

Improving Educational Quality Project

WHAT HAPPENS TO THE TEXTBOOKS?

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WHAT HAPPENS TO THE TEXTBOOKS?

Background

In 1991, the Improving Educational Quality Project (IEQ)ⁱ was launched with the purpose of conducting classroom level research to guide the generation and adaptation of innovations that hold promise for improving the quality of primary education. To do this, IEQ formed partnerships with host country colleagues and collaborated with them in efforts to learn about and improve the school and classroom experiences of educators and pupils.

At about the same time, approval was obtained for the Primary Education Program (PREP), a five-year initiative to improve the primary school system in Ghana.ⁱⁱ As part of this initiative, over 10 million dollars in US aid were allocated for the production and distribution of textbooks for children in schools throughout Ghana. Although textbooks had been available in the schools in the 1960's and early 1970's, in the recent past, textbooks and other primary level educational materials were scarce and teachers were left to their own devices in their efforts to help children acquire basic literacy and numeracy (King, Glewwe, & Alberts, 1992). In 1990-91, base-year figures showed that only 10% of pupils in primary schools had the basic textbooks (Kraft, 1994). One goal of the USAID/Ghana initiative was to reverse this trend and put sufficient textbooks into the schools for every child to have textbooks in English, Mathematics, Science, and Social Studies.

There was a natural fit between the primary school initiative and the goals of IEQ. Through a partnership between IEQ and the University of Cape Coast, the Centre for Research on Improving Quality of Primary Education in Ghana (CRIQPEG)ⁱⁱⁱ was formed to conduct research designed to support and complement PREP innovations. Over a four year period, researchers followed a cycle of assessment-assimilation-action designed to assess factors affecting learning, share findings with stakeholders, and collaborate with stakeholders on improvements. As part of this larger effort, researchers considered the role of the textbooks within the context of the classroom and the teaching and learning process. What follows is a glimpse into IEQ/CRIQPEG findings on "What happens to the textbooks?"

Preliminary Investigation--Going to the Classrooms

IEQ/CRIQPEG researchers began by going to the classrooms to investigate firsthand the sources and uses of instructional materials in primary school classrooms in Ghana. Following interviews with teachers, headteachers, and Circuit Supervisors and over 200 hours of classroom observation, researchers concluded that textbooks were not reaching the children. Most of the classrooms did not have sufficient textbooks. However, even when textbooks had been supplied on a one textbook to two pupils ratio, it was rare for

them to be in the hands of children. The tendency was for the books to be locked in cupboards while teachers continued their practice of writing on the chalkboard and asking children to read chorally from the board and then copy the words into their exercise books (Yakubu et al., 1993).

One finding from this preliminary investigation had an almost immediate impact. Teachers reported that they avoided using the textbooks because they feared that some books would be spoiled or lost and that they would be made to pay for these losses. When this information was shared with policy makers in the Ghana Ministry of Education and the Ghana Education Service, they took action. Within months, announcements were made and circulars distributed to school officials. The notices stated that teachers would not be made to pay if textbooks were consumed through normal use. Further, if a pupil was responsible for the loss or excessive spoilage of textbooks, the child's parents were to be held responsible.

Several additional explanations for why the books weren't being used emerged from this preliminary investigation. The language medium of the textbooks is English, the official language of Ghana. For children to use the textbooks effectively and to advance in the Ghanaian school system, they need to learn to communicate in English and to become literate. Yet, classroom observations revealed that, "The pupils cannot speak English. Communication between pupils and teachers was almost non-existent." (Yakubu, et al., 1993, p. 9). These observations and discussions with teachers suggested that the books were not aligned with the children's skill levels, and the teachers were not adequately prepared (lacking in training, skills, materials, etc.) to bridge the gap.

