

## **Abstract**

### **The 2008 IAEA Conference**

#### **Topic: The Implementation of School Based Continuous Assessment (CA) in Zambia**

In Zambia, Continuous Assessment (CA) is defined as an on-going, diagnostic, classroom-based process that uses a variety of assessment tools to measure learner performance (MOE, 2005:5). Over the years, examinations have been used for selection and certification, without formal considerations on school-based continuous assessment as a component in the final examinations at Grade seven level.

The Ministry of Education introduced School Based Continuous Assessment for two reasons: To improve teaching and learning and to collect school based marks to be added to the final examination marks for certification and selection.

This paper deals with the implementation of school based continuous assessment, focussing on the shift from emphasising continuous testing to emphasising continuous assessment. The paper deals at length with the implementation of the CA programme, the nature of the CA Scheme and its school based assessment component, challenges in implementing the school based assessment activities, the impact of school based assessment aspects of the CA programme and the lessons learnt from the monitoring and evaluation activities.

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## 1.0 Introduction

There has been an increasing criticism in the educational field on high stakes examinations of having harmful effect on student learning and that it should be reduced to a minimum (Harlem and Crick, 2003; Morrison and Tang, 2002; Black, 1998). Black and Wiliam (1998) indicate that formative assessment, if properly implemented in schools, is a powerful means to improve student learning. In the international scenarios, formative assessment has already been practiced in schools in various western countries including Australia, Canada, Denmark, England, Finland, Italy, New Zealand and Scotland (OECD, 2005).

Notably the education policy makers in Zambia had acknowledged the inherent benefits of continuous assessment in improving educational quality as reflected in the 1977 Education Reforms. The educational reforms' recommendation that continuous assessment be introduced as an integral part of the examinations results was not implemented at the primary school level due to a number of reasons, one of which was public apprehension. In particular, the competencies of teachers in carrying out objective assessment and the perceptions of teachers towards assessment coupled with managing large class sizes at primary school level (Ministry of Education, 1992). The introduction of an Outcomes Based Curriculum in 2001 and the demand for more comprehensive assessment systems that impact positively on learning achievement, has prompted educational policy to re-affirm the importance of School Based Continuous Assessment in enhancing education quality.

Therefore the latest Zambian education policy dubbed” *Educating our Future*” advocates the use of school-based continuous assessment. and defines continuous assessment:

“....an ongoing diagnostic and school-based process that uses a variety of assessment tools to measure learner performance.”

The School-based Continuous Assessment in Zambia is therefore based on the use of a variety of assessment procedures, formative and summative, on an ongoing basis.

This paper discusses the implementation of school based continuous assessment, focussing on the shift from emphasising continuous testing to emphasising continuous assessment. The paper deals at length with the implementation of the CA programme, the nature of the CA Scheme and its school based assessment component, challenges in implementing the school based assessment activities, the impact of school based assessment aspects of the CA programme and the lessons learnt from the monitoring and evaluation activities.

## 2.0 The Implementation of the Continuous Assessment Pilot Programme

The objectives of the CA programme are twofold; firstly, to promote the use of formative assessment so as to improve the quality of learning and teaching and secondly to establish a regular system of managing cumulative pupils' performance marks for purposes of using them in combination with final examination marks for selection and certification. The CA Scheme was, therefore, aligned to the two objectives by adopting both the formative and summative aspects of continuous assessment.

The preparatory work for the implementation of the programme began in earnest in November 2004 and the implementation in the pilot schools commenced in January 2006.

The implementation of Continuous Assessment was being done on pilot bases in order to determine its feasibility. The pilot implementation plan adopted a quasi-experimental design where a sample of schools participating in the pilot comprises pairs of similar schools, where in one, CA is implemented and not in the other.

The various stages in the implementation began with the development of materials such as, teacher’s guides, manuals, assessment schemes and exemplar tasks. This was followed by orientation and training of both teachers and education administrators on how to implement and monitor continuous assessment. At the school level, the head teacher plays a critical role of sensitising both the pupils and parents before implementation commenced (Mutanekelwe and Mweemba, 2006).

The pilot coverage in the country was phased. The first phase covered sampled schools in three provinces, which began in 2006 with the grade 5s cohort that was to be followed up to 2008 when they would reach Grade 7 and sit for examinations. In 2007, the programme entered the second phase, where CA was introduced in three additional provinces. The third phase in 2008 was extended to the last three provinces. Eventual scaling up is expected to be in 2010. The phasing strategy provides the implementation process with an ongoing feedback on the usefulness of the CA materials and procedures in the classroom. The built in monitoring mechanisms at internal (local) and external(national) levels were conducted which revealed positive aspects about the CA programme as well as valuable lessons for improving the implementation of the programme.

