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February 2006

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Recommended Citation

Halai, A., Otienoh, R., Shariff, Z., Swat, N. (2006). Initiating change in classrooms: Pathways and challenges for East African schools. *Quality in education: Teaching and leadership in challenging times*, 2, 756-764.

Available at: https://ecommons.aku.edu/book_chapters/91

Initiating Change in Classrooms: Pathways and Challenges for East African Schools

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Abstract

This paper draws upon classroom-related findings from a set of impact case studies of whole school improvement in six primary schools that have been involved as “cooperating schools” in long-term school-university partnerships with the Aga Khan University Institute for Educational Development (IED), and its Professional Development Centre in East Africa (PDC-EA).

The IED approach for school improvement involves participating schools in multiple strands of professional development, including: a two-year masters degree programme that provides selected teachers with the pedagogical and leadership knowledge and skills to serve as Professional Development Teachers in their schools; Certificate in Education programmes (CEP) for teachers focused on enhancing subject matter content knowledge and methods (English, Maths, Science, Social Studies, Primary Education); and a certificate programme for head teachers designed to develop their capacity to manage and lead continuous school development in coordination with the teacher development inputs. School participation in the IED and PDC-EA programmes is expected to result in positive impact in four areas: teaching and learning methods; academic coordination and leadership; professional collaboration amongst teachers; and student learning outcomes. IED and PDC-EA inputs into cooperating schools are not delivered all at once. The schools typically involve a few teachers and/or administrators over a period of years in the various programs. Thus, in order to assess and understand the “impact” of this multi-pronged approach to school improvement, it was necessary to select and study schools that had been involved with IED and/or PDC-EA over a long term (5+ years) and that had supported teacher and administrator participation in a variety of the IED and PDC-EA training programmes.

The case studies were conducted between August 2004 and March 2005 by a team of researchers from AKU-IED and PDCEA. Data sources included classroom observations, interviews with teacher leaders and teachers (trained

and untrained), interviews with school administrators, collection of relevant documents (lesson plans, sample of students' work, school development plan), collection and analysis of samples of student work and examination papers, and the collection and analysis of student academic results (e.g., in-school test outcomes) maintained by the school over the time frame studied.

Drawing upon rich illustrative classroom vignettes highlighting different dimensions of change initiated and related issues:

Activity Based Teaching and Assessing Students' Learning: Case of the Unity Primary School

The Unity Primary School in Dar-Es-Salaam came into being in 1993 with 400 students across grades 1-4, following the liberalisation of the education sector in Tanzania. Prior to liberalisation, primary education was entirely in the hands of the government and no private organisation was allowed to run or operate a primary school. However, it went through rapid expansion and at the time of research the school was a thriving institution with a student population of 978 boys and girls and a teaching staff of 58, making the teacher pupil ratio app. 1:17. According to the document entitled "about us" provided in September 2004, by the deputy head teacher (administration) this student teacher ratio makes for effective monitoring of the progress of child and for effective group work. The school has made significant investment in teacher development for initiating change in the school and classroom. Provided below are two snapshots from lessons observed.

Class: 5

Subject: Mathematics

Topic: Money

The classroom was smallish and arranged for students to work in small groups of about 4. It was bright as most rooms I had seen so far and had soft boards along the wall. Very little if anything was there on the soft boards. The teacher started the lesson by telling the students that they would be doing a new topic Money. He then asked a series of questions related to the meaning and significance of money such as:

1. Do you know what is meant by money?
2. Why is money important?
3. Why do we need it?
4. How do we know that somebody has more money than others?

He called upon students to respond to the questions. They eagerly participated raising their hands or just speaking up. There was some discussion on question 4 and students' responses to it were:

S1: Counting (the number of poor)

S2: Observing personality

S3: If someone is in good health (they have more money)

S4: If someone has many things or someone wears clean clothes

One student raised his hand, "Sir, I disagree with Saima, even poor people can wash their clothes and be clean. Sometimes rich people also wear dirty clothes". Many students broke into this conversation.