Focus on Language Learning

These findings, coupled with low scores on recent national testing, led policy makers to encourage CRIQPEG to investigate the problem and identify solutions. Consequently, in 1994, CRIQPEG shifted its research objectives to focus on English language learning in order to shed light on the current status of English language proficiency and instruction and to stimulate and guide efforts at improvement. For the next two and a half years, researchers worked with educators, parents, and pupils from 14 rural and urban schools in the Central and Western regions. In the first year, all 14 schools received textbooks with most reaching the target 1:1 ratio in English and Mathematics. Textbook supplies were replenished periodically. In addition, instructional support was enhanced in seven of the schools. Thus, seven comparison/non-intensive schools received textbooks and participated in periodic data collection activities and seven intensive intervention schools received textbooks and supplemental instructional materials and participated in on-going professional development workshops involving headteachers and circuit supervisors, on-site collaborative instructional support for teachers, and periodic data collection activities. Table 1 provides a summary of the data collected in this phase of the research. The question of "What happens to the textbooks?" is embedded within this larger study.^{iv}

Findings

After two years, there was sufficient information to begin answering the question: "What happens to the textbooks?" Analyses drew from interviews in 1995 and 1996 with Circuit Supervisors, headteachers, teachers, parents, and pupils in the 14 schools, observations of classrooms and high and low performing pupils, longitudinal assessment of individual pupil performance, and a recent inventory of the condition of available textbooks. Using these data--looking for patterns, following up, triangulating, reviewing archival data, and identifying trends--it was possible to trace the path of the textbooks after the headteacher signs for the books. For some books, the path ended in the headteacher's cupboard, but fortunately, most books found their way into the classroom and some continued on to the pupils' homes. What follows is the story that was constructed as we followed the path of the textbook.

From the Headteacher...

Strategies for keeping track

In order to keep track of the textbooks, most headteachers indicated that they instructed the teachers to keep an inventory in which each book is assigned a number. When a child is given the book to use, the teacher is instructed to record the child's name and the assigned textbook number in the inventory book. It is the teacher's responsibility to assign books to pupils, to inspect the textbooks regularly, and to track down lost books.

If there was no teacher or the teacher was unreliable or out for an extended period, according to the headteachers, the books were not distributed. For example, at the time of the interviews many new teachers had not been paid for several months and headteachers reported that some were not showing up regularly. Not surprisingly, headteachers seemed reluctant to rely on these teachers to be responsible for the textbooks. When they were interviewed, two new teachers in the 14 schools reported that they did not give the textbooks to children to take home because they did not want to incur the displeasure of the headteachers. One new teacher stated: "The books are kept in the cupboard in the school which is locked and opened only when we want to use the books. Pupils are not assigned books and they are not allowed to take the books home. I did not come to meet the tradition of pupils taking books home and I may be held responsible for lost books." (grade 6 teacher/semi-urban)

The role of the headteacher seemed key to textbook usage and care. When headteachers provided clear and specific guidelines for teachers about assigning, inspecting, and using textbooks (e.g., keep up-to-date inventory book, inspect daily at the beginning of the lesson, cover the books to protect them and to allow the child's name to be clearly printed on the cover, etc.), the teachers echoed these guidelines in their individual interviews. They were able to provide examples of how the guidelines were implemented in their classrooms. Conversely, when headteachers were vague about the guidelines (e.g., Headteacher: "Well, I encourage teachers to take care of the textbooks...give textbooks to

only those whom we believe will take care of them...inspection of books is random.”), teachers in the school tended to be more casual and less systematic about textbook usage. Textbooks were less likely to be distributed to pupils and inspection of textbooks was more irregular.

Preparing for the future:

Every person interviewed said that books are collected at the end of the year and stored by school personnel, typically in locked cupboards in the headteacher's office. All said that this was for purposes of safekeeping and because the books needed to be reassigned to the new class the following school year. Several of those interviewed expressed concern that the school may not be resupplied with textbooks. Others commented that the books need to last and the children may not take good care of the books. One teacher mentioned what happened in her school where at the end of a particular year children were allowed to take the books home, “When children were asked to bring the books back at the beginning of the next academic year, most of them could not do so. The textbooks were all lost.” It seemed that teachers had become accustomed to using textbooks and they wanted to take precautions so as not to be without them.