Table 2.1: Outline of the Implementation Schedule

Year	Activity
2005	Create systems/Strategies
	Develop grade 5 Teachers’ Guide & Materials.
	Train & orient Teachers & other educators
2006	Implement CA in pilot schools at grade 5 level
	Develop grades 6 Teachers’ Guide & Materials
	Train & orient Teachers & other educator
	Monitor the implementation of CA
2007	Pilot grades 5 & 6, develop grade 7 Teachers’ Guide & Materials, etc
2008	Pilot grades 5, 6 & 7; Evaluate grade 7 cohort
2009	Scale up grades 1-7; begin Pilot implementation at High School (grades 8-12) and Lower primary (Grade 1-4)

In order to address the issue of teacher competencies and standardize the implementation of the CA programme in schools, there was need to develop materials. The CA Teacher’s Guides and CA Assessment Tasks Booklets were produced with the input from teachers and other stakeholders. The teachers were trained in the use of these materials and the overall concept of CA. The CA Schemes that were developed are part of the Teacher’s Guides and they provide

guidelines for managing the implementation of CA at the classroom level by the teachers (Mutenakelwa and Nakazwe, 2007).

### **3.0 The CA Scheme and its School-Based CA Component**

Drawing heavily on both the guidelines on assessment from the Ministry of Education policy and the Curriculum Framework, the CA Scheme was designed so as to take into consideration both the formative and summative aspects of continuous assessment. The formative assessment aspects consist of the class-based assessments and the summative aspects are derived from the end of terms tests and the Grade 7 Final Examinations (Nitko, 1995).

#### **3.1 The CA Scheme**

The CA scheme has the formative classroom-based assessment whose primary objective is not to rely on formal marking of pupils' work, but to concentrate more on providing useful feedback and opportunities for discussion between pupils and teachers on progress and understanding of the overall aims of teaching. Since assessment for learning embodies many of the principles of formative assessment, it is hoped that through the use of the teacher-based classroom based informal assessment the CA will actively contribute creating conditions for enhancing the quality of teaching and learning as an inherent component of the daily round of classroom life(Hargreaves,2001). Chapelle and Douglas (1993) state that the CA approach can help to rectify the problem of mismatches between tests and classroom activities. When assessment is built into the instructional process, the confusion and frustration that test takers often face is reduced.

The Zambian school calendar has three terms in a year. The CA term mark is derived from two Classroom-based assessments; one mark for the first month and the second mark for the second month in the term and one mark at the end of the term from the external test. Each mark accumulated from the assessments in the first month and the second month forms one third of the term mark, so the total weight of and the two classroom-based assessments will be two thirds. The external test will have a weight of one third. The CA scheme for the term is the same for all the terms in grades 5 and 6 except in grade 7 where there will be two terms.

At the end of grade five, six and seven an average mark will be calculated for each pupil to determine the continuous assessment subject mark for that year. Each term mark will have equal weights. At the end of grade seven an average mark will be calculated from the grade 5, 6 and 7 grade marks to determine each pupil's continuous assessment final mark. The average of the CA final mark and the grade seven final examination marks will be used for selection for admission to grade eight. Both final marks will have a weight of 50 per cent according to ECZ (ECZ, 2005). The distribution of the weights of the final marks is still a point of discussion. Diagram 3.1, 3.2 and 3.3 illustrates the CA Scheme in the Term, at each Grade and Over three years.

