices showed a more comparable 28% pair and group talk (EIA 2012).

In contrast to the 2009 baseline, this represents a substantial shift in classroom practice, at a large scale. In the baseline, in two-thirds (68%) of lessons observed 'none or hardly any' students spoke in English, with students being encouraged to speak in English in only 2–4% of classes at any of the times sampled. In Cohort 3, 24% of lesson time was taken up by student talk and almost all (92%) of that talk was in English. In 90% of lessons observed for the baseline, there was no student-student talk, in either pairs or groups – students typically only participated in lessons by answering questions asked by the teacher. In Cohort 3, 23% of all observed student talk was student-student talk in pairs or groups.

e) Conclusions

The purpose of this study was to ascertain whether there had been changes in the classroom practice of teachers and students participating in EIA Cohort 3 (2013–14). This was in a context of greatly increased scale (an order of magnitude larger than the pilot study), achieved through reduced direct contact with ELT experts, a greater embedding of expertise within teacher development materials (especially video) and a greater dependence upon localised peer support.

The findings show that, despite a more decentralised, cost-effective, large-scale approach to school-based teacher development:

- to a large extent, the Cohort 3 teachers show classroom practice comparable to that of Cohort 1 teachers, particularly in relation to the amount of student talk and use of the target language by teachers and students, post-intervention. Student-student talk is improved substantially, but not quite to the same levels observed in Cohort 1 early intervention post-test. Both primary and secondary teachers spend significantly more time organising student activity in Cohort 3 than they did in Cohort 1.
- the Cohort 3 teachers show substantially improved classroom practice (particularly in relation to the amount of student talk and use of the target language by teachers and students) in contrast to the pre-intervention baseline. They also show substantial increases in students listening to English (both through teacher talk in English and listening to audio recordings in English) and in student-student talk.

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Acronyms

AT	assistant teacher
CLT	communicative language teaching
EIA	English in Action
EL	English language
ELC	English language competence
ELT	English language teaching
GESE	Graded Examinations in Spoken English
HT	head teacher
IER	Institute of Education and Research, University of Dhaka
TCL	Trinity College London

1. Introduction

A key principle of communicative language teaching (CLT) is that the students should receive as much opportunity to use the target language as is possible. This is particularly important when students only have the chance to practise the language through formal education, as is generally the case with students learning English in Bangladesh. Previous research into language teaching has established that when teachers take up most of the lesson time talking, this can severely limit students' opportunities to develop proficiency in the target language (Cook 2008). A general goal of English language (EL) teachers is to motivate their students to speak – to use the language they are learning (Nunan 1991). Thus, an increase in student 'talk-time' during lessons is of key importance for the primary and secondary English in Action (EIA) interventions. Of course, the amount of teacher talk is not the only indicator of quality language teaching. The nature of that talk – for example, whether teachers engage the attention of the class, present them with new information in an understandable way and allow them time to ask questions and comment – is just as important.

1.1 Purpose of the study

Following the pilot intervention with 751 teachers (approximately 600 from government-funded schools) and an estimated 118,000 students (Cohort 1: 2010–11), the EIA programme scaled up its implementation. In 2012, a second cohort of 4,368 teachers and an estimated 887,000 students participated in EIA (Cohort 2: 2012–13). In 2013, these numbers increased again to reach over 8,000 teachers and over 1.7 million students (Cohort 3: 2013–14).

The purpose of this study was to ascertain whether there had been changes in the classroom practice of teachers and students participating in EIA Cohort 3 (2013–14). In particular, the study sought to explore:

- to what extent changes achieved at the large scale of Cohort 3 were comparable to those evidenced by EIA at the much smaller scale of Cohort 1 (EIA 2011a);
- how the nature of changes in classroom practice at the end of Cohort 3 contrasts to baseline practices observed in Bangladesh more generally (EIA 2009a & b).

To gauge the extent of teachers' classroom practice improvements for this larger cohort, post-intervention observations of classrooms were carried out after a year of participation in the programme (November 2014).

1.2 Baseline and Cohort 1 practices

The baseline classroom observation study (EIA 2009a & b) was undertaken at a time of political and social uncertainty. Travel restrictions limited the sampling of the population of teachers and students. The methodology also used a more general observation schedule, not one specific to ELT. However, the baseline provided an indication of the types of activity that happened in English classes in Bangladesh prior to the EIA intervention.

Conducted in 2009, the study was based on a total of 252 classroom observations (162 observations of secondary classes and 90 of primary classes). Regarding interactivity and language use, this baseline study made the following conclusions (EIA 2009a & b):

- The pedagogic approach adopted in most lessons observed did not encourage a communicative approach to learning English.
- In 90% of all lessons, only three pedagogic practices were observed:
 - teachers read from the textbook;
 - teachers asked closed questions;
 - teachers moved around the classroom monitoring and facilitating students as they worked individually on reading or writing tasks.

- In two-thirds of the English lessons (67%), the teacher spoke in English less than in Bangla, while 27% of teachers spoke in English more than in Bangla; 6% speak in both languages equally. Only occasionally did teachers explain something in English (from 0–5% at any of the times sampled).
- Only a small proportion of students spoke in English during a lesson. In two-thirds of the classes observed (68%) ‘none or hardly any’ spoke in English, while in 23% of classes only ‘some’ (<50%) had an opportunity to do so. There were only a few occasions when individual students or groups were encouraged to speak in English (2–4% of classes at any of the times sampled).
- In two-thirds of classes, less than half of the students had opportunities to participate actively or to answer questions. In most classes students were not interactive at all and only participated by answering the questions asked by the teacher.

Although the results above are not statistically comparable to those of the subsequent studies, including this one, they provide an important backdrop against which to consider any improvements brought about by teachers in their classroom interactions on the basis of involvement with EIA.

EIA subsequently planned to carry out pre- and post-intervention studies with Cohort 1 teachers and students, focussed more explicitly on EL classroom practices. However, continued political uncertainties and delays in government approvals meant the intended pre-test took place four months after the EIA programme launch (June 2010). The findings from this ‘early intervention’ study (EIA 2011a) showed substantial changes over the 2009 baseline, including increased use of the target language by both teachers and students; increased student talk-time and some student-student talk in pairs or groups.

The planned post-intervention study (EIA 2012a) was completed at the end of Cohort 1 teacher development activities in February (primary) and June (secondary) 2011, with findings broadly comparable to the early intervention study, although with marginally lower levels of pair and group work.

1.3 Research questions

As well as presenting the new (2014) findings, this current report makes comparisons between the baseline (2009) and the early-intervention study of the pilot teachers (2010).

This study addresses two research questions:

1. To what extent do the teachers of Cohort 3 show classroom practice comparable to the teachers of Cohort 1, particularly in relation to the amount of student talk and the use of the target language by teachers and students, post-intervention?
2. In what ways do the teachers of Cohort 3 show improved classroom practice (particularly in relation to the amount of student talk and use of the target language by teachers and students) in contrast to the pre-intervention baseline?

While the students and teachers in Cohort 3 underwent an essentially similar programme to those of Cohort 1, they are much greater in number. To enable this increase in scale for Cohort 3, the programme was delivered through a more decentralised model, with much less direct contact for those involved with national or international ELT experts, a greater embedding of expertise within teacher development materials (especially video), and a greater dependence upon localised peer support (i.e. locally recruited teachers trained to facilitate cluster meetings).

The first research question seeks to establish the extent to which EIA has replicated the changes in teachers’ classroom practice achieved in the pilot, at greatly increased scale and through a more decentralised and peer-led approach to teacher support. This is an essential step in moving from the pilot phase (Phase II) to the fully institutionalised phase (Phase IV) in 2014–17. Direct statistical comparisons are made between the post-intervention practices of teachers from Cohort 3 and Cohort 1.

Table 1 shows the relationships between the three studies and the statistical comparisons that will be made in this report.

Table 1: Pre- and post-intervention observations of Cohorts 1 and 3 of EIA students and teachers

Pre-intervention baseline	Post-intervention		Comment
Sample to represent schools (and teachers) in Bangladesh (2009)	Cohort 1: June 2010*	Cohort 1: June 2011	Post-intervention samples from same cohort and observation at 4 & 16 months of intervention
Sample to represent schools (and teachers) in Bangladesh (2009)		Cohort 3: November 2014	Observation after 12 months of intervention, using Cohort 1 early intervention study for statistical comparison

*Both post-intervention studies of Cohort 1 show very similar classroom practices, although the earlier study shows marginally more student talk organised in pairs and groups. For clarity, this study presents statistical comparison only with the early-pre-intervention study of Cohort 1 (EIA 2011a), as this represents the most improved practice.

Establishing if the classroom practice of Cohort 3 teachers is comparable to that observed in the pilot intervention gives a guide to the likely success of a full scaling-up of EIA in the final phase of the Programme. In particular, whether the developments in materials (for students, teachers and those who support them) and training of support staff (including the use of those staff in the government system) can reproduce the same improvements. There is no reason to expect 2014 to reproduce the same degree of improvement in classroom practice as was observed in 2010 (for the pilot cohort), and there may well be reasons to anticipate poorer practice, as a result of the larger-scale, decentralised and essentially peer-supported nature of the model. Indeed, recent research has shown that success in a pilot phase, where robust, randomised control-trial evidence indicated an effective programme, does not guarantee success when this is transferred to a government-implemented (i.e. institutionalised) programme (Bold *et al.* 2013).

The second research question seeks to contrast teachers' classroom practice at the end of Cohort 3, to the typical classroom practices observed pre-intervention. As there is no direct 'baseline' study with which to compare Cohort 3, the general conditions of classrooms in the pre-intervention baseline situation (2009) can be contrasted with those found in 2014, although no direct statistical comparisons can be made.

It is important to see this particular study as part of a pair that also includes a study of the EL proficiency of a sample of Cohort 3 students are investigated (EIA 2015a).

1.4 Nature of the study

As with the pilot programme and the first year of scaled-up (Cohorts 1 & 2) studies, the follow-up investigation reported here was a large-scale quantitative observation of teaching and language practices among teachers and students participating in the EIA primary and secondary programmes. As noted earlier, a feature of improved ELT is an increase in the amount of student talk in lessons and an increase in the use of the target language by both teachers and students. Thus, this study focused upon the following:

- i) the amount of student talk compared with teacher talk;
- ii) the proportion of use of English by students;
- iii) the proportion of use of English by teachers;
- iv) the nature of the teacher talk;
- v) the nature of the student activities.

