



# External Report on Curriculum Reform Pilot Implementation in Kenya

**IBE-UNESCO**

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## External Report on Curriculum Reform Pilot Implementation in Kenya IBE-UNESCO<sup>1</sup>

### 1. Description of the Pilot

A seven-month pilot implementation of a competency-based curriculum<sup>2</sup> was subjected to a combined the KICD (Kenyan Institute of Curriculum Design) and external monitoring and evaluation (M&E) process at midpoint of the pilot in the week of 3-7 July 2017. The initial pilot was for Pre-Primary 1 and 2 (PP1 and PP2, ages 4-5), or Primary 1 and 2 (ages 6-7) where Pre-Primary was not offered. Of Kenya's roughly 25 thousand primary schools, 470 participated in the pilot, or almost 2 percent of the total. The sampling objective was to cover all counties in the country, proportionally representing public and private, urban and rural, and boarding and day schools (all of which follow the national curriculum) plus special schools where possible e.g. for the deaf and for the mentally challenged.<sup>3</sup> The main M&E was handled by the KICD research team for the full sample; the external M&E was executed within the KICD exercise by the IBE-UNESCO team, in a random subset of participating schools in the Mount Kenya region (Nyeri, Kirinyaga, Kerugoya counties). This is a fairly heavily populated agricultural area about 150 km out of Nairobi, which we chose because of the range of school types available and the relative proximity of schools to one another which would allow us to visit a maximum number in the time available. We visited 14 schools, including one for deaf and one for mentally disadvantaged, interviewing 43 pilot program teachers

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<sup>1</sup> The IBE-UNESCO team is composed of Lili Ji, Assistant Programme Specialist and Thomas Cobb, Senior Consultant (Associate Professor, University of Quebec in Montreal).

<sup>2</sup> The new *Basic Education Curriculum Framework* of Kenya is accessible at <http://www.kicd.ac.ke/images/downloads/CURRICULUMFRAMEWORK.pdf>. The reform is recently documented by Kabita and Ji in *The Why, What and How of Competency-Based Curriculum Reforms: The Kenyan Experience* accessible at <http://unesdoc.unesco.org/images/0025/002504/250431e.pdf>.

<sup>3</sup> The exact schools chosen for the pilot with their counties and their properties are described in the document "Selected Pilot Schools" available at <http://www.kicd.ac.ke/images/EDU/SELECTEDPILOTSCHOOLS.pdf>.

and in addition five parents of children participating in the pilot program. The format of our work was to accompany a KICD official to each school, interviewing teachers and others individually using the KICD questionnaire but with supplementary questions of our own, and in addition inspecting classrooms for signs of learning activities typical of the competency reform (learning corners, local learning materials, furniture adaptable to group and pair work) and observing actual lessons when possible.

## **2. Teacher Preparation for the Pilot**

Teachers had been given two days of training by a KICD trainer in a KICD training centre near their school in the main town Nyeri. In this training they met other nearby teachers also participating in the pilot and were introduced to a set of new KICD-produced competency-based “work books” (activity books) for learners, and teaching materials entitled the curriculum “designs books”, encompassing the scope and sequence of study topics in all learning areas. We have not been given access to other training materials, although they would have been informative to our external evaluation exercise.

## **3. The Pilot Instructional Materials**

Each of the learning areas (five in PP1 and nine in PP2) is accompanied by a learner’s ‘work book’ of roughly 20 pages which is intended to occupy one term. These books are ‘competency based’ inasmuch as there is a recurring pattern of the introduction of some item or items of knowledge to be acquired (often through ‘guided discovery’) followed by a pair or group project in which the acquired knowledge is applied through collaborative effort to answering a question or solving a simple problem in a familiar context. This could be something as simple as choosing which picture to colour, and yet application, collaboration, problem solving, and contextualization and other key components of a competency approach are all present. Decidedly absent are previous curriculum elements like a

decontextualized knowledge focus and copying notes from the blackboard to be remembered for examinations. The curriculum ‘designs books’<sup>4</sup> (produced in 2017) are intended for use as resource books in lesson planning and assessment. These itemize the competencies and related values and PCIs (Pertinent and Contemporary Issues from a list of six) behind the learning activities, proposes potential links between competencies, suggests additional learning activities beyond those proposed in the learner’s book (which is only 20 pages), and contains performance indicators for the various teaching points and competencies (employing a four-way ‘expectations’ framework - below, approaching, meeting, and exceeding). Unlike in non-pilot schools/grades, there were to be no final examination papers or exam preparation materials for the pilot grades (PP1 and 2, or Primary 1 and 2), which reflected the emphasis on formative evaluation typical of competency approaches. All assessment was to be organized and performed by the teacher according to the guidelines in the ‘design book’ (as the teachers referred to it).