Diagram 3.1: Structure of CA Marks at per term

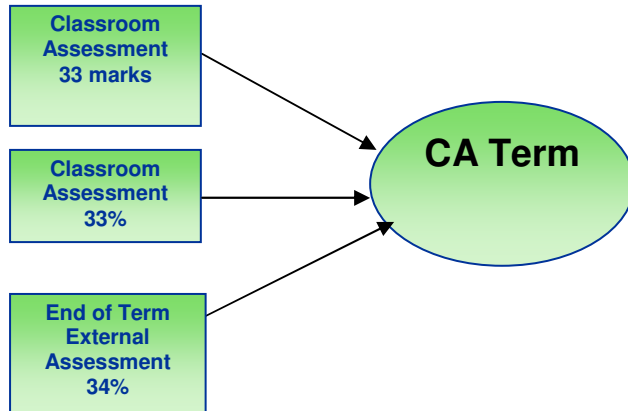


Diagram 3.2: Structure of CA Marks at Each Grade

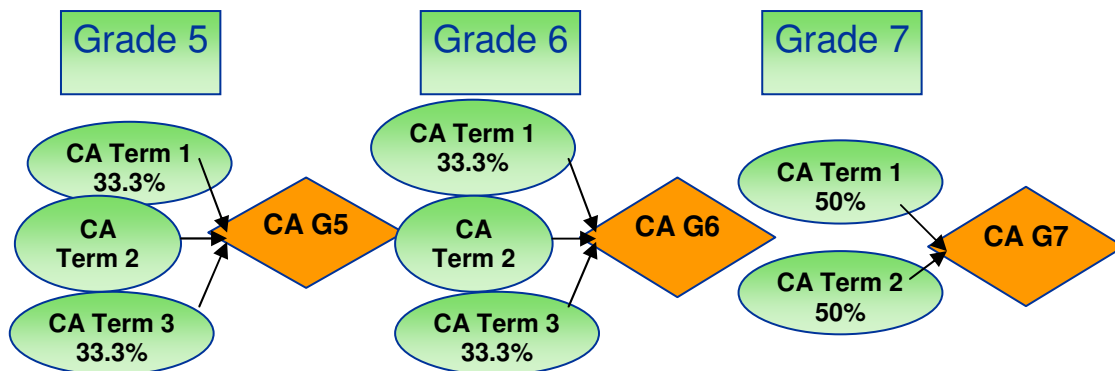
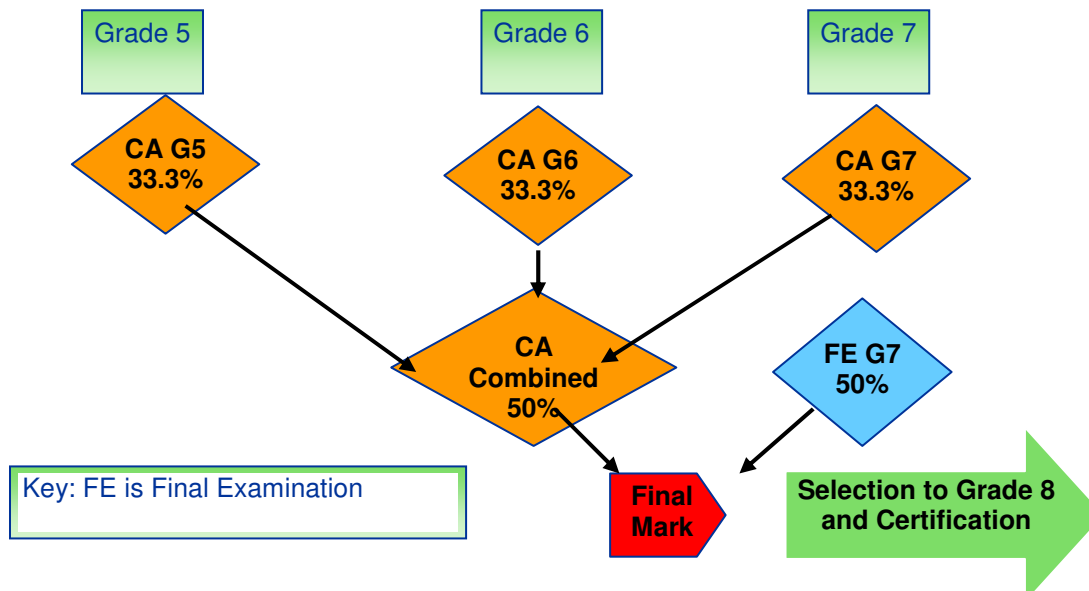


Diagram 3.3: The Continuous Assessment Scheme from Grade 5-7



### 3.2 School-Based CA Component

The focus of the implementation process has been based on making teachers understand the difference between *continuous assessment* and *continuous testing*. The teachers' success at implementing a continuous assessment rather than continuous testing is linked to the correct understanding of the CA Scheme in the term. In a term there are two classroom-based assessments and one end of term test. The accumulated marks obtained from several assessments during each month

are recorded as one at the end of the month. That does not, however, imply that the teachers should administer one package of assessment at the end of the month. If that is done, then continuous testing is practised. (MOE CA Grade 5 Teacher's Guide, 2007)

The heart of the correct continuous assessment implementation entails that teachers give several assessments tasks or activities at different times whose marks accumulate to 33 at the end of the month. The staggered assessments could be based on the weeks' portion of work or topics. For example assessment in English Language could consist of comprehension activity carrying 8 marks in the first week; in the second week pupils could be given a composition task carrying 10 marks. In the third week, pupils could be given grammar carrying 8 marks and finally in fourth week, pupils can be asked to attempt spellings or vocabulary carrying 7 marks.