2. Methodology

2.1 Study design

As indicated in the *Introduction*, Cohort 1 (the EIA pilot intervention) is similar to Cohort 3 in terms of general key variables (gender, phase, location and divisions), although it was carried out in different upazilas. Thus, the Cohort 1 early intervention study (2010) is used here as a statistical comparison for Cohort 3 (as indicated in Table 1), to explore whether the improvements in practice achieved at the large scale of Cohort 3 are comparable to those achieved at the relatively small scale of Cohort 1. The early intervention study is chosen for comparison, as it represents the most improved practices observed in Cohort 1.

As previously noted, the classroom practices observed in Cohort 3 may be contrasted broadly against those found in the 2009 pre-intervention baseline, although no direct statistical comparisons can be made. While Cohort 3 began in 2013, some four years after the 2009 baseline, there is evidence, from a range of studies⁴ that the quality of English teaching in general has not improved; some evidence indicates that even after taking part in conventional teacher training in Bangladesh, there is no improvement in teachers' classroom practices (Rahman *et al.* 2006).⁵ Such evidence suggests there are unlikely to have been substantial changes in ELT practice across the school system, since the baseline study.

2.2 Observation instrument

The instrument used was an observation schedule (see Appendix 1); a directly comparable version to that used in the previous classroom practice studies on Cohort 1 (2010 and 2011) and Cohort 2 (2013). It was designed to capture what teachers and students were doing at one-minute intervals during the lesson (instantaneous sampling, i.e. recording behaviour at a precise moment) and which language was being used at that instant. It was designed in reference to other instruments that measure classroom interaction and the features of CLT (e.g. Malamah-Thomas 1987, Spada 1990). At each minute of a lesson, the instrument enabled the following information to be recorded:

1. Whether the teacher or student(s) was/were speaking (in one of the columns under either 'Teacher is speaking' or 'Students are speaking').
2. Whether the students were carrying out an activity (in one of the columns under 'Students are').
3. Whether visual materials were being used (in the 'Visual materials' column).
4. Whether another classroom activity was taking place that did not feature under 'Teacher is speaking', 'Students are speaking' or 'Students are' columns (i.e. in the 'Other activity' column).

The instrument did not require an expert understanding of CLT practices, but did require the researchers undertaking the observations to have training to recognise the various classroom activities (presenting, organising, asking questions, giving feedback). This meant the fieldwork could be carried out cost-effectively at an appropriately large scale, by local post-graduate researchers. The important communicative approaches (see the *Introduction* especially Section 1.4), were used by the instrument designers when the instrument was first designed (2010) to define the categories that are valid for communicative approaches to ELT. This instrument was validated by the EIA team's ELT experts and has been indirectly validated in a number of project annual reviews by ELT experts.⁶

⁴ Hamid (2011: 197) indicates poor levels of English that have not improved despite several efforts to introduce communicative approaches into the classroom. The overall framework for ELT is not always supportive of effective classroom practice (Education Watch 2011; EIA 2009b; Hamid & Balfour 2008, Kraft *et al.* 2009, World Bank 2008).

⁵ There is evidence that less than 50% of secondary teachers receive any kind of training (UNESCO 2012: 138), and what training is available to both primary and secondary teachers is weak and has had little effect in the past (Kraft *et al.* 2009: 8 & 14).

⁶ In the 2011 project Output to Purpose (Annual) Review, the review team specifically considered the observation schedule and commended the project's Research, Monitoring and Evaluation output saying the 'quality of the work undertaken is strong' (DFID 2011: 12).

In terms of the reliability of the instrument, there are two components: the nature of the items to be observed and the skill of the observers in using the schedule. On the former, all items rely on relatively low-level decisions being made: who is talking, in what language, if the teacher is talking, in what mode (presenting, organising, and so on), if students are talking, in what context (individual, pair, group, chorus) or whether students are doing one of three activities (reading, writing or listening to audio), along with two other items ('visual materials' used or 'other'). The second element to maximise reliability is to make certain that the observers are trained and have experience of using the schedule in classrooms. Section 2.4 outlines the training given to the observers who, although not ELT experts, were following a higher degree programme in education, and had a good base level of understanding of classrooms and schools. The consistent results that this instrument has shown over the previous studies is also an indication of its reliability.

2.3 Sample

2.3.1 Sample design

A total of 8,183 assistant teachers (ATs) and approximately 1.7 million students participated in EIA's Cohort 3: 4,821 primary teachers and 3,362 secondary teachers;⁷ and approximately 347,000 primary students and 1.4 million secondary students.

A minimum sample size was determined through a power analysis for the 2013 study, conducted to ensure the sample was sufficiently large to enable statistically valid comparisons between the 2010 and 2013 studies (see Appendix 2, Annex 1), and is used again in this 2014 study. Limitations in the number of field researchers available (ten), meant that the planned sample size was just short of the 'power 2' level for primary, but not sufficient for even power 1 for the secondary sample. This power 2 analysis established that a minimum sample size of 208 primary classes should be observed, and the power 1 analysis required 89 secondary classes. An additional researcher was brought in to enable the secondary sample to be increased, as explained in Appendix 2.

2.3.2 Sampling strategy

A multi-layer stratified random sampling strategy underpinned the sample selection, with random sampling used at each stage where possible. The process began by selecting, upazilas within each division and then schools. Note that the same schools were selected for both this classroom practice study and the EL proficiency study of students (EIA 2015a), and additional schools were selected for the classroom practice study to make up the sample size. The actual classes from each school were selected by opportunistic random sampling: assessors selected one of the classes that teachers were teaching on the day of their field-visit, with each assessor ensuring an even spread of classes (years) sampled across the primary and secondary schools they selected. All upazilas in which EIA worked with Cohort 3 were categorised as rural or urban, by reviewing demographic information about where the schools were located – i.e. rural, urban or semi-urban.⁸ Upazilas, and subsequently schools (80% rural and 20% urban) within selected upazilas, were randomly selected from each division. There was a slight modification to the sampling strategy, in that initially only schools in 10 upazilas (rather than 11) were chosen to match the number of researchers, and an additional upazila was added to try to increase the secondary sample size to achieve a 'power 1' sample size (as described above; Section 2.3.1). Disruption caused by travel difficulties in remote areas, and school closures associated with examinations taking place, prevented the full planned samples from being achieved.

⁷ The EIA teacher population also included primary head teachers, which in the previous cohort study (2013) were included in the classroom practice observation, but in 2014 these were excluded as the focus for any comparisons with the baseline is with Assistant Teachers (ATs).

⁸ The 'municipal' and 'urban' categories were merged and classed as 'urban'.

2.3.3 Actual sample achieved

The actual sample included 346 teachers (266 primary and 80 secondary) from 173 schools (133 primary and 40 secondary – two teachers per school) across 11 upazilas, covering all the divisions. One lesson of each of the 346 teachers was observed.

Table 2 compares the sample sizes of the five different studies that have been conducted (including the original pre-intervention baseline in 2009).

Table 2: Comparison of sample sizes for all classroom observations studies

Study	Primary teachers	Secondary teachers
2009 (pre-intervention)	90	162
2010 Cohort 1 (4 months of intervention)	350	141
2011 Cohort 1 (16 months of intervention)	195	129
2013 Cohort 2 (12 months of intervention)	256*	145
2014 Cohort 3 (12 months of intervention)	266	80

*of which 26 were HTs

2.4 Training and data collection

The data were collected by ten researchers from the Institute of Education and Research (IER), University of Dhaka. As all the researchers had previously undertaken these observations (2013),⁹ the 'training' prior to the fieldwork was a refresher day. The three-day post-fieldwork data workshop involved a debriefing/reflection to discuss experiences and identify issues and to also input the data.

As noted earlier, the research was carried out in November 2014. The intention was for each researcher to visit 17 schools in one upazila (13 primary and 4 secondary) and observe two teachers per school. Two researchers each observed eight classes from four schools in the same upazila.

Prior to the fieldwork, access was negotiated by the EIA office, and the researchers negotiated it again directly with the schools. Upazila education officers were informed about the research taking place in their geographical area and their consent was also gained prior to the fieldwork taking place.

2.5 Ethical issues

As part of the normal ethical procedures adhered to by EIA, prior permission was obtained from the Upazila Education Officer, head teacher and the teacher. Each teacher was again asked for her/his verbal and written consent to be involved in the study at the time of the observation.

⁹ The first training they undertook involved three separate sessions with the researchers: a five-day training workshop; a one-day pre-fieldwork briefing; and a three-day post-fieldwork data workshop. The five-day workshop introduced the researchers to the study, oriented them to what was required regarding the classroom observation, and gave them practice in using the schedule with videos of EIA classrooms and in actual classrooms.

All information within the EIA project is held under strict confidentiality and all teachers and students observed are anonymous in this report.

2.6 Data entry, storage, management and analysis

The data were entered by the researchers into a Microsoft Excel spreadsheet from paper instruments in the post-fieldwork data workshop. The individual databases from each researcher were then collated into one dataset. Random checks were carried out on the data to identify potential miscoding and other errors.

Before the analysis was carried out, the data were cleaned to prepare them for analysis (see Appendix 3 for details). Count data analysis was conducted, which used the Poisson model to provide appropriate analyses for count data. Statistical comparisons were conducted through statistical methods, such as cross tabulation and statistical significance tests. Results are reported with degrees of freedom and sample size in parentheses, the *p-value* and the significance. (All tests of significance, along with full data that support the figures used in this report, are given in Appendix 4.) In order to ensure rigour in the analysis, the data were analysed independently by a highly qualified statistician.¹⁰

2.7 Limitations

As noted above, fieldwork plans were disrupted by changed designation of sampled schools as public examination centres in November 2014. These events had the effect of changing which schools were available for field visits. Flexible and responsive field management and coordination largely overcame these challenges. The actual sample achieved was smaller than planned, and the efforts to increase the secondary sample did not succeed (see Appendix 2). Nevertheless, statistical comparisons with the results of the early intervention study (2010) were still possible.