## 4. Evaluation Data Collection

### 4.1 Analysis of Pilot Instructional Materials

All relevant paper materials – the curriculum ‘designs books’, the new students’ ‘work books’, as well as all teacher preparation and record keeping books were thoroughly inspected and relevant questions posed (e.g. How do you use this book? Where do these test scores come from?)

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<sup>4</sup> The ‘curriculum designs’ book for Pre-Primary 1 can be accessed at <https://kicd.ac.ke/images/curriculum/COMBINED%20DESIGN%20PP1%20-25TH%20May.pdf> (167 pp.), for Pre-Primary 2 at <https://kicd.ac.ke/images/curriculum/ADAPTED%20PRE%20LANG%20PP2.pdf> (162 pp.)

## 4.2 Teacher Interviews

Forty-three teachers were individually interviewed for roughly 30 minutes each. The basic format of the interview was a KICD interview questionnaire, which we external monitors solicited answers for on behalf of the KICD (so as to avoid interviewing busy teachers twice) but asking additional questions to gain other types of information. The KICD questionnaire was oriented for example to asking about any difficulties teachers had experienced filling in the 'reflection' forms of several pages that they had been sent for each of their (up to) nine subject areas, while as external monitors our main concern was with the teachers' experience of the reform pilot per se. Our practice was to ask all the KICD questions but to emphasize the experience questions and leave time for questions of our own. The questionnaires were submitted at the end of each interview session but not before we had taken a full set of photographs for every document. We also asked to look at the teachers' lesson plan books (obligatory and regularly inspected by a head teacher in the Kenyan primary education system), including any progress/assessment records) and to look at the classroom to check for evidence of competency infrastructure (accommodation for group work, localized learning materials, charts on walls and learning corners).

## 4.3 Parent Interviews

We also had the opportunity to interview five parents of children participating in the pilot. This was possible despite our sometimes unscheduled arrival at schools because these parents were at the same time teachers of other, non-pilot classes in the school.

# 5. Results and Findings

## 5.1 Teacher Interviews

The overall responses of teachers to their experience in the pilot was positive to the new curriculum in principle. No teacher was hostile in any way to the reform in

general or the pilot in particular. All reported their learners were enjoying and benefiting from the new arrangement; some said their learners were 'more involved' than comparable learners had been using the previous curriculum; many used the phrase 'learner centered' saying that lessons were no longer dominated by textbooks, exams, rankings, and the teacher, as they had been even in early grades under the previous curriculum. The learners were now at the centre, working in their work books, manipulating local materials, asking questions and 'directing their own learning' in some small but real sense that could be built on in the future, leaving the teacher free to monitor the proceedings and offer individual help, encouragement, and remediation as needed. Some teachers also shared that unlike in the past, values were now well integrated in the pilot curriculum, which they found satisfying because not all parents instill those values at home.

When asked about how they went about the task of teaching the new curriculum, almost all teachers stated that they took the topic from the learners' work book (greetings, number sense, animals, etc.) and then used the curriculum 'designs book' to get ideas for lesson plans, describing what and how to teach as well as what and how to assess learners' progress. Most teachers interviewed were able to give concrete examples of how a lesson plan articulated learning activities with values, PCIs and core competencies, which shows the effectiveness of the KICD training in this regard.

As mentioned, we were also able to visit classrooms and occasionally witness ongoing lessons. Visually, it was clear the classrooms mainly were provisioned with learning corners (e.g. market, garden, shop, hospital corners in the best prepared cases), plentiful charts and posters, locally based learning materials of many kinds (from beans in a jar to bottle tops for counting and estimation that the learners had brought from home), with furniture adaptable to many configurations from teacher fronted to pair work or group work.