After a few minutes the teacher announced that the class should turn to page 124 in the book (this was a Kenyan text book "Primary Mathematics for 5 Revised, Kenya Institute for Education"). He informed the students that they would work on addition of money.

He asked the class how many of them had bought something from the canteen in the recess. Taking some responses from the students he added the amount of money spent on buying things from the canteen. He pointed out that they added shillings to shillings and in case of some amount being in cents the other should be converted. He then worked through an example on the blackboard explaining the procedure of noting down shillings under shillings and cents under cents and the need to carry over from cents to shilling. Once the sample sums had been worked out the teacher asked if there were any problems. The class chorused "No sir". He asked the students to do the following in their note books: Page 124, Q1(a,b,c,e) and Q3 (a,b)

The class got down to work through the sums. The lesson ended.

Class: 3D

Subject: Science

Topic: Reproduction

The classroom was smaller than the other classes visited. The walls had students' work which included booklets titled "my autobiography" with students' pictures put in different shapes such as dress, hearts, bells and houses. There were small diaries, a project done on geometry, computer printouts of reptiles and amphibians.

The teacher began the lesson by grouping the class and told them to think about all the things that could be grouped into 'Living things and non living things' and asked students to give examples of living things. A girl interjected as she swung her body and said 'plants move like this'. Another student said they breathe in and out, the next one said they reproduce. This whole class interaction with the teacher continued for a few minutes. He told them that the topic for the day was reproduction in animals. The teacher wrote on the board "REPRODUCTION IN ANIMALS" He then explained that reproduction means the ability to give birth to a young one of the same kind.

He gave instructions to work in groups as a family and to have a role. A student gave examples of the roles as writer, presenter, leader and time-keeper. The teacher ensured that each group had a writer and work began. He then drew a table on the board to award marks. Each group had 100 marks to begin with but anytime they violated the teacher's instructions, they lost marks. It was time for group presentation. Each of the six groups did their presentation and the class discussed the list of the animals, removed those that were listed wrongly and the rest of the class awarded marks to the presentations. One presenter mentioned that another group had not read out some of the names on their list because they were wrong. The teacher confirmed by checking their list and reduced their marks but the boy shouted that it was unfair and that the teacher should take more marks from them. After agreeing on the marks for each group, the teacher told them to close their books and copy notes that he wrote on the blackboard. Some 5 minutes before the lesson ended he told them to stop writing, reviewed what they had done during the lesson and then the bell rang.

Observations such as the one shared above showed that there was a variety in the teaching learning activities including whole class, small group and individual work. Classroom seating was mainly for small group work with four to five students around a table. Even where furniture was not arranged for group seating, students would often be asked to turn their chairs and form groups.

Teachers played different and complex roles in the course of their teaching. These roles often overlapped and were not easy to delineate but certain patterns in behaviour showed three main roles that the teachers played to a varying degree: a manager/director; a guide; and facilitator. Evidence shared in the detailed report shows that this variety in the teachers' roles in the classroom emerged because of investment made in teacher development to promote classrooms where students participated actively and in a variety of ways to engage in the process of learning.

A close scrutiny of the change initiated in the classroom showed that teachers had accepted the activity-based teaching as evident from observable changes in the teaching methods, classroom settings, use of manipulative and other resources. But this change was not reflected in their assessment and evaluation practices. Hence, it was noticeable that students were set classroom tasks that were broader in nature but when it came to evaluating their learning they were asked to do individual work in their notebooks that was of routine procedural nature. For example in the mathematics lessons shared above, the teacher engaged the class in a discussion about the concept of money and related it to their experience of using money during recess to buy from the school canteen. But the assessment was based on the individual task which was a routine procedural task of adding different sums of money. In the science lesson there is an attempt to assess group work through group presentation but there was no evidence to show how these group presentations would contribute to the assessment and evaluation of each student's learning.