As with all cases of classroom observation, the presence of the observer is likely to have had an effect on both the teacher and the students being observed. Teachers who were being observed may have felt an obligation to 'perform' the types of activities that are a focus of the EIA interventions. Although there is no way of knowing the importance of this effect, it is a common factor for all studies, and it is assumed not to add a particular bias to this current study.

The study was designed to be carried out at large scale and low cost, with high reliability, by focusing upon quite objective features of practice that could be documented by local post-graduate fieldworkers, without requiring sophisticated subjective interpretations of pedagogy or communicative practices to be made by the researcher during fieldwork and without requiring unmanageable volumes of close qualitative analysis post-fieldwork. While this generates a reliable, large-scale dataset, the data is limited in the depth to which the *nature* of classroom talk (rather than the extent of classroom talk) can be examined. For example, the study does not shed light on what kinds of activities students were engaged in when they were talking in pairs or groups or whether this might be considered meaningful group work. Similarly, it is not possible to say to what extent the talk observed is 'safe' talk (e.g. well-rehearsed choral responses, or simple answers to closed rhetorical questions). However, such issues were examined to some extent through a qualitative study of Cohort 1 (EIA 2011b & c) and a qualitative examination of teachers' experiences of changes to the school-based teacher development model in Cohort 2 (EIA 2015b).

¹⁰ This was the main author Dr Nai Li, who though independent of EIA, nevertheless works in The Open University (Institute of Educational Technology).

3. Findings¹¹

3.1 Teacher samples

The nature of the sample is given according to gender, division and location (rural and urban) in Tables 3–5, with comparisons with the school or EIA population as appropriate.

Table 3: Gender of primary and secondary teachers in the samples compared to EIA population

GENDER	Primary teachers			Secondary teachers		
	No.	%	% in EIA population	No.	%	% in EIA population
Male	102	38.3	46.0	62	77.5	87.0
Female	164	61.7	54.0	18	22.5	13.0
TOTAL	266			80		

For both primary and secondary there are slightly more female teachers in the sample than in the EIA population (Table 3). Table 4 gives the sample distribution by division, where it is evident that Chittagong is underrepresented in the primary sample, but overrepresented in the secondary sample, whereas Dhaka is the reverse. The proportion of other divisions in the sample roughly reflects those in the EIA population. Table 5 indicates that the primary sample has a lower proportion of rural teachers than the EIA population, but the secondary sample is close to the population proportion.

Table 4: Distribution of primary and secondary teachers in the samples by division

DIVISION	Primary teachers		Secondary teachers		EIA-active upazilas per division (%)
	No.	%	No.	%	
Chittagong	26	9.8	24	30.0	19.64
Dhaka	81	30.5	18	22.5	25.0
Khulna	49	18.4	15	18.8	15.18
Rajshahi	31	11.7	8	10.0	12.50
Rangpur	22	8.3	6	7.5	9.82
Syhlet	29	10.9	5	6.3	8.93
Barishal	28	10.5	4	5.0	8.93
TOTAL	266		80		

¹¹ Tests of significance can be found in Appendix 4.

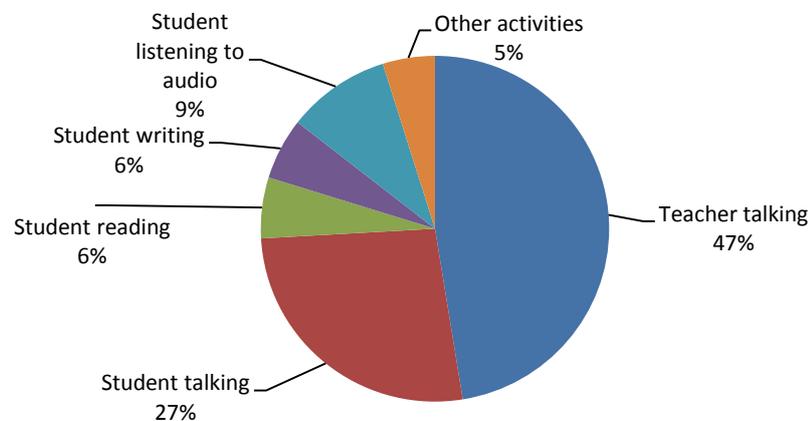
Table 5: Distribution of primary and secondary teachers in the samples by location

LOCATION	Primary		Population	Secondary		Population
	No.	%	%	No.	%	%
Rural	175	65.8	56	53	71.6	67
Semi-urban	38	14.3		9	12.2	
Urban	53	19.9	44	12	16.2	33
Total	266			74		
Blanks	0			6		
Total (inc. blanks)	266			80		

3.2 Primary classrooms

The results from the observations of primary lessons enable us to compare overall the teacher and student talk. The average percentage of teacher talk-time was 47% (see Figure 1), while the average percentage of student talk-time was 27%. Students were engaged in listening activities for 9% of the time, in reading and writing activities for 6% of the time. Students were talking for more than a quarter of the lesson and active for slightly less than 50% of the lesson time.

Figure 1: Percentage of talk and other activities in primary lessons



Compared with the 2010 study on Cohort 1 (after four months of intervention), it is evident that the amount of teacher talk has increased and is statistically significant ($p < 0.01$), but the amount of student talk is the same (see Table 6). Also the 'other' category decreased significantly, which is the result of what had been categorised as 'other' now being correctly coded as 'teacher talk'.¹² The amount of time students spent on reading and writing slightly increased over the 2010 study, but this difference is not statistically significant.

¹² This was evident in the 2010 study and was corrected in the researcher training in subsequent cohort studies, including in 2014.

Table 6: Comparison of activities in the primary classroom: Cohorts 1 and 3 (% of lesson time)

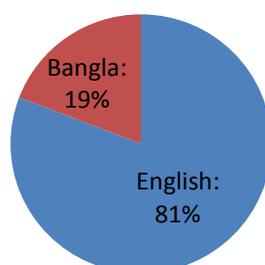
Activity	Cohort 1 (2010)	Cohort 3 (2014)
Teacher talking	34	47
Student talking	27	27
Students listening (to audio)	10	9
Students writing	4	6
Students reading	4	6
Other	21	5

3.2.1 Primary teachers

Teachers talking: English vs. Bangla

When teachers were talking (47% of the lesson time), the data show that they were using significantly more English than Bangla in their classrooms; the difference is statistically significant ($p < 0.01$). On average, they were using English 81% of the time and Bangla 19% of the time (see Figure 2).

Figure 2: Language used by primary teachers

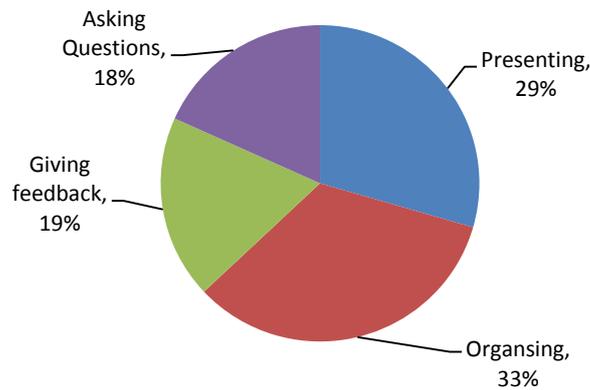


Types of primary teacher talk

Teachers talk was categorised as 'presenting, asking questions, giving feedback, organising student activity'; illustrative examples of the kind of teacher talk that would be included in each category are given in Appendix 5.

When teachers were talking, they were 'organising' 33% of the time, 'presenting' 29% of the time, 'asking questions' 18% of the time and 'giving feedback' 19% of the time (see Figure 3). The significant decrease in 'asking questions' compared with the 2010 data (18% vs. 28%, $p < 0.01$), reflects the fact that teachers spent more time 'presenting' and 'organising' in 2014.

Figure 3: Types of primary teacher talk



For each type of teacher talk, the percentage of English and Bangla used was calculated. In each of the categories, English was used for the majority of the time (see Table 7) and the differences between the amount of time using English and Bangla are statistically significant for all types of talking ($p < 0.01$).

Table 7: Types of primary teacher talk: English vs. Bangla

Teacher activity	% English	% Bangla
Presenting	84	16
Asking questions	88	12
Organising	70	30
Giving feedback	87	13

Summary of changes in primary teacher practice

Below a summary is given in terms of the way in which the 2014 study compares with the Cohort 1 study (2010) and the original baseline (in as much as that can be done) on a number of important dimensions that relate to improvements in teacher practice that make their ELT more effective through the use of a communicative approach. In particular, this is done through considering the amount of English teachers use in the classroom and the types of talk employed.

Substantial increase in teachers' spoken English

In Cohort 1 (2010), 71% of teacher talk was in English. In Cohort 3 this increased to 81% and the difference was statistically significant ($p < 0.01$) (see Table 8).

Table 8: Comparing language used by primary teachers: Cohorts 1 & 3 (% of time)

Language	Cohort 1 (2010)	Cohort 3 (2014)
English	71	81
Bangla	29	19

It was not surprising that teachers would use Bangla more for ‘organising’ than other types of teacher talk, as is reflected in the data (see Table 7), because instructions tend to be more complex than the target language aimed for in the activity and can be much more easily explained in Bangla than English.

These findings again mark a significant change from the classroom practices observed in the baseline studies (EIA 2009a & b), where only 27% of teachers spoke in English more than they did in Bangla, and where teachers tended to read from the textbook and speak in Bangla more than in English (in 67% of the lesson).

Substantial change in teachers’ activities

Table 9 shows that the proportions of the Cohort 3 teachers’ talking activities were different from those in 2010 (after four months of the pilot intervention) ($p < 0.01$); the teachers in 2014 had a significantly reduced proportion of ‘asking questions’ ($p < 0.01$) compared with 2010. This was also reflected in the fact that teachers spent more time ‘presenting’ and ‘organising’, an increase that is marginally statistically significant.

Table 9: Comparing primary teacher activity: Cohorts 1 & 3 (% of teacher talk)

Teacher activity	Cohort 1 (2010)	Cohort 3 (2014)
Presenting	23	29
Asking questions	28	18
Organising	27	33
Giving feedback	19	19

Table 10 shows that teachers using English in all types of talking increased significantly compared with the data in 2010 ($p < 0.01$). It suggests that teachers’ interaction with students via communicating in English significantly increased in 2014.