There was no teacher, however, who did not have one or more problem with how the pilot had been rolled out or suggestion for improvement. The following problems were recurrent over the interviews.

- 5.1.1 More than 50% of teachers mentioned there was a serious mismatch between the curriculum ‘designs book’ and the learners’ ‘work book’, such that it was very difficult to locate the corresponding sections between the two books to look for supplementary lesson ideas or assessment procedures. One teacher demonstrated the difficulty of going from the ‘work book’ unit on ‘animals’ to several places in the ‘designs book’ where bits and pieces on animals could be found (there is no corresponding unit on this topic). In addition, the ‘designs book’ proposed both mismatching and unclear/impracticable time-frames for the different topics – for instance, ‘5HRS’ [sic] was proposed for ‘greetings’ within the language topic, while the classes are in roughly half-hour periods. It was not clarified either in the ‘designs book’ or in the ‘work book’ how many periods each study topic should be allocated.
- 5.1.2 Partly related to 5.1.1, it was near unanimous that lesson preparation was taking much more time than it had under the previous curriculum. One teacher complained that excessive planning time was even compromising a basic principle of the competency approach, that of contextualization of learning materials. So much time was going into lesson planning with the ‘designs book’ that, although the children did not leave for home until 7 pm, she was still unable to determine what materials from home (the ‘local learning materials’) would be needed the next day in class. For instance, where the “designs book” refers to unavailable learning resources such as a swing, a swimming pool, or video games, teachers have to think hard for ideas to replace those resources.
- 5.1.3 All teachers interviewed stated they had been issued with insufficient numbers of learners’ work books, in the order of one book per two learners or in some cases three. However, the KICD official we were traveling with had brought along a supply of the books and was able to remedy the situation as we went, although by then many had already finished the first work book (see point 5.1.7 below).
- 5.1.4 About half the teachers mentioned that the work books, in addition to being insufficiently challenging, or even “shallow”, were also simply too short

(about 20 pages, with much less content than in the designs books) such that they expected to finish it well before the intended school term had concluded. This issue seemed to be found in most learning areas, except to a lesser extent for Religious Activities.

- 5.1.5 About one teacher in four mentioned that parents were worried by the lack of examinations or other means of keeping track of their children's progress. Some stated that their KICD training for teachers had proposed they keep a checklist of learners' daily progress that parents could consult, based on the assessment proposals in the designs book, but that KICD had not provided a model document/form to fill in or an example of how to go about this. Some were planning to develop or had started developing and using such a checklist on their own (referred to again in our discussion of documents below).
- 5.1.6 A small but significant number of teachers mentioned that a new problem posed by the new curriculum was a greater differential in the time that learners of different abilities would take to finish a given activity. More able learners would finish an activity quickly while some of their classmates struggled. The reason this problem had become worse, they believed, was that tasks in previous curricula were more challenging and thus all learners were kept busy for a longer period. With 'easier' tasks in the new curriculum, some were finishing quickly.
- 5.1.7 A small but significant number of PP1 teachers reported that the 30-minute class period was not enough time to complete some activities and recommended expanding class time to 40 minutes. The reason for the time squeeze they believed was that with more phases to each lesson (a learning plus an application phase and possibly others involving values and PCIs) more time was needed. We return to this point in the recommendations.
- 5.1.8 At least four teachers shared their concern that some content in the pilot materials did not suit learners' abilities or their learning progression. For instance, in Environmental Study, a topic on 'Income Generating Project' was found too difficult for Primary 2 students. Another example was that almost the same content about 'Animals' was found in both PP1 and PP2 work



books, but only the PP1 work book provided the animals' names in texts, whereas teachers would have preferred to see those texts in PP2 work book instead. In another case, in Grade 1 English Language, on the topic of singular/plural, the work book gave the example of singular only, not plural. In special schools, teachers reported that the pilot materials were not adapted to their learners' special needs. They themselves were doing the adaptation, but without sufficient guidance or example.