Similarly, surplus books had been set aside for future use in the event that the school is not resupplied the following year. In most instances, it was the new books that had been set aside. Older used books continued in circulation until they were unusable and even then they may be kept for accounting purposes or in the event that they are needed. When an inventory of available books was taken in the 14 schools, about 10% of the available textbooks were rated by the researchers as “badly damaged/unusable”. Nonetheless, many of these were still in use.

Into the classroom...

Interviews as well as classroom observations confirmed that the textbook was slowly finding its way into usage by children during daily lessons. Based on classroom observations in 1993 and 1994, the modal lesson was teacher directed with only the teacher using the textbook. Children's classroom exposure to print was limited almost exclusively to letters, words, and sentences written on the chalkboard and then copied into exercise books (Yakubu et al. 1993; Okyere et al. 1995). Since that time there has been a change in the 14 schools, particularly in the 7 intervention schools that participated in collaborative efforts with CRIQPEG to improve instructional practices. Classroom observations conducted in 1995 indicated that children had access to textbooks during English lessons about 45% of the observed time (up from 18%) and children used the textbooks during English instruction about 30% (35% in the intensive intervention schools and 25% in the non-intensive/comparison schools) of the observed time (up from 15%). There was tremendous variability in textbook usage with some children using a textbook not at all and some children using it for most of their English lessons. While the chalkboard was still a prominently used instructional tool, in many classrooms, particularly

the intervention classrooms, the use of textbooks by pupils was equally prominent as part of the lessons.

Interviews in 1996 indicated a changing attitude by teachers. In describing their own lessons, teachers talked about using the pictures in the text to help children learn new vocabulary and practice oral and written language by describing the pictures. They talked about allowing children who finished their work early to read ahead. As they described how they plan and execute their lessons, it was clear that textbook usage was integral to the lesson. Repeatedly, teachers' advice to other teachers was to let children use the textbooks for exercises and rely less on writing the exercises on the chalkboard (e.g., "Set all exercises from the textbook... Write sparingly on the chalkboard--pupils should use the text!"--grade 4 teacher/urban).

Pupils' views on using the textbook in the classroom were very positive. Uniformly they said how helpful the textbooks were to their learning. When asked about their reactions to having to share textbooks, responses were mixed. Some pupils reported that it was useful because pupils could compare and discuss points together. Also, they felt that, "partners could help with pronunciation." Other pupils resented sharing because they felt it "encourages interference," "disrupts concentration," and "pupils cannot read at their own pace." One stated, "One cannot read the textbook as and when he likes because the partner may be using it when the other needs it."

Into the homes...

Not all teachers had the good fortune to have sufficient textbooks for all pupils to have their own. It seemed that a crucial factor in the path of the textbook was whether books were plentiful or in short supply.

When books are plentiful...

Books were more likely to be assigned to specific pupils for their use in the classroom and at home if they were plentiful, that is, sufficient in number for each child to have one. It was typical for teachers to say, "There are enough books, so each child has been assigned a book." or "There are not sufficient of this book so I keep them locked in the cupboard."

When there were sufficient textbooks for each child to have one, it was rare for teachers to ask pupils to share. Sharing of textbooks was viewed as something that is done when the number available is not enough.

When the number of books falls short of the number of pupils...

Not surprisingly, when textbooks were in short supply, teachers were more cautious and selective about the distribution of textbooks, particularly when it meant allowing textbooks to leave the school and the supervision of the teacher. Often teachers opted not to assign the available books to specific children but to keep the books in the school

cupboards, bringing them out only when required for use with a particular lesson. Otherwise, teachers needed to devise rationing strategies and criteria for distribution. For example, one teacher commented that, "Pupils staying far away from the school are granted special concession: they are each given the book to take home, while those within the immediate vicinity of the school are paired [and must share the book.]" (grade 5 teacher; urban). Several other teachers commented that books were only given to those children whose parents would guarantee responsibility for the books.