Table 10: Use of Bangla and English for primary teacher types of talk for Cohorts 1 & 3 (% use of language)

Teacher activity	Cohort 1 (2010) ¹³		Cohort 3 2014	
	English	Bangla	English	Bangla
Presenting	66	24	84	16
Asking questions	69	22	88	12
Organising	54	33	70	30
Giving feedback	68	24	87	13

Whereas, in the baseline, in 90% of lessons observed the teacher only read from the textbook, asked closed questions or marked individual books, in Cohort 3 ‘organising student activity’ was the most common purpose of teacher talk, accounting for a third (33%) of all teacher talk. This suggests that Cohort

¹³ The 2010 figures do not add up to 100% (horizontally) because at times there was double coding when teachers spoke in both English and Bangla.

3 teachers were at least intending to promote more active student learning than that seen in baseline practice. However, as might be expected, there is still a substantial amount of teacher talk for the purpose of presentation (29%).

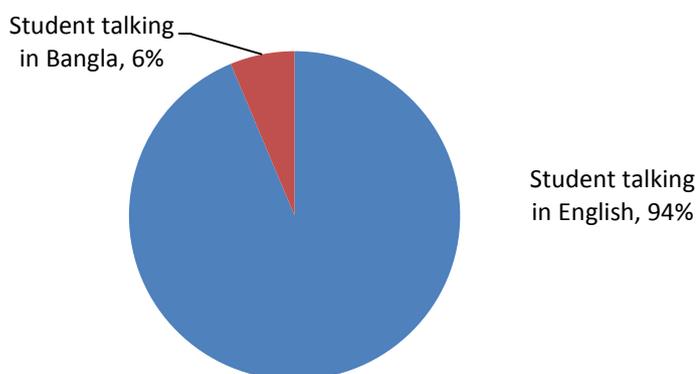
3.2.2 Primary students

A communicative classroom shows evidence of all four skills (speaking, listening, writing and reading) being used in an integrated manner. In the classes observed, students were speaking for 27% of the lesson time (see Figure 1 earlier). Students were engaged in listening activities with the audio for 9% of the time, reading activities for 6% of the time and writing activities for 6% of the time.

Students talking: English vs. Bangla

When primary students were talking, the data show that they were using much more English than Bangla in their classrooms – of the time they were talking, 94% was in English (see Figure 4). This was higher than the proportion found in Cohort 1: 88% in 2010 (four months after intervention). The differences with 2014 are significant ($p < 0.05$).

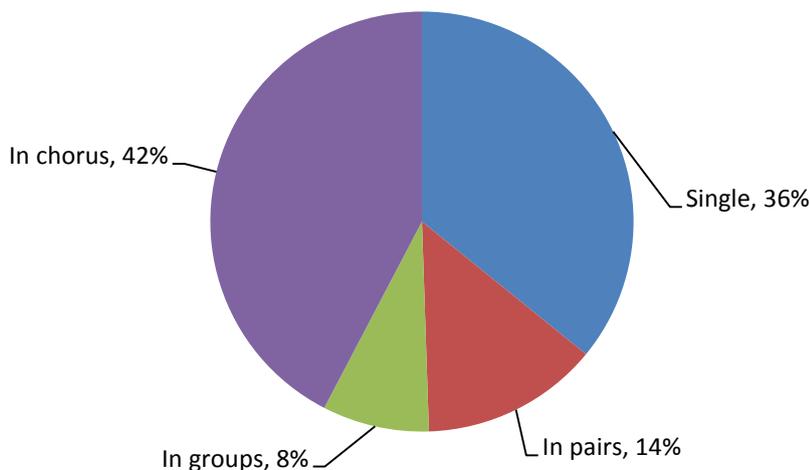
Figure 4: Language used by primary students



Types of classroom activities in which student talk occurred

When students were talking: 36% of the time they were talking individually (e.g. responding to a teacher's question); 14% of the time they were taking part in activities in which they were speaking in pairs; 8% of the time they were speaking in groups; and 42% of the time they were speaking in chorus (see Figure 5).

Figure 5: Types of primary student talk



For each type of student activity, the percentage of English and Bangla used was calculated. In each of the categories, English was used for a large majority of the time (see Table 11).

Table 11: Primary student talk: English vs. Bangla (% of talk)

Types of student talk	English %	Bangla %
Single	93	7
In pairs	91	9
In groups	80	20
In chorus	95	5

Student activity other than speaking

Figure 1 indicated that students were talking for more than a quarter of the lesson (27%). On average, students were writing for 6% and reading for 6% of the lesson, and listening to audio for 9%. The time Cohort 3 students spent on these non-speaking activities was not significantly different from the time spent on such activities by Cohort 1 students.

Summary of primary student performance

As with primary teachers, this summary is given in terms of the way in which the 2014 study compares with the Cohort 1 study (2010) and the original baseline (in as much as that can be done) on several important dimensions that relate to improvements in the classroom that make EL learning more effective through the use of a communicative approach. In particular, this is done through considering the amount of English students used in the classroom, the types of talk employed and their participation in communicative activity.

Increase in student talk

Students were speaking for 27% of the lesson time, while teachers were talking for 47% of the time. This compares favourably with research into language classrooms, which established that teachers tend to do

most of the classroom talking, with teacher-talk around 70% of the total talk (Cook 2008, Chaudron 1988, Musumeci 1996).

Substantial increase in students' use of English

Students were using the target language for 94% of the time they were speaking during a lesson. This shows an increase over the Cohort 1 study (2010), where students were using English 88% of the time they were talking; the difference is statistically significant ($p < 0.05$).

The high proportion of student talk in English is in contrast to the baseline studies, where only a small proportion of students spoke in English during a lesson. In two-thirds of classes observed (68%), 'none or hardly any' of the students spoke in English. Less than 5% of timed observations sampled in the baseline indicated students (individually or in groups) being encouraged to speak in English.

Student participation in communicative activity

Table 12 suggests that there was an increase in activities requiring a response from individual students, and there is a notable change from 2010 in that students had fewer activities working in groups in 2014. This might be a reflection of the fact that teachers spent more time presenting, which required less interaction among students.

Table 12: Comparing types of primary student talk: Cohorts 1 & 3 (% of student talk)

Types of student talk	Cohort 1 2010	Cohort 3 2014
Single	30	36
In pairs	14	14
In groups	16	8
In chorus	40	42

Although the extent of pair and group work combined (22%) has not been quite as high as that seen in the early-post-intervention study of Cohort 1 (30%), it is still notable that almost a quarter of all student talk observed is student-student talk in pairs or groups. This contrasts sharply with the baseline, where in 90% of lessons observed, there was no student-student talk and students only participated by answering the questions asked by the teacher.

3.2.3 Summary of changes in primary student and teacher practices

It is possible to consider the talk and activities of primary students and teachers in terms of typical lesson time found in these classrooms. The average class duration of the primary lessons observed was 34 minutes. Using this length of lesson as an average, the lesson might look like this:

In a lesson of 34 minutes, the teacher was speaking for 16 minutes and the students were speaking for 9 minutes. For 3 minutes of the lesson, the students were listening to audio materials, for 2 minutes they were reading and for 2 minutes they were writing. Of the 9 minutes when students were speaking, they were talking in English for 8 of those minutes. In total, students were active for 16 minutes i.e. 47% of the lesson.

Of the 16 minutes when teachers were talking, they were speaking in English for about 13 minutes. Of those 16 minutes, teachers were presenting for over 4½ minutes, organising for more than 5 minutes, giving feedback for about 3 minutes and asking questions for under 3 minutes. These

activities were happening in English the majority of the time. Other activities were going on for under 2 minutes.

3.3 Secondary classrooms

The average percentage of teacher talk-time was 53% (see Figure 6), while the average percentage of student talk-time was 24%. Students were engaged in listening activities for 5% of the time, in reading activities for 5% of the time and in writing activities for 6% of the time. For 7% of the time, other activities were taking place in the classroom.

Figure 6: Talk and other activities in secondary lessons (%)

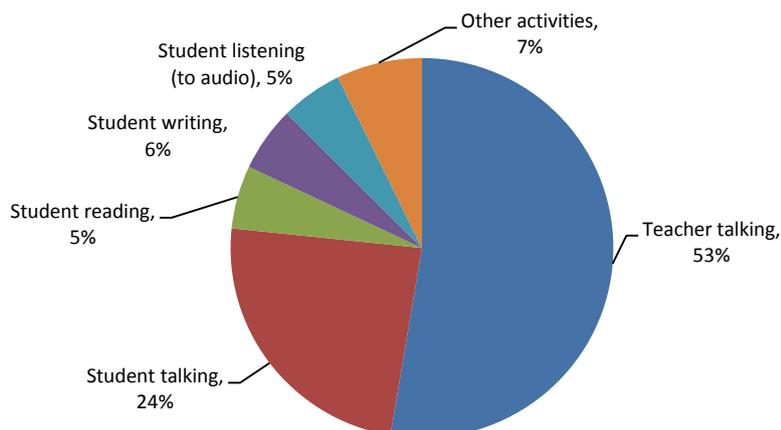


Table 13 shows that the results of all the studies are comparable in terms of talk and activities, assuming that the coding of 'Other' in 2010 (as in the primary classroom) included some form of teacher talk.¹⁴ It seems that the patterns across all activities between 2010 and 2014 are similar with no significant differences identified.

Table 13: Comparison of activities in the secondary classroom: Cohorts 1 & 3 (% of lesson)

Activity	Cohort 1 (2010)	Cohort 3 (2014)
Teacher talking	33	53
Student talking	23	24
Students listening (to audio)	4	5
Students writing	8	6
Students reading	4	5
Other	28	7

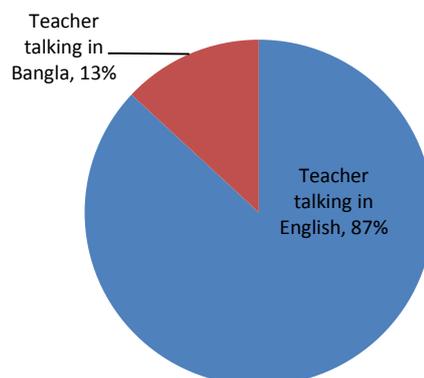
¹⁴ See the explanation in the Cohort 1 study (EIA 2012a: 24).