- 5.1.9 Despite being assured in several documents that their students would not sit final exams, a minority of teachers expressed uncertainty about whether this was the case. One head teacher stated that 'KICD has to be clear about final examinations' for learners in the pilot programs. The context for this anxiety is the practice under the old curriculum of awarding every school an average score for examination results, which is normally posted in the head teacher's office and gives the school much of its status and competitiveness to attract students in the case of private schools. The head teacher in one pilot school had instructed that their pilot students should nevertheless sit the same exam as the non-pilot schools, the result being that students did not do well and as their teachers and parents, were left confused about the implications of the reform to learning and schooling.
- 5.1.10 Virtually all teachers reported very little opportunity to integrate technology into the pilot program, this being one of the core competencies, except for one in a public school where a supply of 'laptops' (pads in fact) had been received from the KICD and were being supervised by a teacher who was also participating in the pilot program. In this one case pilot learners were using computers as part of their instruction.

## 5.2 The Pilot Instructional Materials

As mentioned we had access to a range of paper and electronic documents attached to this pilot project, and some of what we gleaned from these provides complementary insights to those provided in the teacher interviews.

### 5.2.1 The Learner ‘Work Books’

As already mentioned there are five of these for Pre-Primary 1 and seven for Pre-Primary 2. These are good-looking A5-size books and professionally done by a publishing company. As already mentioned however they are extremely short (about 20 pp for a term) and tend to be fairly easy for many of the learners, leaving the teacher with a lot to invent for himself or herself using the accompanying curriculum ‘designs book’.

### 5.2.2 The Curriculum ‘designs books’

As mentioned the teachers use these books to elaborate topics as given in the work books and reported spending an excessive amount of time on this work. On inspection of the books, potential reasons for their inefficient use became clear.

- 5.2.2.1 The book has no table of contents or index; teachers seeking the beginning of a new section can only do this by flipping through pages.
- 5.2.2.2 As mentioned, not all topics in the work books are actually present under a common rubric in the designs book (e.g., animals). Yet some topics are present twice. In the (first) language topic, ‘book handling skills’ appears in the Reading strand as sub-strand 3.1 (p. 21) and in the Writing strand as sub-strand 4.1 (p. 29) which is identical apart from minor re-wording.
- 5.2.2.3 The terminology is not harmonized with a competency approach, at least not explicitly. The notion of strands and sub-strands appears with no indication whether these are the same as competencies and sub-competencies or how they relate to competencies. Similarly, it is not clear how the PCIs, values, and life-skills relate to competencies. The support materials seems too conceptually complex for teachers to use for lesson planning in any quick or efficient way.

- 5.2.2.4 The table formatting is haphazard. The basic pattern of five columns (for strand, sub-strand, specific learning outcome, suggested learning experiences, and key inquiry questions) is occasionally reduced to four (with the 'strand' column missing, e.g., p. 9); and further when present the first ('strand') column is occasionally empty, occasionally present in capital letters (e.g., p. 10), and occasionally present in lowercase letters (e.g., p. 13).
- 5.2.2.5 The whole presentation is virtually devoid of clear, concrete examples for the teaching ideas. Numerous proposals appear in PP1 for using songs and games ('Learners sing rhymes related holding [sic] books top side up and turning pages from right to left,' p. 21 and similar p. 29) but no examples of such songs or rhymes are given.
- 5.2.2.6 The whole presentation is devoid of concrete instances of local learning materials or experiences. In fact, apart from in the introduction, the word 'Kenya' does not appear at all in body of the PP1 book (although a mysterious '0020' code does appear in a position where the word 'Kenya' would seem appropriate, on p. 42 as noted by two teachers). The word 'Kenya' does appear slightly more in PP2, not throughout the book but only in the unit about counting money.

### 5.2.3 Teachers' Preparation for Teaching and Assessment

Kenyan primary teachers are required to make lesson plans for each class. Our observation here was that (1) the lesson plans consisted mainly of phrases copied verbatim from the curriculum 'designs book' with signs of miscomprehension, and (2) although there were some attempts to develop assessment instruments (examples are shown in Appendices 1 and 2), the performance levels were labelled differently, they were not described, and neither used the exceeds-meets-approaches-falls below expectations framework proposed in the 'Assessment Rubric' of the designs book. In

addition, assessment results were 'labelled' only, lacking real qualitative nature.

On the point of lesson plans, an example of one of the few teacher's plans that does *not* merely copy phrases from the designs book appears in Appendix 3, along with the corresponding page from designs. The welcome absence of simple copying however serves merely to reveal problem with comprehension of the designs book's intent. A side-by-side perusal of these documents (upper and lower in Appendix 3) shows that the teacher has not understood the pre-math notion of 'sorting objects by a single attribute,' which s/he takes to be a principle goal for the unit while the assessment rubric classes this ability as merely introductory and 'below expectation' as a terminal objective (compared to sorting by several attributes, which 'meets expectations').