A key finding is an apparent lack of linking the processes of teaching and learning to assessment and evaluation of learning; students' learning outcomes were typically seen in the form of examination results. There was an examination committee in the school and the chair of the committee reported that in setting examination papers care was taken to include test items which were "very tight", he explained this to mean that those were questions that were not found in examination papers of other primary schools. However, preparation for examination was through an emphasis on drill, and practice. These practices were very much oriented towards getting "good marks" in the examination; alternate approaches to classroom assessment and evaluation were not seen in

the school policy and practice. Moreover, according to the information provided in the various school brochures, interviews with the head teacher, the teachers and other school leaders, the school results have always been good. But there was no evidence of a systematic analysis of school results and its linkage with the teacher development work and its resultant change in the classroom. Hence, the “good results” were more of a theoretical notion widely accepted but less of an evidenced-based reality. For example, in response to a question about the change in kinds of student outcomes and patterns in student outcomes a senior member of the lead team maintained that it would be difficult to make a comparative statement based on the examination results over the years but there was certainly improvement in students’ confidence. This apparent lack of linkage between classroom processes and evaluation of learning raises several issues.

Promoting Student Talk Through Cooperative Learning: Tensions in Quality & Quantity

This section reports on the classroom findings from two of the PDC-EA cooperating schools in Kenya; one a private school in Mombassa and the other a government school based in Nairobi. Both schools have been involved in the Certificate in Education Programmes for teachers of English, Mathematics, Science and Social Studies conducted by the PDC Following is a brief comparison of the two schools.

The Nairobi school has been among the cooperating schools since 2001 when PDC-EA started conducting programmes in Nairobi. The school is situated in a low income area of Nairobi and majority of the students come from very humble socio-economic backgrounds. It was first established as a rehabilitation centre for street children. It eventually turned into a full school. Though it is sponsored by the catholic sisters of Mercy who play a very big role in the running of the school, it is also recognised as a public school. It gets funds and some teachers from the government.

The school has very high enrolment which has been made worse by the government’s introduction of Free Primary Education. Average class size ranges from 47 - 57. The Mombassa school was a government-aided private community school till 2002. Students come from average socio economic background and the class size is 40. In 2000, this school became a cooperating school with PDCEA. In both schools many teachers of Mathematics, English, Science and Social Studies have attended the Certificate in Education Programmes offered by PDC-EA.

The Use of Cooperative Learning

During the CEPs, teachers were introduced to child-centered teaching and learning approaches. Therefore cooperative learning was one strategy that was emphasized upon during the programme. During the study, it was found in both the schools that that many of the CEP graduate teachers used cooperative learning in their classrooms and had very positive remarks about this strategy of teaching and learning. They maintained that cooperative learning enabled them to have children involved in the teaching and learning process. As one of them remarked; 'like there was this cooperative method, which I felt I involve children, I just act as a facilitator, to help them realize what is within them.' In fact by using cooperative learning strategy this teacher further realized that children do not come to school "empty headed... but there is something..." which needs somebody to help them "build on it." In a way of reiterating the above sentiments another teacher said that with the use of cooperative learning, the children do most of the work in the classroom. She said, "At least majority (sic) of the work they are doing, they discuss, they come to conclusions. Mine is only to conclude and give more information if at all it is needed" From these teachers' sentiments, there seem to be an improvement in the teaching and learning process since the children are actively involved in the teaching and learning process.

Our observations also confirmed that the teachers gave tasks to the learners in groups which encouraged them to discuss and come up with answers. This in one way or another encouraged student talk in the classroom, so that the quantity of student talk increased. This was similar in the classrooms in both the schools.