3.3.1 Secondary teachers

Teachers talking: English vs. Bangla

When teachers were talking, the data show they were using more English than Bangla in their classrooms: they were using English 87% of the time (see Figure 7).

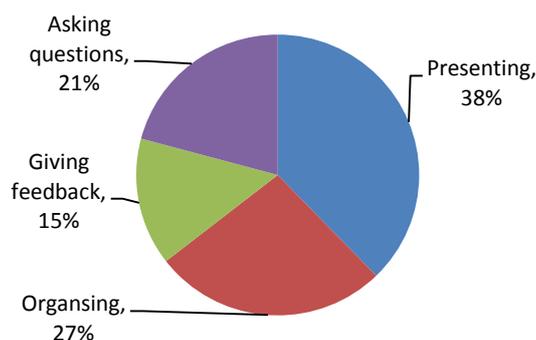
Figure 7: Language used by secondary teachers (%)



Teacher talk was categorised as 'presenting, asking questions, giving feedback, organising student activity'; illustrative examples of the kind of teacher talk that would be included in each category are given in Appendix 5.

When teachers were talking, they were 'presenting' 38% of the time, 'organising' 27% of the time, 'giving feedback' 15% of the time and 'asking questions' 21% of the time (see Figure 8).

Figure 8: Types of secondary teacher talk (%)



For each type of teacher talk, the percentage of English and Bangla used was calculated. In each of the categories, English was used the vast majority of the time (see Table 14).

Table 14: Types of secondary teacher talk: English vs. Bangla (% of talk)

Teacher activity	English	Bangla
Presenting	89	11
Organising	81	19
Giving feedback	93	7
Asking questions	90	10

The percentages of each activity (presenting, organising, and so on) presented in Table 14 are explained in Appendix 5.

Summary of changes in secondary teacher practice

As with primary teachers, this summary is given in terms of the way in which the 2014 study compares with the Cohort 1 study (2010) and the original baseline (in as much as can be done) on several important dimensions that relate to the improvement in the classroom to make ELT more effective through the use of a communicative approach. In particular, this is done through considering the amount of English students used in the classroom, the types of talk employed and their participation in communicative activity.

Substantial increase in secondary teachers' spoken English

Teachers were using the target language (i.e. English) to communicate with students for the majority of the lesson (see Table 15), at the same level as observed in 2010 (the 1% increase is not statistically significant).

Table 15: Comparison of the amount of English used by secondary school teachers in Cohorts 1 and 3 (% of talk-time)

Language used by secondary teachers	Cohort 1 (2010)	Cohort 3 (2014)
English	86	87
Bangla	14	13

Change in teachers' activities

When comparing data gathered in the 2014 study (Cohort 3) with that of the 2010 study (Cohort 1), it can be seen that teachers' presentation time increased to 38% of the lesson (see Table 16). The time spent 'organising' increased to more than a quarter (27%) which was statistically higher than in the Cohort 1 study (2010) ($p < 0.05$). There was a significant fall in 'giving feedback' ($p < 0.05$) and a marginally significant difference in 'asking questions'.

Table 16: Comparing secondary teacher activity: Cohorts 1 & 3

Teacher activity	Cohort 1 (2010)	Cohort 3 2014
Presenting	30	38
Asking questions	26	21
Organising	20	27
Giving feedback	24	15

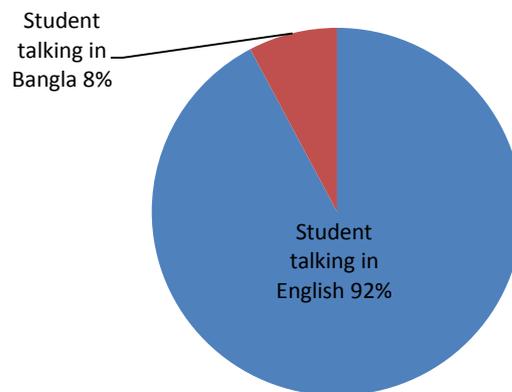
3.3.2 Secondary students

A communicative classroom shows evidence of all four skills (speaking, listening, writing and reading) being used in an integrated manner. In the classes observed, students were speaking for 24% of the lesson time (see Figure 6 earlier). Students were engaged in listening activities with the audio for 5% of the time, reading activities for 5% of the time and writing activities for 6% of the time.

Students talking: English vs. Bangla

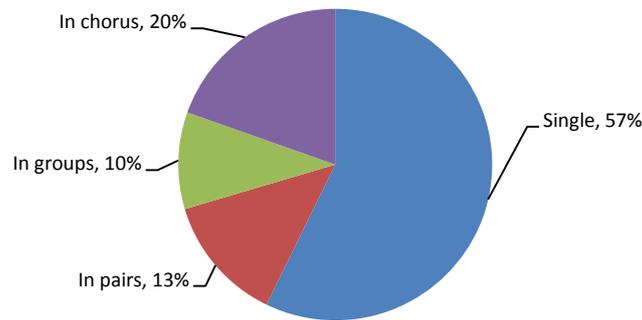
When secondary students were talking during the lesson, they were using English for 92% of the time (see Figure 9). This proportion is a marginal increase over that observed in 2010 (88%).

Figure 9: Language used by secondary students (%)



When secondary students were talking, 57% of that time they were speaking individually; 13% of the time they were taking part in activities in which they were speaking in pairs; 10% of the time they were speaking in groups; and 20% of the time they were speaking in chorus (see Figure 10).

Figure 10: Types of secondary student talk (%)



For each type of student talk, the percentage of English and Bangla used was calculated. In each category, English was used the vast majority of the time. Even in groups, English still accounted for over three-quarters of all student talk, but Bangla was used just over one-fifth of the time (see Table 17); the use of Bangla in groups probably reflects the linguistic demands of students organising their own activity, which would be easier in their first language.

Table 17: Secondary student talk: English vs. Bangla (% student talk)

Types of student talk	English	Bangla
Single	95	5
In pairs	100	0
In groups	78	22
In chorus	94	6

Student activity other than speaking

Figure 6 indicated that for approximately a quarter of the lesson (24%) students were talking. On average, students were writing for 6% of the lesson, reading for 5% and listening to audio for 5%. The time Cohort 3 students spent on these non-speaking activities was not significantly different (statistically) from the time spent on such activities by Cohort 1 students.

Summary of changes in secondary student performance

As with secondary teachers, this summary is given in terms of the way in which the 2014 study compares with the Cohort 1 study (2010) and the original baseline (in as much as can be done) on several important dimensions that relate to the improvement in the classroom to make EL learning more effective through the use of a communicative approach. In particular, this is done through considering the amount of English students used in the classroom, the types of talk employed and their participation in communicative activity.

Increase in student talk

Students were speaking for 24% of the lesson time, with teachers talking for 53% of the time. As indicated for primary students, secondary student talk-time in EIA classrooms compares favourably with research into language classrooms (Cook 2008, Chaudron 1988, Musumeci 1996). The proportions of student talk

across the two studies is similar (23 or 24%), thus indicating that Cohort 3 has the same level of secondary student talk as in Cohort 1, despite the more demanding implementation conditions.

Increase in students’ spoken English

Students were using the target language for 92% of the time that they were speaking during a lesson. This figure was higher than that in Cohort 1 (88% in 2010).

The high proportion of student talk in English marks an important change in the classroom practices observed in the baseline studies (2009a & b), where only a small proportion of students spoke in English during a lesson and most students spoke almost exclusively in Bangla.

Student participation in communicative activities

While there was a high incidence of activities recorded that require a response from individual students, there was a significant drop in amount of pair and group work going on (see Table 18). There was also a big increase in ‘Chorus’. All the differences are statistically significant (p<0.01). That all pair work is carried out in English (100%) suggests that pair work is being used for language practice; this may suggest that while there is less pair or group work than in Cohort 1, the nature of activity may be more meaningful when students are being organised into pairs or groups.

Table 18: Comparison of types of secondary student talk: Cohorts 1 & 3

Types of student talk	Cohort 1 (2010)	Cohort 3 (2014)
Single	39	57
In pairs	31	13
In groups	26	10
In chorus	3	20

Although the extent of pair and group work combined (23%) is lower than the extremely high levels¹⁵ observed in Cohort 1 (57%), it is comparable to that achieved by primary teachers in Cohort 3 (22%).

That almost a quarter of all secondary student talk is student-student talk (pair or group work) contrasts sharply to the baseline practices, where in 90% of lessons observed, there was no student-student talk and students only participated by answering the questions asked by the teacher.

3.3.3 Summary of changes in secondary student and teacher practices

It is possible to consider the talk and activities of secondary students and teachers in terms of typical lesson time found in these classrooms. The average class duration of the secondary lessons observed was 33 minutes. Using this length of lesson as an average, the lesson might look like this:

- In a lesson of 33 minutes, the teacher was speaking for 17½ minutes and the students were speaking for almost 8 minutes. For less than 2 minutes of the lesson, the students were listening to audio materials, for less than 2 minutes they were reading and for 2 minutes they were writing. Of the 8 minutes when students were speaking, they were talking in English for more than 7 of those minutes. In total, students were active for over 13 minutes i.e. 40% of the lesson.

¹⁵ It is suspected that the high levels of pair and group work observed in the early-post-intervention study of secondary classrooms may have been anomalous; later observations of the same cohort indicated more reasonable levels (28%) (EIA 2012a).

- Of the 17½ minutes when teachers were talking, they were speaking in English for over 15 minutes. Of those 17½ minutes, teachers were presenting for over 6½ minutes, organising for less than 5 minutes, giving feedback for about 2½ minutes and asking questions for over 3½ minutes. These activities were happening in English the majority of the time. Other activities were going on for over 2 minutes.

4. Conclusions

4.1 Research questions

The purpose of this study was to determine the extent of any changes observed in the classroom practice of teachers participating in EIA in the third cohort, with reference to that observed in the baseline studies (2009a & b) of a sample of schools prior to the intervention, and to that in the pilot cohort (Cohort 1). The pilot phase involved working with 751 teachers and this 2014 study was designed to see whether changes witnessed in the pilot were repeated in Cohort 3, working with 8,000 teachers after 12 months of intervention. The study provides insight into aspects of CLT and interactive pedagogy outlined below and presents evidence of sustained positive change in teacher practices and the use of English in the classes observed. In particular, the study sought to investigate the following research questions:

1. To what extent do Cohort 3 teachers show classroom practice comparable to Cohort 1 teachers, particularly in relation to the amount of student talk and the use of the target language by teachers and students, post-intervention?
2. In what ways do the teachers of Cohort 3 show improved classroom practice (particularly in relation to the amount of student talk and use of the target language by teachers and students) in contrast to the pre-intervention baseline?