One consistent pattern emerged: when supply was limited, if the textbooks were distributed, they were assigned to the higher achieving pupils. Several teachers commented that they assigned the books only to the better readers. A few other teachers reported that pupils in the class are put into pairs or groups and one child who is a better reader is designated as the leader of the group. It is this child, the better reader, who is responsible for the safe keeping and safe handling of the book. Still other teachers commented that all children were assigned a book, except those who do not have the skills to benefit from their use. As a teacher of grades 5 and 6 said, "As the books are not enough, promising pupils are given the books...those who do not have the skills are often exempted from the supply."

Two of the schools in which the supply of textbooks was less than the number enrolled were schools that operated on shifts. Teachers in these schools have a unique dilemma. When children are not allowed to take the books home, teachers may be able to "borrow" the books from the other shift resulting in extra books available for classroom use. In one case, this meant the difference between 1 book for every 4-5 pupils versus 1 book for every 2 pupils. As a consequence, teachers indicated that the textbooks were less likely to be sent home with the children.

How the Textbooks are Used at Home

In the first half of 1995, textbook ratios in most of the participating schools were at their highest, primarily due to the combined supplies of the Ghana Education Service/PREP and CRIQPEG. During this period, most pupils who were interviewed said that they took their textbooks home everyday, even those who reported that they did not read at home. This was likely due to the pattern that when books were assigned to individual pupils, the teacher no longer collected them each day hence the child must be responsible for the book's safe storage.

Most pupils reported that they read the textbooks several times a week. These claims were often corroborated by parents who said that children were most likely to use the books when they had homework or assignments to do. It was common for parents to acknowledge that they were illiterate so they did not know how exactly the pupils were using the books but they did see their ward(s) read them and write from them. Some children reported that reading at home was not always possible--that chores and other home responsibilities kept them from having time to use the books at home. Others said

that factors in the home such as disturbance by younger siblings and lack of adequate lighting prevented them from using the books.

With regard to homework, 98% of the children indicated that they were given English homework by their teachers. Although most felt that the homework helped them to learn, about 2/3 of the pupils interviewed said that they encountered difficulties with comprehension. Many indicated that there was no one in the home who could help them.

What Happens When Books Are Lost Along the Way?

Who is Responsible?

Responsibility for the textbooks seemed to be shared by all those who come into contact with them: the Circuit Supervisor held the Headteacher accountable, the Headteacher held the teacher and the parent responsible, and the teacher held the child and the child's parents responsible. Government policy calls for parents to pay three times the official cost of the textbook when their ward is responsible for the loss or destruction of a textbook. As this amount is not sufficient to purchase a replacement, most schools reported that they asked parents to actually replace the book. In a few schools, teachers asked parents to guarantee for the books before they assigned a book to the child (Grade 5 teacher/rural: "I invite parents to guarantee the safety and care of the books before giving them out."). Some parents who were fearful of having to pay were unwilling to assume responsibility for the books or they returned the books to the school personally to avoid the risk of a penalty. Finally, teachers used some discretion in assigning books. One said, "If a person is a habitual absentee, the book is taken away and kept in the office." Another said, "I only give them to children I know will take care of them and whose parents are willing to take charge."

In reality, no one who was interviewed indicated that money or replacement books had actually been collected from parents. One headteacher (rural school) candidly stated, "I call on parents to frighten them that they should pay for the cost but I do not collect any money from them. I may cane the child for losing the book or ask them to weed a portion of the school field." Several others indicated that their efforts to warn the children and parents about caring for the books had paid off and none of the books had been lost or destroyed.

How Many Get Lost?

Between 1994 and 1996, CRIQPEG kept an inventory of how many English books were supplied to each of the 14 schools. Estimates of how many books were missing or lost were computed by comparing total received (total available before 1994 plus total received since) to total remaining (actual count of available books). The total received is likely an underestimate since books supplied by the government directly (rather than through CRIQPEG) were self reported by schools. Based on these figures, it seemed that

about 30% of the total received were no longer in the schools' inventories. [Table 2 provides results by grade level.]