However, there were two major challenges that emerged in the use of cooperative learning. One was how to structure and manage the cooperative learning groups. For example, due to many children in small rooms, the classes were very much crowded. In most cases the groups had 8-12 pupils. These were very big groups, so that the children would crowd over the task that was given, some leaning over the others. Some of them would not participate at all. They would just remain seated and not bother to see what the task on the piece of paper or manila that had been given by the teacher was all about. Such children would actually be shut out of the discussions thus inhibiting the learning that was supposed to go on within the group. This actually defeated the purpose of cooperative learning where children are supposed to learn from one another. These were management related issues and could be resolved relatively easily. The other issue which was deeper and raises questions about the nature and

meaning of classroom change pertained to the quality of student interactions as they worked in groups. While the management issue was more pronounced in the Nairobi school as compared to the Mombassa school, the issue of quality was common. The teachers mostly appeared to be focused on the structural issues of group work and not with what was being said in the groups.

Creating a Learning Environment Through Resources

The Bondeni Girls school is a private school in Dar-es-Salam. Most learners come from middle to upper social economic status families. The fact that all of them live in the urban area of Dar Es Salaam, specifically in the city center, they have great advantage of social and economic facility.

On the part of the teaching staff, the school has good quality teachers who come from diverse areas of the country and outside the country. These teachers have different abilities that draw from their diverse experiences and background, which adds value to the quality of education provided in the school. It should be noted that the nature of school management together with the teaching force has a great contribution to the type and quality of resources used in the school.

Bondeni school administration claimed to understand the value of using resources to provide a stimulating, interactive learning environment that caters for learners' needs in different ways.

To promote the creation of learning environments the school also sent teachers for professional development programmes offered by PDC-EA, and conducted in-house programmes to include teaching and learning material development. In these, the emphasis was to enable teachers to make and use resources effectively and teachers are also introduced to different ways they can access internet material and also to be able to teach using computer technology.

My observations showed that the school surrounding was full of posters, pictures and colourful educational and religious messages that apart from making the school look attractive and lively, they taught about values and foster a positive attitude towards learning. For example I read a poster portraying a message that the one who does not make a mistake does not learn. This makes the school a friendly place.

There were also informational updates on the bulletin boards about school activities and special events. The whole surrounding was clean and full of flowers and other decorations that were well managed by a support staff.

Bondeni School had also established a moderately rich resource room that stored models and realia that were collected by both teachers and learners. The study found that the school also purchased some of the material present in the resource room.

The above factors showed a great possibility for the school to have a positive, stimulating and professional teaching and learning environment through the use of a rich array of available resource materials.

Use of Resources for Promoting Learning

As a result of the rich array of resources that the school had made available to the teachers, learning corners were present especially in the lower grades classrooms. In class one and two, learning corners acted as reference points through and across the teaching and learning process. The upper grades had wall displays to supplement textbooks. Classroom displays were commonly used by teachers.

A closer investigation on the regular use of the resource room showed that the material in the resource room were collection of displays meant for events like parents' day and other schools' special events. There was no evidence of the use of resource room as a regular school agenda.

The study also showed that most items in the resource room were meant for science concepts, which reflects the imbalance between subjects. Like any other facility, the resource room was found to be a place for teachers to plan for their lessons and other individual work.

To conclude, in order to create a learning environment through resources at Bondeni primary school, the school management would need to consider strengthening the utilization of present resources like classrooms, the library, the resource room, IT facility and sports grounds, through a better organizational framework that would fully utilize them. Detailed findings suggest that school improvement initiatives need to focus on resource utilization as one way towards school improvement.

Concluding Remarks

The above findings showed that all classrooms showed observable changes in classroom environment and teaching practices as seen by the use of teaching methods, classroom setting, richer curriculum materials and use of resources.

However, closer analysis revealed that there were several issues in the nature of change. These include: linking classroom learning with assessment and evaluation of learning; focus on quality of student talk along with the quantity; and ensuring that resource material usage becomes a fabric of the regular classroom activity. These issues raise the following questions which will be raised for discussion in the symposium:

- What is meant by meaningful classroom change?
- When is classroom change meaningful?
- What more can teacher education do to make classroom change meaningful and sustainable?

We acknowledge the contribution of team members Janet Okoko, Samuel Musoke, Moshi Mwenema.