Teacher and student talk and activities in both primary and secondary classrooms have been compared across three studies: pre-intervention (2009), Cohort 1 (2010) and Cohort 3 (after 12 months of intervention; 2014). The dimensions considered have been:

- i) the amount of student talk, compared with teacher talk;
- ii) the proportion of students' use of English;
- iii) the proportion of teachers' use of English;
- iv) the nature of the teacher talk;
- v) the nature of the student activities.

Each of these activities is examined in Table 19 in relation to the research question 1 (comparison against the Cohort 1 post-intervention study in 2010); and in Table 20 in relation to research question 2 (contrast with 2009 pre-intervention baseline).

4.2 Summary of findings

Table 19: Overview of the results in terms of research question 1: comparison with Cohort 1 (2010)

Dimensions of talk & activity	Primary	Secondary
% student talk in lesson	Cohort 3 achieved the same level of student talk-time (27%) as Cohort 1.	Cohort 3 achieved a slightly increased level of student talk (24%) compared to Cohort 1 (23%).
% of student talk in English	Cohort 3 achieved a higher proportion (94%) of student talk in English than Cohort 1 (88%).	Cohort 3 achieved a slightly higher proportion of student talk in English (92%) compared to Cohort 1 (88%).
% student activities	Cohort 3 achieved the same level of pair work as Cohort 1 (14%), but less group work (8% compared to 16%).	Cohort 3 achieved much lower levels of pair and group work combined (23%) than in Cohort 1 (57%). ¹⁶
% teacher talk in lesson	Teacher talk was more extensive in Cohort 3 (47%) than Cohort 1 (34%), but this did not reflect a reduction of student activities. ¹⁷	Teacher talk was more extensive in Cohort 3 (53%) than Cohort 1 (33%) although this did not reflect a reduction of student activities. ¹⁸
% of teacher talk in English	Cohort 3 achieved greater levels of teacher talk in English (81%) than Cohort 1 (71%).	Cohort 3 achieved the same level of teacher talk in English (87%, no statistically significant difference from 86% in Cohort 1).
% teacher activities	Cohort 3 teachers spent most of their talk-time organising student activities (33%), an improvement over Cohort 1 (27%). However, Cohort 3 teachers spent more time presenting (29%) and less time asking questions (18%) than Cohort 1 teachers (23% and 28% respectively). The extent of giving feedback (19%) was the same for both cohorts.	Cohort 3 spent more time organising student activities (27%) than Cohort 1 teachers (20%). However, Cohort 3 teachers spent more time presenting (38% vs. 30%) and less time asking questions (21% vs. 26%) or giving feedback (15% vs. 24%) than Cohort 1 teachers.

These findings show that, in broad terms, the post-intervention classroom practices of Cohort 3 were comparable to those achieved at the much smaller scale of Cohort 1.

¹⁶ Though as noted earlier, comparable to primary Cohort 3 (22%) and approaching the later post-test of Cohort 1 (28%) (EIA 2012a).

¹⁷ Increased teacher talk-time in primary reflects the reduced coding of 'other' (to 5% from 21%).

¹⁸ Increased teacher talk-time in secondary reflects the reduced coding of 'other' (to 7% from 28%).

Table 20: Overview of the results in terms of research question 2: contrast to baseline (2009)

Dimensions of talk & activity	Primary	Secondary
% student talk in lesson	Cohort 3 better – 27% compared with a small proportion of lessons where students spoke.	Cohort 3 better – 24% compared with a small proportion of lessons where students spoke.
% of student talk in English	Cohort 3 better – 94% in English compared with students talking almost exclusively in Bangla.	Cohort 3 better – 92% in English compared with students talking almost exclusively in Bangla.
% student activities	Cohort 3 better with all activities mainly in English and 22% of pair and group work, compared with few occasions when individuals/groups used English.	Cohort 3 better with all activities mainly in English and 23% of pair and group work, compared with few occasions when individuals/groups used English.
% teacher talk in lesson	Cohort 3 better – 47% compared with lessons where teacher talk predominated.	Cohort 3 better – 53% compared with lessons where teacher talk predominated.
% of teacher talk in English	Cohort 3 better – 81% compared with most teachers speaking in Bangla.	Cohort 3 better – 87% compared with most teachers speaking in Bangla.
% teacher activities	Cohort 3 better with more activities other than presenting, compared with the teacher primarily reading from the textbook with little student interaction.	Cohort 3 better with more activities other than presenting, compared with the teacher primarily reading from the textbook with little student interaction.

These findings show that in all aspects considered, the teachers in Cohort 3 show substantial improvements in practice over the pre-intervention baseline.

4.3 Discussion

4.3.1 Amount of teacher talk-time vs. amount of student talk-time

The study found that in both primary and secondary classes, teacher talk-time takes about half the lesson, while student talk-time takes up approximately a quarter of the lesson. This compares favourably with other research into language classrooms, which established that teachers tend to do most of the classroom talk, with teacher talk around 70% of the total talk (Cook 2008, Chaudron 1988, Musumeci 1996). This marks an improvement from the findings in Baseline Study (EIA 2009a & b), which showed that in only a small proportion of lessons did the students have opportunities to participate actively in discussion.

4.3.2 Teachers' use of English

The results show that both primary and secondary teachers in the EIA intervention were observed to be using English the majority of the time; primary teachers used English 81% of the time, while secondary teachers used English 87% of the time. This is a marked contrast to the baseline study (EIA 2009a & b), where teachers spoke English less than Bangla in two-thirds of the lessons.

4.3.3 Students' use of English

The data clearly support the observation that both primary and secondary students are using English the majority of the time when they talk in lessons (94% of the time in primary and 92% of the time in secondary). This marks a notable change from the results of the baseline study (EIA 2009a & b), which showed that the students spoke in English in only a small proportion of lessons.

4.3.4 Teachers' use of interactive teaching strategies

These latest findings mark an increase in the time teachers spend organising and presenting when compared with the early intervention study (2010). The results show that both primary and secondary teachers are using a wide range of activities in the classroom and involving students in these activities. In this study, primary teachers were found to be organising 33% of the time, presenting 29% of the time, asking questions 18% of the time, and giving feedback 19% of the time. Secondary teachers were found to be organising 33% of the time, presenting 29% of the time, asking questions 18% of the time, and giving feedback 19% of the time. This is a change from the baseline study (EIA 2009a & b), where teachers were observed to be primarily reading from the textbook and rarely involving students in activities.

This more balanced percentage of time spent asking questions, organising, presenting and giving feedback indicates that teachers are making great and sustained efforts to involve students in their English lessons.

4.3.5 Students' participation in interactive activities

The results show evidence of student pair and group work being used in both primary and secondary classrooms. When students were talking, 36% of the time they were talking individually in primary and 57% in secondary classrooms; 14% of the time they were taking part in activities in which they were speaking in pairs in primary and 13% in secondary; 8% of the time they were speaking in groups in primary and 10% in secondary; and 42% of the time they were speaking in chorus in primary and 20% in secondary.

In secondary classrooms, students are interacting with each other in pairs or groups for 23% of the class time and over 78% of that time is spent speaking in English. In primary classrooms, students are interacting in pairs and groups for 22% of the time, of which 80–90% is in English. It is notable that in secondary, all (100%) student-student talk in pairs was in English, suggesting pair work was being used for language practice. This marks a notable change from the baseline study (EIA 2009a & b), which identified few occasions when individual students or groups were encouraged to speak in English (2–4% of the lesson time) and which showed that in most classes students were not interactive at all. These data show a sustained use of interactive pair and group activities within English classes at scale.

4.3.6 The range of language skills practised in a lesson

The current study observed that secondary students were involved in speaking and listening activities for just under a third of their lessons (24% speaking and 5% listening), reading activities for 5% of the lesson and writing activities for 6% of the lesson. This marks a change from the results of the baseline study (EIA 2009a & b), where teachers tended to read from the textbook, ask closed questions or move around the classroom monitoring and facilitating students as they worked individually. All other pedagogic activities were observed in fewer than 10% of classes.

4.3.7 Teachers' use of audio

The results indicate that teachers are using audio materials for 5% of secondary lessons on average and 9% of primary lessons. The findings of the baseline study did not indicate that audio materials were being used in any of the classes observed.

4.3.8 In summary

In summary, the 2014 cohort of teachers observed in the EIA programme were using more English in their classes, involving students in more activities and encouraging them to spend more of their class time speaking in English.

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Appendices

Appendix 1: Observation schedule and guidance for classroom practice

Teacher ID: _____

School ID: _____

(internal use)

TIMED OBSERVATION SCHEDULE

Researcher information

Researcher name		Observation date	
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School information

School name			
Upazila/Thana		Division	

Teacher information

Teacher name		Gender:	Male / Female
Age:		Highest qualification:	

Lesson information

Class:		Lesson no:		English for Today unit no:	
Focus of lesson (tick all those that apply)	Reading <input type="checkbox"/> Writing <input type="checkbox"/> Speaking <input type="checkbox"/> Listening <input type="checkbox"/> Exam prep <input type="checkbox"/> Other <input type="checkbox"/> (please specify): _____				
Lesson start time:		Lesson finish time:		Duration of lesson (mins):	
Enrolment:	Total no. of students:		No. of boys:		No. of girls:
Attendance:	Total no. of students in class:		No. of boys in class:		No. of girls in class:

On each minute, identify what is happening at that moment of observation. Write E (for 'English') or B (for 'Bangla') in the appropriate box to show whether that moment of the lesson is being taught in English or Bangla.

- Enter 'E' or 'B' in one of the columns under:
 - 'teacher is speaking' (if the teacher is speaking)
 - or
 - 'student(s) is speaking' (if a student(s) is talking)
 - or
 - 'students are' (if the student is carrying out an activity).