Responses to the Textbooks

Care of the books

Teachers appreciated the books and wanted them to last. Many teachers in the interviews talked about the care of the books and emphasized how important it was to teach children how to handle the books so they would last. Several teachers emphasized this point when asked what advice they would give other teachers. Many of the schools have taken special effort to cover the books with brown paper or newspaper. Spines of some of the books have been reinforced with tape. Some teachers provided advice for mending the books. Apparently, word had gotten around that a locally available starch could be used to stiffen the cover and to rebind books that have come apart. In one school, the headteacher said that he advised teachers to mend the books with starch and several teachers reported that every two weeks the books were inspected and during Crafts class books were mended with starch so that "loose pages are fixed properly."

Durability

While teachers appreciated the usefulness and importance of the textbooks supplied to their schools, they expressed concern over the quality of the binding and the materials used in making the covers. They felt that the materials were not sufficiently durable to withstand the consequences of frequent handling particularly in the lower primary classes with the younger children who may not show the necessary restraint in their handling of the books. Consequently, they worried that the life span of the books would be less than had been calculated by those responsible for monitoring and resupplying the books. To forestall this, the majority of the teachers interviewed suggested that future copies of the books be made more durable--perhaps hardbound with, if possible, water resistant covers.

The teachers' concerns about the durability of the books was born out by the follow-up survey of the condition of available books. Approximately 25% of the available English books (about 10-20% of the received books) were in poor condition or were so badly damaged as to be rated unusable. Also, it is likely that some of the badly worn books were discarded and are part of the 30% missing or lost figure mentioned earlier.

Interest Level

Stories and examples in the textbooks tend to be relevant to Ghanaian life. Pictures depict scenes typical for different parts of Ghana. Teachers were pleased with the relevance of most of the units in the English texts. They felt that real life, everyday situations drawn from Ghanaian culture make pupils enthusiastic about reading and engendered more silent reading among the pupils. In addition, they observed that passages in some of the units relied on stories that pupils were familiar with and that this facilitated their comprehension.

Teachers felt that most of the textbooks coincided with the Ghana syllabi. Only the Social Studies textbooks were thought by some teachers to be unrelated to what the teachers were expected to cover. In fact, two teachers said that they used relevant units from the English textbooks when teaching some topics in Social Studies and Ghana Cultural Studies.

Level of Difficulty

Teacher Perceptions

While many who were interviewed stated that the level of difficulty of the texts was appropriate for the grade level, several qualified this perception by saying, "But the children here [in this school] are slower or less prepared." Others who were interviewed, particularly teachers from rural schools, felt the vocabulary was too difficult and that concepts outside of the children's experience (e.g., electricity) should be put off until the children have mastered topics relevant to their daily experience. A frequent complaint was that the passages were too long. Upper grade teachers felt that topics should be broken into shorter passages in order to sustain pupil interest.

Teachers who expressed that the level of difficulty of the texts was appropriate and that their pupils could cope with the materials tended to come from the urban schools and from schools that participated in the CRIQPEG interventions. Perhaps this was because an important component of the intervention was devoted to helping teachers adapt instruction to meet the needs of fast and slow learners. As part of the training teachers were helped to prepare children for new passages and to adapt longer passages to lengths the pupils can handle.

Coverage

The pace with which teachers progressed through units in the textbooks was related to the difficulty of the units in relation to the children's preparedness as well as the teacher's efficiency in teaching. Teachers were interviewed in the middle of the third and final school term. They were asked what English unit they were covering. All of the English textbooks contain 30 units.

Very few teachers were likely to complete more than half of the English textbook before the end of the school year. Teachers from over a third of the classes were still on units 4-8. The average for classes in rural schools was unit 9. Classes from schools participating in the CRIQPEG intensive interventions were, on average, about 2 units further in the books than classes from the non-intensive/comparison schools.

Urban schools were the exception. The average for classes from the urban schools was unit 18, and, in one urban school, the teachers were likely to complete the textbooks by

the end of the term. In fact, the grade 6 teacher exclaimed, "I'm wondering what materials to use as the class is likely to finish the last five units before the long break."