The CA Task Booklets provides instructions on how teachers can stagger assessments so that they conduct continuous assessment and avoid practising continuous testing. (Appendix 1 A) shows an extract from the Grade 5 CA Task Booklets Appendix 1 B provides an example in Integrated Science of how an Assessment Scheme for the Grade 5 First Month of the 1<sup>st</sup> Term can be translated into Assessment Specifications and then (Appendix 1 C) shows how the Specifications are used to develop exemplar assessment tasks.

#### **4.0 Challenges in Implementing the School-Based CA**

The findings from the termly monitoring visits that were conducted to the pilot schools revealed that the teachers encountered various challenges in implementing the formative school-based assessment. Further information about the challenges that teachers encountered were also revealed by the findings of the *Formative Evaluation Study of the Implementation of the Continuous Assessment Pilot Programme at the Basic School Level in Zambia* (Kapambwe, 2006).

##### ***Large class size***

One of the major challenges was the large class sizes. Teachers cited the large class sizes in most primary schools as major challenge. It is common to find classes of 60 and above in the Zambian classroom. Teachers indicated that the workload became higher as they were required to mark and keep records of the progress of all learners. It was also observed that despite the intensive in-service training and the availability of the guidelines encouraging teachers to practise continuous assessment, a good number of teachers in the pilot schools continued to practice *continuous testing* by administering assessment or tests at the end of the first month and the end of the second month. A good number of teachers failed to appreciate the need to administer assessments on an on-going basis such as weekly, fortnightly or after a topic.

##### ***Staffing***

The high pupil to teacher ratio was another challenge. Due to lack of adequate staffing levels, some teachers were found to handle more than one class.. Coupled with the low staffing levels and the constant changes in the staffing levels at the schools.

##### ***Remediation and Enrichment***

Although continuous assessment should be well-integrated with the teaching and learning processes, a good number of the teachers still felt that the CA took a lot of

time for teachers. As a result, teachers got concerned that the time spent on remediation and enrichment was excessive and many teachers did not believe that they would finish the syllabus with CA.

### ***Pupil Absenteeism***

Absenteeism also posed an obstacle to the smooth management of pupil performance CA records as some pupils' attendance was irregular. This was worse in the rural areas where some pupils stayed away from schools due to the fear of very challenging work. Some absenteeism eventually leads to pupils dropping out of schools completely.

### ***Teaching and Learning Resources***

The majority of the teachers complained that they had inadequate teaching and learning materials. The difficulty with learning materials mainly affected the availability of appropriate teaching and learning materials in new curriculum. While there was a complete lack of materials in some learning areas like Community Studies and Creative and technology Studies. It was clear that needed a lot of support in form of materials and equipment such as stationery, computers and photocopiers.

### ***Teacher Networking***

It was found difficult to implement on the ground the collaboration of groups of schools in the districts to work together so as to develop common end of term tests. The findings from the monitoring visits and the Formative Evaluation Study revealed that schools experienced difficulties in coming together due to various reasons. Some of the reasons were due lack of materials and coordination.