In addition, if visual materials are being used at the moment of observation, indicate what is being used in the 'Visual materials being used' column. Use the following letters to indicate the kind of materials being used:

P = EIA poster or wall chart

C = EIA cards (flash-cards) (used with Primary only)

O = other visual aids (e.g. teachers own, perhaps a magazine, newspaper)

If neither the teacher nor the students are speaking, and the students are not reading, writing or listening to audio either, use the 'Other activity' column to indicate what other kind of activity is taking place. Make sure you do this for the duration of the entire class.

Further to this, remember to obtain consent from the teacher via the consent form. Ensure that they sign, date and record the time on 2 forms (the teacher should keep a copy of the form; and you should return the other to EIA project staff at the end of the fieldwork).

Insert the letter E or B once per row in these columns, if appropriate												Enter P, C or O if VM	Enter other activity (if appropriate)
Time	The teacher is speaking. They are:				The student(s) are speaking:				Students are:				
minute	Presenting	Organizing	Asking questions	Giving feedback	On their own (single)	In pairs	In groups	Chorusing	Reading	Writing	Listening to audio	Visual materials being used	Other activity
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

Continuation sheet for 1 hr lessons

Insert the letter E or B once per row in these columns, if appropriate													Enter P, C or O if VM	Enter other activity (if appropriate)
Time	The teacher is speaking. They are:				The student(s) are speaking:		Students are:							
minute	Presenting	Organizing	Asking questions	Giving feedback	On their own (single)	In pairs	In groups	Chorusing	Reading	Writing	Listening to audio	Visual materials being used	Other activity	
33														
34														
35														
36														
37														
38														
39														
40														
41														

Insert the letter E or B once per row in these columns, if appropriate												Enter P, C or O if VM	Enter other activity (if appropriate)
Time	The teacher is speaking. They are:				The student(s) are speaking:				Students are:				
minute	Presenting	Organizing	Asking questions	Giving feedback	On their own (single)	In pairs	In groups	Chorusing	Reading	Writing	Listening to audio	Visual materials being used	Other activity
52													
53													
54													
55													
56													
57													
58													
59													
60													

Remember to obtain consent from the teacher via the consent form. Ensure they sign, date and record the time on 2 forms (the teacher should keep a copy of the form; and you should return the other to EIA project staff at the end of the fieldwork).

DEFINITIONS

The teacher is speaking

Presenting

The teacher is giving information to the students. They may be describing, explaining or narrating, whether from the textbook or from their own knowledge, or from any other source. Students are expected to listen to the information. Examples include:

- T is reading from a book.
- T is modelling the target language (past tense): *Yesterday I went to the market.*
- T points to poster. *Look at the picture.* T points to the tree. *The bird is in the tree.*

Organizing

The teacher is telling the students what to do. The students are expected not only to listen, but also to do something according to the teacher's directions. Examples include:

- *Read for five minutes and answer then answer the questions.*
- *We are going to listen to an audio about Mother Teresa.*
- *Listen to the audio and answer the two questions on the board.*
- *Stand up... sit down... make groups.*
- *Remember you don't need to read every word.*
- *Stand up when you have finished.*

Asking questions

The teacher is asking questions. The students are expected to respond verbally (as opposed to organizing, when the students respond non-verbally). Examples include:

- *What is the Bangla for 'magazine'?*
- *Can you describe the diagram?*
- *What do you think the girl is going to do?*
- *Who are the people in the picture?*

Giving feedback

The teacher is responding to something the students have said or done, and evaluating or commenting on it. Examples include:

- *Yes, that's correct.*
- *Not quite right. You need to use past tense.*
- *Well done, students.*
- *Oh, your picture looks very nice. But where is the river?*
- *S: He is catching the bus. T: He? S: Oh, she is catching...*

The student(s) are speaking

On their own (Single)

One student is speaking at this particular moment. The student may be talking to the teacher or with another student, or s/he may be reading aloud.

In pairs

All of the students are talking to each other in pairs.

In groups

All of the students are talking to each other in groups.

Chorusing

All of the class is speaking in chorus at the same time. This may be in response to the teacher's questions, or reading in chorus.

The students are reading

All or most of the students are reading something quietly. (If they are reading aloud, enter the activity under 'Student(s) are speaking')

The students are writing

All or most of the students are writing something quietly. (If they are discussing a writing task in pairs or groups, enter the activity under 'Student(s) are speaking')

The students are listening to audio

The teacher is playing an audio resource and students are listening.

Other activity

This could be any activity taking place in the classroom which does not fit into one of the categories above. For example:

1. Teacher is preparing learning materials.
2. Teacher is using the blackboard.
3. Teacher is checking students' work.
4. Teacher is doing administrative work.
5. Teacher is asking students to bring things from outside.
6. Students are getting in to pairs or groups.

2014 EIA Classroom Practice Study: Guidance notes for IER Researchers

The aim of this research is to ascertain: 1) the amount of English and Bangla used by the teacher and students in the classroom, and 2) the activities taking place by the teacher and the students in the classroom. Your role is to provide a factual, accurate account of what is happening in the classroom.

The 'timed observation schedule' will provide information on the frequency of English usage and activities used in the classroom, which will give aggregated information on classroom interaction. The observation schedule has also been designed to capture the frequency of material usage in the classroom. Recording this information will help to determine how much EIA methods and materials are being used, and what is done after their use. Remember that the aim of this exercise is not to test the teachers and students in any way.

Completing the timed observation schedule

On every one minute interval during the observation, all you need to do is apply only one of the following 3 options:

1. Enter 'E' (for 'English') or 'B' (for 'Bangla') in one of the columns under 'teacher is speaking or 'student(s) is speaking' (if the teacher or students are talking)

or

2. Enter 'E' (for 'English') or 'B' (for Bangla') in one of the columns under 'students are' (if the student is carrying out an activity)

or

3. If another of the classroom activity taking place does not feature under 'teacher is speaking, 'student(s) is speaking' or 'students are', enter the activity in the 'other activity' column.

In addition to the above mentioned options, if visual materials are being used enter a P, C or O in the 'visual materials' column.

Nothing more is required.

You will mark only one box in either 'teacher is talking' OR 'student(s) is talking' (not both) OR 'students are' column OR the 'other activity' column. You should insert only one 'E' or 'B', or note an 'other activity' per row.

You only have to register the activities **on the minute**. This means if a teacher starts asking questions in English at the moment of your observation, you should record an 'E' for that minute under the 'asking questions' column. You should record what the teacher or student(s) is doing at that particular moment in time, not what they have been doing during the previous (or the next) minute.

A minute is a short period of time, and the appropriate letter(s) and/or activity needs to be added to the sheet fairly frequently, so try not to let your attention wonder. On the other hand, if you find that you have missed a minute, don't worry; just leave that row blank and wait for the next minute.

Ensure you record the duration (i.e. length) of the entire lesson on the first sheet of the schedule, as well as the start and finish times. Also, note you should record what is happening throughout the entire lesson (at every minute interval).

This will be an ‘unobtrusive’ data collection process. Ideally, your presence in the classroom should be felt as little as possible – the lesson should proceed exactly as if you were not there at all. In English, we have an expression for this – you should be like a ‘fly on the wall’!

Experience from previous studies

In one of the previous classroom practice studies there were instances of **double-coding** in a single row of the observation schedule. In particular, sometimes more than one activity was recorded in the ‘teacher is talking’ and ‘student(s) is speaking’ columns. This happened because of the high degree of simultaneous/overlapping talk by teachers and students.

To prevent double-coding you need to:

- **Ensure that you record your observations on the minute** – i.e. every sixty seconds; for example, on the 60th second of each minute. Record what is happening at that precise moment (not before or after).
- **Ascertain at the moment of observation:**
 - i) **what the focus (i.e. main activity) of the lesson is and who is doing it, and/or**
 - ii) **who is talking (the teacher or students or neither of them)**. Note, only the teacher or students’ (or possibly neither them) will be talking.

There may be instances of simultaneous communications and activities between teachers and students. You will need to decide who to focus on at that moment – what the main activity is – and who is doing it. Here are some notes on what to do in specific instances:

1. If, at that moment of observation, the teacher does attendance checking, you would record this as ‘teacher talk’. Students’ responses to the register could be recorded in the next minute (if that was what happens on the next minute).
2. If students are speaking (whether on their own, in pairs or in groups), disregard teacher talk.
3. Disregard teacher or students’ talk if the teacher is setting up the audio or other learning materials (e.g. in a primary lesson, if flashcards are being distributed or collected), except for when a teacher is presenting actual lesson content or students are answering questions or presenting.
4. If students are presenting in front of the class, or writing something on the blackboard, disregard teacher talk.

Before the observation...

...you need to talk to the teacher to convey the information above. It is important to stress:

- you are not there to judge the teachers (or their students) at all, and it is not like a normal classroom observation; you are simply there to record what happens.
- the observation schedule that you are filling in is only for the use of EIA and will not be seen or used by anyone in authority over the teachers
- the lesson should go ahead as if you are not in the classroom at all
- you are not watching the content of the lesson – just systematically recording what the teacher is actually doing
- after explaining the purpose of the study and your involvement in it, ask the teacher to complete, sign, date and record the time on the **consent form**. You should return the original to the EIA staff at the end of the fieldwork.

It is, of course, important to be polite and respectful of the teacher, recognising that you are a ‘peer’ who is a guest in their classroom. Agree with them where you should sit to be as

unobtrusive as possible. Also, agree with them what they will say to the students... essentially conveying the information above.

After the observation...

...make sure you have gathered all your papers. Don't try to fill in any parts of the observation schedule you have missed at the end. See the teacher and thank them warmly for allowing you to be in their classroom, and, on behalf of EIA, for helping us to think about the best way of running the project in the future.

- ❖ You will input the data ONLY after you return from the field.

Appendix 2: Detailed sampling strategy

The planned sample (Table A2.1) is derived from the multi-layer stratified random sample from, upazilas in each division and school level, and then within a school by choosing the two EIA teachers' classes. The power analysis and suggested sample sizes for the 2013 study sample size (given in Annex 1) were used to determine minimum sample sizes. The process is described following the planned and adjusted samples (Tables A2.1 and A2.2).