Assessment Results

Pupils in each of the participating schools were individually assessed to determine how well they could read and comprehend passages taken from the English textbooks. Results from the rural schools corroborate the teachers concerns that the passages were too difficult for most of the children. In the lower grade levels only about 1/4 of the pupils were able to read the passages at an instructional level (i.e., able to decode correctly at least 70% of the words in the passages)--for the rest of the pupils, the passages were beyond their reach and likely to create frustration and defeat. In the upper primary grades, about half of the pupils in rural schools were able to read (decode) the passages at an instructional level, however, their comprehension of what they read was still quite low. Thus, for most pupils in the rural schools the reading level of the textbooks was far too difficult.

Pupils in the urban schools presented a different picture. For at least 85% of the pupils, the passages were close enough to an instructional level to be appropriate for classroom use. Most children were able to read the passages with a moderate or better (able to decode at least 70% of the words) success rate. Reading comprehension was still an area of relative weakness but with proper training (e.g., building vocabulary before attempting new passages) the teachers in urban schools should be able to use the textbooks effectively.

Resolving the differences

There seems to be a double standard: one for what the teacher thinks children in a particular grade level should be able to do (perhaps left from when education was more elitist) and another for what most children can actually do. The textbooks seem most aligned with teachers' perceptions of what the children should be able to accomplish. For this reason, many teachers, particularly those in rural areas, spent extended instructional time on the first units, never reaching much of the text. They expressed a need for workbooks or more exercises associated with the text, and more illustrations and other instructional aids to help teachers teach new vocabulary. A few teachers had obtained textbooks from lower level classes for use by low performing pupils and one teacher commented that there should be a second text for each grade for those who are still at a basic level.

The issue of lack of coverage suggests that some teachers have made a compromise: they have slowed instruction to try to bring mastery to more pupils. They spend long periods of time on one unit in the hope that prolonged repetition will allow more pupils to have the skills and confidence to successfully complete the unit. This instructional strategy is detrimental to the fast learners and an inefficient way of handling the slower or less

prepared learners. Further, it means that most pupils start each new year without having completed or even covered almost half of the units from the previous years.

Repeatedly, teachers in all kinds of schools requested more exercises be added in the textbooks or an exercise book for pupils to use to reinforce what they were learning. This request seemed particularly relevant for those teachers who spent weeks and sometimes months of time on each unit but it also came from other teachers. Some teachers wanted extra remedial and enrichment work for pupils who were performing outside the classroom norm. Others wanted extra exercises to use for homework or in the classroom during small group work. A few teachers also suggested that answers for exercises should be provided. Without saying it directly, their comments suggested that they were sometimes unsure of the correct answers. This uncertainty likely affected their willingness to assign exercises and to move outside of prescribed curriculum (such as adapting a lesson or generating their own exercises).

Suggestions for Improving Textbook Use and Instruction

Several suggestions for improving textbook use and instruction emerged from the exploration into what happens to the textbooks. Some of the suggestions were made and reiterated by teachers. In other instances, a problem emerged (e.g., excessive time spent on inspecting textbooks) and one or two teachers had identified solutions. These suggestions are summarized below:

*** Streamline the inspection process.**

Teachers who have greater coverage of the texts seem to have developed some strategies for using instructional time more effectively. One commented that she inspects textbooks as she circulates in the classroom while the children are working on an exercise from the text. Several commented that the textbooks are covered in brown paper or newspaper and the child's name is written clearly on the cover, thus simplifying the inspection process.

*** Have the child work from the textbook.**

When asked what advice they would give other teachers about using the textbook, several teachers suggested that teachers have the children use the textbooks for reading and exercises rather than spend time with the teacher transferring it to the chalk board and the children transferring it to their books. In this way the teacher can spend time helping the children who need it.

*** Assess children's skills on the available materials and adapt instruction and assignments to the needs of the learners.**

Monitoring the performance of pupils as they read words or passages from their text and describe what they have read provides a means to assess each child's skill mastery. This information can then be used to adapt instruction. For example, while the readers are working independently or in small groups on exercises from the textbook, teachers can work with slower learners on vocabulary and beginning reading skills. Slower learners

who may not be able to do the exercises in the text can nonetheless use a paragraph from the textbook to identify all the words with the letter “a” and to group these words into lists based on how the “a” is pronounced.