### 5.3 Parent interviews

The five parents interviewed were enthusiastic about the pilot's effect on their children. One said her Grade 1 son was now 'more responsible' as a result of his having more independence in his school work and being less directed by the teacher. Others shared that their children were more able to communicate what had happened in his school day than he had been able to previously, which she attributed to his collaboration with peers and greater freedom to ask questions of both them and the teacher.

As for parental negatives, as mentioned already, teachers reported hearing misgiving from some parents about lack of assessment information. They had also heard parents say they were worried about the lack of written work, and lack of homework generally, as these had apparently loomed large in the previous curriculum even in the early grades. Some parents did confirm their concerns that without homework and exams, they had no idea about their children's progress.

## 6. Recommendations and Open Issues

From our interviews, reading, and observations, the following are the main conclusions and modifications the pilot project appears to indicate:

- 6.1 The overwhelmingly positive outcome emerging from our external evaluation is a hearty affirmation of the value of both this pilot and the bold experiment in early competency-based learning on a national level that lies behind it. Our sense is that this part of the curriculum is a small number of reconsiderations away from rollout, but that these reconsiderations are significant and will involve work.
- 6.2 The teachers' curriculum 'designs books' seem to have been produced under time pressure. They should be (a) thoroughly upgraded for clarity, detail, and contextualization (b) fully and explicitly aligned with learners' work books, and (c) fully explained to teachers for their effective use.
- 6.3 Assessment is an issue that requires immediate clarification on a number of points. Teachers must be given proper assessment checklists or else shown clearly how to use the curriculum designs book to prepare their own checklists, templates, or other means of keeping systematic formative assessment records that are coherent across levels and institutions. Such formative assessment tools and results should be communicated to teachers (of current and subsequent grades), to parents, and to students themselves, in order to inform and support learning. There is almost certainly a role for the Kenya Examinations Council in jointly developing a coherent and comprehensive program of learning assessment within this reform. Teachers should be included in deliberations about long-term assessment goals and procedures in the new curriculum.
- 6.4 The learners' work books should be lengthened to fill a whole term at an average rate of use and in addition be made more challenging, diversified and relevant to learners' abilities and progression, in order to hold the attention of more able ones without leaving the others behind.

Designing ‘challenging yet doable’ learning activities is of course no simple matter. In the old curriculum, challenge was provided automatically by abstract verbal content that went over the heads of many learners. The design task now is to create challenging but contextualized and collaborative activities that everyone can learn something from participating in. This can only be done through a period of informed trial and error involving both experienced teachers and real learners in an extended formative process that could take considerable time, reasonably running simultaneously with the operation of the pilot curriculum for the first few years.

On this point of more challenging activities, there appears to be a contradiction between some teachers’ reports of activities’ being ‘too easy’ to keep the more able learners busy for 30 minutes and others’ reports that the activities tend to take longer than 30 minutes (owing to the number of steps rather than the challenge *per se*) such that they are rushing to finish by the end of the time. A reconciling hypothesis might be to have slightly more challenging activities in a slightly longer time period (several teachers proposed 40 minutes). Ideally this would keep abler students engaged longer yet allow everyone to get something out of the activity without rushing. It is commonly asserted that early learners cannot concentrate for long periods, but with the more interactive approach being adopted in this reform, this assertion could need modification. Only ongoing experimentation can discover the right mix.

In conclusion, we strongly urge that immediate action be taken on points 6.2 and 6.3 prior to any further rollout of the curriculum and that long-term action be taken on point 6.4 on an ongoing basis as the rollout proceeds.

Geneva, Switzerland, 18 July 2017

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Appendix 1. In the absence of a formative assessment scheme, a few teachers are developing their own. Here is the one of them we found that was actually in use collecting learner data. It corresponds to the environmental activities unit, Curriculum Designs book pp. 98-99. Notice the 4-way 'expectations' framework is not mentioned or employed.