Table A2.1: Original planned sample

	Overall	Primary	Secondary
No. of upazilas	11	11	11
No. of schools	178	130	48
No of students	356	260	96

Number of IER researchers: 10, plus 2 additional researchers

Table A2.2: Adjusted sample (due to disruption of school examinations)

	Overall	Primary	Secondary
No. of upazilas	11	11	11
No. of schools	173	133	40
No. of teachers	346	266	80

Initial sample selection

The steps in determining the upazilas for the planned sample size was as follows:

1. Reviewed spread of EIA Cohort 3 upazilas (112) across 7 divisions; calculated the proportion of EIA upazilas in each division (see Table A2.3 below).
2. Agreed a 10% sample of upazilas (11 upazilas).
3. Calculated the proportion of upazilas to be selected per division if conducting research in 11 upazilas in total (see Table A2.3).
4. Randomly selected upazilas for each division, according to the numbers specified (Table A2.3, column 4). The upazilas were selected as shown in Table A2.4 (apart from 1; see next step).
5. Chose 10 upazilas to be allocated to 10 IER researchers, from the list selected in Step 4, by randomly selecting 1 upazila from Chittagong, Dhaka or Khulna (Divisions with more than 1 upazila selected) to not be visited – Raozan was selected.

Table A2.3: Number of upazilas sampled based on EIA-active upazilas in each division

Division	No. of EIA-active upazilas, per division	% of EIA-active upazilas, per division	Multiples for selection
Barishal	10	8.93	1
Dhaka	28	25.00	3
Khulna	17	15.18	2
Rangpur	11	9.82	1
Rajshahi	14	12.50	1
Syhlet	10	8.93	1
Chittagong	22	19.64	2
Total	112	100.00	11

Table A2.4: Sampled upazilas in each division (excluding Raozan)

Division	Upazila
Barishal	Mirzaganj
Khulna	Rampal
	Dascope (changed to Khulna Sadar later – see below)
Chittagong	Sitakunda
Dhaka	Nadail
	Manikgonj
	Mirzapur
Syhlet	Syhlet Sadar
Rajshahi	Sirajgonj
Rangpur	Pirgonj

Selection of schools

This selection followed the procedure for English language competence (ELC) (EIA 2015a: Appendix 1) with then a series of steps 9–13 (below) added to increase the number of schools to match the sample requirements.

1. As per the sampling strategy, the ELC target sample number was 50 schools and on this basis 55 schools were chosen from 11 upazilas with an equal number of schools per upazila. Equal numbers of primary and secondary schools were aimed for, giving 28 primary and 27 secondary schools (2–3 primary schools and 2–3 secondary schools per upazila).
2. Obtained complete school lists for each upazila selected (primary and secondary). Categorised each school as either rural or urban (from EIA school questionnaire information from Programme Management Information System).
3. Randomly selected 80% rural and 20% urban schools in each upazila – primary then secondary (80/20 as this is the proportion of rural/urban schools in the Cohort 3 population). From this, the school list for each upazila was formed.
4. Then selected additional schools randomly within each of the 10 upazilas until each upazila school list comprised 13 primary and 4 secondary schools. (Note, 'extra' schools were selected also as back-up, in case the researchers could not access selected schools.) This formed a sample of 260 primary and 80 secondary observations (for primary achieving between sample size required for power 2 [208] and power 3 [264]; for secondary, sample size was below power 1 [89] – see Annex 1).
5. Drew up tentative fieldwork schedules for 10 researchers (each going to 1 upazila) to cover all schools selected.
6. Decided Raozan would be researched by additional observers – but would do secondary only to make up the secondary numbers to increase the sample power. As 4 days available to do fieldwork, therefore, decided to take on 2 to visit 4 schools => 16 additional observations. Bringing total secondary observations to 96 (above sample size required for power 1).
7. Drew up tentative fieldwork schedules for 10 researchers (each going to 1 upazila, but in one upazila, 2 researchers) to cover all schools selected.
8. Two days of hartal were called 5 and 6 November – cutting the primary sample by 40 observations (in 20 schools) to 220, and the closure of secondary schools for examinations (despite checking prior to selection) the hoped-for increase in the secondary sample was not achieved (see step 15 below).

Issues affecting sample selection and fieldwork

JSC exam (approx. 2 => 20 Nov); PSC exam/PECE (18 Nov => 30 Nov).

Sample decisions made post-initial sample selection

1. One upazila selected (Dascope, Khulna) was identified as very remote and difficult to travel around (no roads, rivers, only travel via motorbike), so it was not possible to do research there. Another EIA-active upazila was therefore randomly selected from Khulna (Khulna Sadar), then the steps 5–8 above were carried out.
2. Telephoned each secondary school selected to check if they would be used as PSC/PECE (public examinations) venues on the proposed fieldwork dates. Approximately half of the secondary schools selected were being used, so they were not available to do research. In response, the complete school list revisited and schools were randomly selected from the other secondary schools left in the upazila. These were then called to check if they were being used as venues – until there was a full list of available schools.

Annex 1: Power analysis sample sizes

Table A3.5 gives the suggested sample sizes for 2014, Cohort 3 Classroom Practice from a power analysis, based on that conducted for the 2013 Cohort 2 study.

Table A2.5: Power analysis for 2013 sample

	No of schools			No of observations		
	Primary	Secondary	Total	Primary	Secondary	Total
Sample size (power 1)	85.5	44.5	130	171	89	260
Sample size (power 2)	104	56.5	160.5	208	113	321
Sample size (power 3)	132	74.5	206.5	264	149	413
2013 actual	133	75	208	256	145	401
2014 actual	133	40	173	266	80	346

Appendix 3: Data-cleaning steps

The following actions were taken to clean the dataset:

- Checked each line of data entry and amended entry errors.
- Added teacher telephone numbers from PMIS, as additional identification.
- Added rural/semi-urban/urban categorisation – from PMIS.
- Ensured consistency in data – e.g. spelling of upazila, school, class, gender.

Note: In some instances the phone number and/or rural/semi-urban/urban categorisation were not available. In these instances the cell has been left blank.

- A data screening exercise by range checking, and checking variable values against predefined maximum and minimum bounds to catch spurious values or data entry.
- Contingency tables constructed to carry out consistency checks.
- Missing data, non-responses, data imputation for missing values dealt with, and outlier detection to ensure the data is in the right shape and format for analysis.
- Data transformation, involving re-categorising and altering variables (e.g. from original string to numerical variable).
- Derived/newly created variables from existing variables.

Appendix 4: Tests of significance used in the report

PRIMARY

Classroom Activities: Cohort 1 & Cohort 3

Activity	Cohort 3 (2014)	Cohort 1 (2010)	Sig test
Teacher talking	34%	47%	.000
Student talking	27%	27%	.985
Student listening (to audio)	10%	9%	.864
Student writing	4%	6%	.879
Student reading	4%	6%	.879
Other	21%	5%	.000

Types of teacher talk (primary): 2010 & 2014

Teacher talk	Cohort 3 (2014)	Cohort 1 (2010)	Sig test
Presenting	29%	23%	.006
Asking questions	18%	28%	.000
Organising	33%	27%	.008
Giving feedback	19%	19%	.989

Types of teacher talk (primary): English vs. Bangla (primary): 2010 & 2014

	Cohort 3 (2014)		Cohort 1(2010)		% English	% Bangla
	% English	% Bangla	% English	% Bangla	Sig test	Sig test
Teacher talk						
Presenting	84	16	66	24	.000	.000
Asking questions	88	12	69	22	.000	.000
Organising	70	30	54	33	.000	.000
Giving feedback	87	13	68	24	.000	.000

Types of student talk (primary): 2010 & 2014

Student talk	Cohort 3 (2014)	Cohort 1 (2010)	Sig test
Single	36%	30%	.687
In pairs	14%	14%	.963
In groups	8%	16%	.000
In chorus	42%	40%	.855

SECONDARY

Classroom Activities: Cohort 1 & Cohort 3

Activity	Cohort 3 (2014)	Cohort 1 (2010)	Sig test
Teacher talking	53%	33%	.000
Student talking	24%	23%	.987
Student listening (to audio)	5%	4%	.996
Student writing	6%	8%	.848
Student reading	5%	4%	.769
Other	7%	28%	.000

Types of teacher talk (Secondary): 2010 & 2014

Teacher talk	Cohort 3 (2014)	Cohort 1 (2010)	Sig test
Presenting	38%	30%	.023
Asking questions	21%	26%	.031
Organising	27%	20%	.026
Giving feedback	15%	24%	.018

Types of student talk (Secondary): 2010 & 2014

Student talk	Cohort 3 (2014)	Cohort 1 (2010)	Sig test
Single	57	39	.000
In pairs	13	31	.000
In groups	10	26	.000
In chorus	20	3	.000

Appendix 5: Explanation of types of teacher talk

Teacher talk

The activities (presenting, organising, etc.) shown in Tables 7 & 14 are explained below, along with illustrations of the nature of these activities.

Organising

'Organising' means the teacher is telling the students what to do. Students are expected not only to listen, but also to do something according to the teacher's directions. Examples include:

- *OK, students, now turn and face your partner.*
- *I want you to look at me and listen carefully.*
- *Repeat after me.*
- *Malik, can you take this letter to the school office?*
- *It's time to go to your next class.*

Presenting

'Presenting' means the teacher is giving information to the students. He or she may be describing, explaining or narrating, whether from the textbook or from his/her own knowledge, or from any other source. Students are expected to listen to the information. Examples include:

- *This is a story about a young girl who was born in Holland.*
- *We use the present tense to talk about people's habits and routines.*
- *Drinking contaminated water can cause diseases.*

Giving feedback

Feedback can be either positive or negative and may serve not only to let learners know how well they have performed, but also to increase motivation and build a supportive classroom climate. 'Giving feedback' means the teacher is responding to something students have said or done, and evaluating or commenting on it. Examples include:

- *Yes, Farhana, that's correct.*
- *Not quite right. You need to use the past tense.*
- *Well done, students.*
- *Oh, your picture looks very nice. But where is the river?*

Asking questions

Questioning is the principal means by which teachers control classroom interaction. 'Asking questions' means the teacher is asking questions or eliciting information. Students are expected to respond verbally (as opposed to organising, when the students respond non-verbally). Examples include:

- *What colour is the flag?*
- *Do you know what a 'tiger' is?*
- *Now I want you to think carefully and explain why we need vitamins in our diet.*
- *Can you tell me which lesson we are doing today?*

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