* Group children during class exercises and ask better readers to help beginning readers. In every classroom, even those in urban schools, there were children for whom the available text was too difficult. For some classroom exercises, better readers can be asked to help beginning readers. This strategy reinforces the skills of the better readers and helps pupils who might otherwise be idle because the work is too difficult for them to perform independently.

* Insure that ALL children have access to reading materials. Assigning available books to the better readers only increases the gap between the high achievers and those who are not as successful. Withholding books from children whose parents cannot afford to replace them, denies children valuable access. Textbooks become tools for inequity. If possible, assign books that are appropriate to the child’s proficiency level. However, when such materials are not available, slower learners or children from poorer families should not be excluded from the supply.

* Assign work from the textbook to be done at home.

Allowing the textbook to go home with children is an important first step. Children need extended opportunities to be exposed to print, to examine pictures, to think about what they see and read. This step however is not without costs: valuable instructional time is lost to inspecting and tracking textbooks. When children fail to bring the books back to school each day, there are fewer books available in the classroom. Valuable instructional time is lost when children are sent home to retrieve books. However, some teachers seem to have gone beyond the first step and have begun asking pupils to complete homework assignments that involve the text. It was these teachers who commented that the children need the books over the weekends and breaks in order for them to do the home work that has been assigned. This linking of home and school use of the books is key to maximizing learning.

Implications for Policy Makers

The key policy implication of this investigation is that the supply of textbooks occurs within a context. What happens to the books once they are supplied--whether they are used, how soon they are consumed, whether all pupils receive them or just a select elite, and whether they become a tool for equity or inequity--depends on identifiable and often controllable factors. Just as it is unwise to build roads without studying the larger infrastructure and the local conditions, so too with textbooks and other school inputs.

* Textbooks become tools for equity or inequity. Adequate supply and resupply to insure 1:1 availability is crucial to equitable distribution.

When textbooks are available on a 1:1 basis, they make it into the hands and homes of the children. When textbooks are less plentiful or teachers are penalized for normal textbook consumption, teachers are more restrictive in their use and selective in their distribution. Often the pupils who are disadvantaged by a shortage of textbooks are those whose status is already vulnerable.

* In a resource constrained environment, high priority should be given to providing 1:1 ratio for literacy and numeracy textbooks and materials.

Providing sufficient books and materials in core subjects for 1:1 distribution (and if necessary a less favorable ratio in other curriculum subjects) is likely to lead to more equitable distribution than providing an equal number in all subjects but insufficient for 1:1 distribution in any.

* School leadership is important in textbook usage and care.

Headteachers play a crucial role in encouraging new and experienced teachers to break with tradition and utilize the textbooks fully by incorporating them into lessons and homework assignments. Also, the messages that headteachers communicate to teachers about keeping track of textbooks and textbook care are heeded by their teachers.

* Textbooks are a crucial learning tool that can be used to strengthen teaching and learning. When the only printed words a child is likely to see are those that are written on the chalkboard during English class, exposure is almost nil and chances of literacy not far behind. Providing children with textbooks, particularly ones they can take home, dramatically increases exposure and moves the chances of literacy into the realm of the possible.

* When textbooks are used effectively (handled regularly in the classroom and at home as an integral part of instruction), they are likely to wear out sooner and more will be lost in the day to day journey from home to school and back. Thus, a high incidence of textbook consumption is not necessarily a negative indicator--it may reflect a high intensity of textbook use. Conversely a low incidence of textbook consumption is not necessarily a positive indicator, rather it may be indicative of books that are used on a more restrictive or rationed basis.

* Teacher training that focuses on strategies for helping all pupils to be successful learners will be essential for bridging the gap between many pupils' skills and available materials. Teachers can be taught to assess and monitor pupil skills in relation to available materials.

* Supplemental instructional materials are needed for the substantial percentage of pupils who lack the skills to achieve success on available materials.

The range of skills in primary classrooms is large, often including non-readers with virtually no exposure to print as well as readers or otherwise advanced level pupils.