Middle Second term		depression of ear	teletivity	washing hand	washing handkerchief	nose cleaning
NAMES - 2 <sup>nd</sup> Term						
Adrian	Gatweku	✓	✓	✓	✓	✓
Collins	Wanyoike	✓	✓	✓	✓	✓
Caroline	Wanjira	✓	✓	✓	✓	✓
Roy	Ndentu	X	X	✓	✓	✓
Bridget	Nyambura	✓	✓	✓	✓	✓
Overtaker	Waititu	✓	✓	✓	✓	✓
Mary	Npanbi	✓	✓	✓	✓	✓
Augustine	Theuni	✓	✓	✓	✓	✓
Luther	Nyachienga	X	✓	✓	✓	✓
Avill	Wachera	✓	✓	✓	✓	✓
Elisha	Selina	✓	✓	✓	✓	✓
Victor	Kinyra	✓	✓	✓	✓	✓
Sharon	Natui	✓	✓	✓	✓	✓
Clement	Wathuta	✓	X	✓	✓	✓
Eddymike	Muriithi	✓	✓	X	✓	✓
Shadack	Namai	✓	✓	✓	✓	✓
Brvick	Ndegwa	✓	✓	✓	✓	✓
Charles	Ndentu	✓	✓	✓	✓	✓
Abigail	wangeni	✓	✓	✓	✓	✓
Mitchel	Wargechi	✓	✓	✓	✓	✓
Finches	Kanuthu	✓	✓	✓	✓	✓
Joan	Wangari	X	✓	0	✓	✓
Choles	Mwauki	✓	✓	✓	✓	✓
Fabian	Kanga	✓	✓	✓	✓	✓
Fabian	Maina	✓	✓	✓	✓	✓
Getwede	Wanjira	✓	✓	✓	✓	✓
Emiliano	Muriithi	✓	0	✓	✓	✓
Stephanie	Wangui	✓	✓	✓	✓	0
Claire	Muthoni	✓	✓	✓	✓	✓
Peter	Muriithi	✓	0	✓	✓	✓
Bravin	Masiko	✓	✓	X	✓	✓
Cliffon	Kiambati	✓	✓	✓	✓	✓
Grace	Nanjiky	✓	✓	✓	✓	✓
Victor	Wachira	X	0	✓	X	✓
Mary	Njeri	✓	✓	✓	✓	✓

Key  
 ✓ very good  
 X good  
 0 Not able

Observation  
 Progressive Record



Appendix 2. Another and more comprehensive yet less detailed attempt by a special school for mentally challenged, was an assessment checklist developed and provided by the school to teachers (as part of the learners' Individual Education Program), showing (a) the strong need for a learning assessment guiding tool provided by the KICD, (b) the variation in time unit and level of detail that will exist if teachers are forced to make their own, and (c) once again the non-use of the Curriculum Design book's 4-level 'expectations' scheme.

**KIBIRIGWI SPECIAL SCHOOL FOR MENTALLY CHALLENGED**  
**P.O BOX 944 – 10101 , KARATINA**

CHECK LIST FOR AREAS OF OBSERVATION AND MONITERING 3 YEARS	YEAR 2017 TERM II	REMARKS	YEAR	REMARKS	YEAR	REMARKS
ADL-Activities of daily living skills -feeding -Toileting -Bathing -Good grooming -Cleaning surface						
PRE-NUMBER -Matching numbers -Sorting numbers, shapes -Shapes identification → -Arranging shapes[size] -Role counting -Basic arithmetic -Modeling shapes/numbers						
PRE-READING -Reciting letters -Reciting vowels -Matching letters -Arranging shapes -Phonetic reading -Writing -Story telling -Listening and turn talking						
SOCIAL SKILLS -Orientation -Mobility -Family relations -Interpersonal relations -Etiquette						

Appendix 3. Most teachers' lesson plans are simply copied verbatim from parts of the 'designs book'. This one is not. Notice, however, it totally misses the key idea in 'designs' (p. 42) of learners being able to sort objects by several attributes, not just one. The teacher has just selected the parts s/he can understand. The teacher's lesson plan is in the first page scan below, the designs book's proposal in the second. (Note also that in the checklist in Appendix 2 the teaching point is also taken to be sorting by a single attribute, size, as indicated by the white arrow in the left margin.)