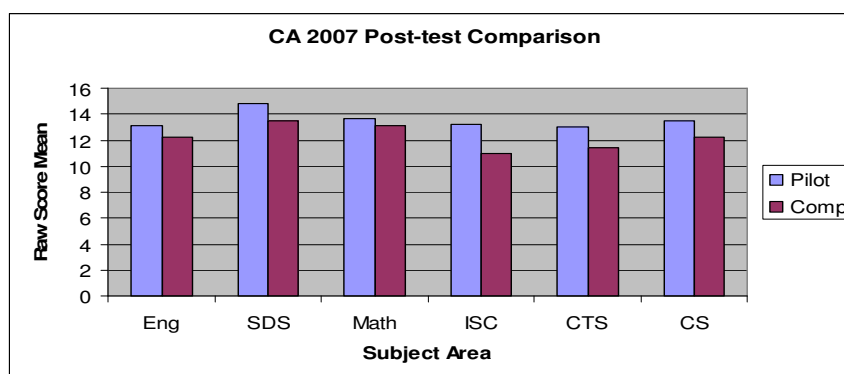
### ***Monitoring and Feedback***

Monitoring was another area in which the overall implementation experienced challenges. The findings from both the monitoring visits and the Formative Evaluation Study revealed that there was inadequate monitoring conducted by the district officials who had been tasked to monitor and support the teachers in implementing CA. There was need for the District offices to closely monitor the teachers' implementation so that they could be given the necessary support.

## **5.0 Impact of Implementing the School-Based Continuous Assessment**

Despite the challenges that have been encountered in the course of implementing CA, many benefits have been identified as a result of introducing the CA to the classes. The results from the quantitative evaluation study on the comparison in performance between the pupils in the CA pilot schools and controls schools showed that the CA pupils' performance on the post test were higher compared to their results on the baseline tests. The difference between the baseline mean scores and the post mean scores were significant and this was attributed to the CA interventions. Graph 5.1 on page 8 shows the 2007 Post test Comparison for Pilot and Control Schools:

Figure 5.1: CA 2007 Post Test Performance for Pilot and Control Schools



Source: *Ministry of Education (2007)*

The findings from the formative evaluation study clearly pointed to the fact that CA would bring about improvements in the teaching and learning processes. This implies that continuous assessment provided useful feedback on the teaching and learning processes and enabled teachers to be more involved in teaching and assessing. The results also show the positive influence that appropriate assessment has on instruction. Assessment greatly influences instruction; and narrow testing has meant narrow instruction and teaching done “to the test”. Continuous assessment is the appropriate assessment in the outcomes-based curriculum.

The findings from the several monitoring visits also pointed towards positive benefits from the CA intervention in terms of improving the teaching and learning processes. The implementation agency’s findings from the monitoring visits are consistent with the results from other quantitative and qualitative studies on the effects of Continuous Assessment on pupil performance (Chun, 2006; Kapambwe, 2006; OECD, 2005; Kamangira, 2003; Mchazime, 2003; Bell and Cowie, 2001; Cromey and Hanson, 2000; Black and William, 1998; Puhl, 1997).

## 6.0 Lesson Learned from Implementing the School-Based CA

In the face of the challenges that have been encountered in the process of implementing and monitoring continuous assessment in the pilot schools, various lessons have been learned and in some cases new strategies have been devised to ensure that the programme continues and are as follows:

- CA offers a way to cater for a diversity of learners in a large class. Learners can be assessed in groups as well as individually at different times over a long period of time.
- The exemplar assessment tasks and assessment administration instructions help standardise the assessment procedures in the schools.
- Continuous in-service training for teachers and officials in the required knowledge and skills in assessment designs and procedures. (Also Pennycuick 1990).
- Enhancements of collaborative mechanisms for teachers such as Review Workshops to enable teachers meet regularly and share experiences about the implementation process.
- Need to sensitise the communities of the pupils’ parent so as to gain their support.

- Provision of different teaching and learning materials is a requirement for successful implementation.
- Monitoring the implementation of the CA programme support that view, monitoring was variable and inadequate particularly external monitoring from outside the school.)
- Regular supply of stationery as well as provision of printing facilities was necessary as it motivated teachers to meet at the Resource Centres to develop assessment materials so that that they would later print and use in their schools. Pennycuick's assertion that the implementation of the CA would be easier in developed countries where such facilities abound attests to this revelation.
- Proper record keeping and easily transferable form was important and CA OMR Pupil Mark sheets proved useful.
- The activity has also served as a springboard for other capacity building activities such as data analysis and technical report writing.

## **7.0 Conclusion**

The experiences from the implementation of the CA pilot programme clearly show that due to the past influences of the traditional objectives-based assessment, teachers find it difficult to suddenly change to the outcomes-based assessment which is predominated by the use of CA. The experiences, however, reveal that continuous assessment has an important role to play in the development of successful learning contexts.