* When developing textbooks, consideration should be given to including ALL the information that is needed to teach the lesson: the background knowledge and vocabulary the teacher needs, tools for assessing pupil readiness for the lesson, explicit strategies for presenting the lesson and checking pupil learning as the lesson is being presented, extensive exercises (with answers provided) for pupil practice, skill reinforcement, and skill assessment, large and small group activities to sustain pupil interest, specific assessment tools for monitoring and recording pupil learning, remediation and enrichment activities, and so on. Well developed, self explanatory materials can strengthen both teaching and learning.

* Instructional aids for building vocabulary and comprehension increase the instructional value of the textbooks.

When teachers prepare pupils for new units or new reading passages by using instructional aids to teach new vocabulary and providing children with opportunities to understand the meaning of words before they encounter them in a reading passage, the instructional value of the textbook and its passages is enhanced. Teachers suggested that more illustrations would provide a basis for class discussion and vocabulary building. This would be useful for those teachers who are less confident in their own vocabulary as well.

Summary

Textbooks are a powerful tool in the teaching and learning process. By following their path into the school, into the classroom, and into the lives of teachers and children, we are in a better position to improve their use. We have a clearer understanding of the instructional support that is needed to maximize their use and we have the knowledge and insight to guide policy.

Table 1: Summary of Data Collected in Phase II of IEQ-Ghana Research

	Purpose	Who and How Many	When
Interviews	Pursue factors affecting language learning.	Circuit Supervisors (n=14) Headteachers (n=14) Teachers (n=56)	Baseline-Winter 94 18 months-Summer 95 Follow up-Summer 96
	Pursue factors affecting language learning.	Hi performing girls (n=56) Hi performing boys (n=56) Lo performing girls (n=56) Lo performing boys (n=56) Parents (n=200+)	Baseline-Winter 94 18 months-Summer 95
	Case Studies	Pupil Profiles (n=12) Additional interviews with parents and pupils	Summer 96
	Home English Home Education	Grade 6 pupils (n=222)	Summer 96
Classroom and Pupil Observations	Monitor instructional practices and pupil behaviors	Classrooms (n=54) Hi and Low performing boys and girls	Winter 94 (preliminary) Summer 94 Winter 94/95 Summer 95
Achievement testing in oral language, reading, and writing	Monitor Pupil Achievement (Longitudinal)	Pupils Baseline (grades 2-5) (n=1032) 18 Months (grades 3-6) Longitudinal (n=812) Follow-up (grade 6 only) Longitudinal (n=212)	Winter 94 Summer 95 Summer 96
Teacher Ratings	Teacher estimates of pupil skill levels	All pupils in class	Baseline Winter 94 Follow-up Summer 96
Textbook Inventory & Distribution log	Monitor textbook availability, supply, and consumption	Initial tally of available books Follow-up count and rating of textbook condition	Winter 94 Summer 96

Table 2: Percent of received English books by current status for selected primary grade levels.

Level	# Books Received	Percent of Received Books by Current Status					
		New	Good	Usable	Poor	Unusable	Missing
3	1037	29	16	17	5	8	27
4	892	28	11	17	10	8	26
5	957	19	22	15	7	4	33
6	585	15	20	16	13	6	31

Books Received = # books available in 1994 + books received since 1994 (CRIQPEG and GES)

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ⁱⁱ USAID and the Government of Ghana launched the Primary Education Program (PREP) in 1991. Major activities under PREP included development of criterion-referenced testing in English and Math, a comprehensive in-service teacher training program, and the provision of textbooks and teacher guides to primary schools throughout Ghana.

ⁱⁱⁱ CRIQPEG is located at the University of Cape Coast. It is coordinated and staffed by faculty, lecturers, and advanced level graduate students from the University. Although it was formed as part of the IEQ Project, the quality of its work has been widely recognized and it continues as part of the University of Cape Coast.

^{iv} The central research questions in the larger investigation were: (1) What are the current language skills of Ghanaian primary school children; (2) What are the factors affecting language learning; and (3) How can language learning be improved? For additional information on the design and findings of the larger investigation, see Okyere et al., (1995, 1996); Harris, Okyere, Pasigna, & Schubert, (1997); and Harris et al (1997).