DATE	Mathematics STRAND	R.O.W. SUBSTRAND	WORK COVERED	REMARKS
12-6-17 to 23-6-17	CLASSIFICATION	Matching & pairing	<ul style="list-style-type: none"> <li>- Looking and talking about objects</li> <li>- Matching to similarities</li> <li>- pairing</li> <li>- collecting locally available materials from home</li> <li>- demonstrating matching</li> <li>- matching to likeness / colours</li> <li>- " to same colour.</li> <li>- identify similarities</li> <li>- " differences</li> <li>- telling where we get these things from</li> <li>- " how we take care of some objects</li> <li>- Singing songs</li> <li>- reciting poems</li> <li>- Communicating and collaborating</li> <li>- Sharing and solving problems practically.</li> </ul>	<p>Well and thoroughly done</p> <p>- a lot of locally available materials</p>
28-6-17 to 4/7/17		Sorting & grouping	<ul style="list-style-type: none"> <li>- demonstrating</li> <li>- Singing</li> <li>- Comparing objects</li> <li>- Sorting to one attribute</li> <li>- grouping to sameness.</li> <li>- relating specific attribute</li> <li>- group to colours</li> <li>- collecting and storing to respective colours.</li> <li>- identify similarities / differences.</li> </ul>	<p>- problem solving when need arise</p> <p>- well done</p> <p>- very interesting</p> <p>- " enjoyable</p>
5-7-17 to		Ordering	<ul style="list-style-type: none"> <li>- talking</li> <li>- Demonstrating</li> <li>- identify size</li> <li>- arrange 2 objects to size.</li> <li>- ordering learners to height</li> <li>- ordering obj. to length.</li> </ul>	

Strand	Sub-Strand	Specific Learning Outcomes		
<b>I.0 CLASSIFICATION</b>	<b>I.1 Sorting &amp; grouping</b>  <i>8 lessons</i>	By the end of the sub-strand, the learner should be able to: a) Identify similarities among objects in the environment for distinguishing one object from the other b) Identify differences among objects in the environment to appreciate their similarities and differences c) Enjoy sorting and grouping objects in the environment d) Group objects according to a specific attribute to create sets of similar objects e) Appreciate the materials in the environment for their uniqueness and diversity.	<ul style="list-style-type: none"> <li>• Learners look at and talk about objects with different colours/size/shapes</li> <li>• Teacher demonstrates Sorting and grouping objects by one attribute up to two groups (colour/size/shape)</li> <li>• Two learners demonstrate Sorting, grouping and comparing objects by one attribute (colour/size/shape)</li> <li>• Learners in groups/pairs, individually, sort and group objects according to one attribute</li> <li>• Learners relate specific attributes to other objects in the environment</li> <li>• Sing songs related to sorting and grouping objects</li> <li>• Collect and store materials in their respective corners</li> </ul>	<ol style="list-style-type: none"> <li>1. Which object colour/ shape</li> <li>2. Which object colour/ shape different?</li> <li>3. Which two objects are different?</li> <li>4. Why have you sorted these objects?</li> <li>5. Why store them in their respective corners?</li> </ol>
<b>Core Competencies:</b> critical thinking, problem solving, Communication and collaboration				
<b>Link to PCIs:</b>				
<ul style="list-style-type: none"> <li>• <i>Citizenship:</i> collaboration and communication as they collect and use materials</li> <li>• <i>Life skills:</i> problem solving as they identify and group objects and</li> <li>• <i>Values:</i> Sharing and taking turns.</li> </ul>				
<b>Link to other subjects:</b> Language, environmental, psychomotor and creative activities				
<b>Suggested community service learning/ non-formal activity to support learning through application:</b> Go round the school compound picking objects that can be recycled for sorting and grouping				
<b>Suggested learning resources:</b> Locally available materials of different colours, shapes and sizes such as flowers pebbles, shells, paper cut outs, bones, feathers, fruits ,beads, shapes, pictures, DVDs, Computers				
<b>Suggested assessment rubrics:</b>				
<b>Indicator</b>	<b>Above expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Identify similarities and differences between objects	Can identify similar and different objects using colour, size, shapes and can do	Can identify similar and different objects based on size, colour and shapes	Can identify similar and different objects based on 2 attributes either	Can only identify similar objects based on one attribute either colour / shape/size