It is envisaged that with more enhanced monitoring teachers will eventually begin to use formative classroom-based assessment correctly. Since 'assessment for learning' embodies many of the principles of formative assessment, it is expected that the CA would contribute to setting up a system for introducing the types of assessment required by an assessment for learning approach that involves at least that:

- teachers are made to understand the desirable relationship between learning and assessment as well as techniques for achieving this,
- learning goals are clearly developed and specified, so that they could be shared with pupils,
- development of methods for demonstrating to pupils the evidence that would indicate attainment of appropriate standards,
- developing and trialing of self assessment regimes,
- development of methods of providing meaningful pupil feedback, and
- emphasis of improvement of pupils rather than achievement.

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**APPENDIX 1 A: CA SCHEME TERM 1: GRADE 5 INTEGRATED SCIENCE**

<b>Theme/ Topics</b>	<b>Specific Learning Outcomes</b>	<b>Performance Indicator</b>	<b>Suggested Assessment Activities/Tasks</b>	<b>Suggested Assessment Methodologies</b>	<b>Suggested Assessment Resources</b>
<b>The Human Body: The digestive system</b>	5.1.1 Identify and label the main parts of the digestive system in the human body	Learners should be able to: Identify and label the main parts of the digestive system in the human body.	Learners will be: Identifying and labelling the main parts of the digestive system in the human body.	Individual work Group work Self-assessment	Models Charts Pupils
	5.1.2 Identify the four types of teeth.	Identify the four types of teeth.	Identifying and labelling the main parts of the digestive system.	Discussion Group assessment Question and answer Peer assessment	Model (skeleton) Pupils Paper Pen
	5.1.3 Discuss the functions of the four types of teeth.	Discuss the functions of the four types of teeth.	Discussing the functions of the four types of teeth.	Discussion Question and Answer Observation	Models Charts Pupils

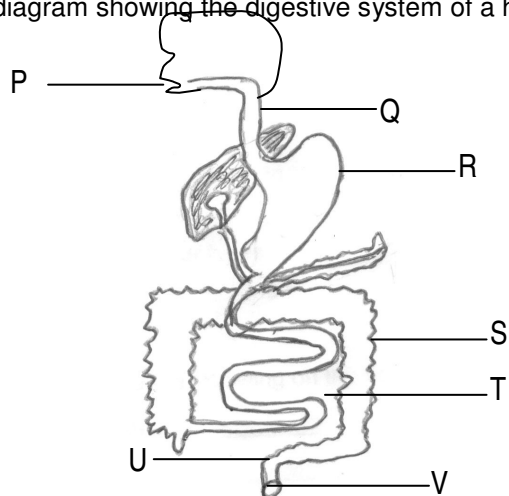
**APPENDIX 1 B: CA SPECIFICATIONS FOR TASKS AND MARKS TERM 1**

<b>Grade 5 Integrated Science: Term 1 Month 1</b>				
	<b>Knowledge</b>	<b>Comprehension</b>	<b>Application - Evaluation</b>	<b>Total Tasks</b>
The Human Body	6	5	7	18
Health	2	2		4
<b>Total Tasks</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>22</b>
<b>Grade 5 Integrated Science: Term 1 Month 1</b>				
	<b>Knowledge</b>	<b>Comprehension</b>	<b>Application - Evaluation</b>	<b>Total Marks</b>
The Human Body	9	8	10	27
Health	2	4		6
<b>Total Marks</b>	<b>11</b>	<b>12</b>	<b>10</b>	<b>33</b>

**APPENDIX 1 C: ASSESSMENT TASKS FOR GRADE 5 INTEGRATED SCIENCE TERM 1**  
**GUIDELINES TO ASSESSMENT TASKS**

- Tasks in this component of Integrated Science are intended to help a learner achieve the outcomes outlined in the syllabus for each topic.
- For each task, instructions have been given to the teacher to follow for effective assessment.
- Teachers are encouraged to assess learners continuously in a month. They should not wait until at the end of the month to assess..
- A variety of questioning techniques in tasks have been given to assess different abilities of the learner.
- Teachers are free to change instructions or resources required for each task to suit the environment of learners for effective Assessment.

**Task 1** Study the diagram showing the digestive system of a human being.



Prepare a chart

Call learners one at a time or hang a big chart to be seen. Ask learners to label the parts of the digestive system using cards prepared in advance.

Identify and label the parts of the digestive system above.

**Task 2** Prepare a table as shown in the diagram below.

Ask pupils what happens to the food in the following parts of digestive system. Display the table on the board.

Parts of the digestive system	Function
Mouth	
Stomach	
Small intestine	
Rectum	

Pupils can be assessed orally or they write individually in their books or paper.