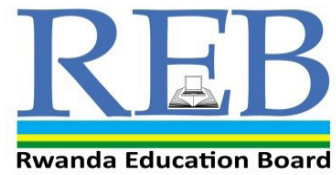


REPUBLIC OF RWANDA



MINISTRY OF EDUCATION

SUBJECT BASED TEACHER TRAINING MANUAL ON
COMPETENCE BASED CURRICULUM
SCIENCE AND ELEMENTARY TECHNOLOGY (SET)



TRAINEE'S MANUAL



OCTOBER, 2019

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WELCOME NOTE

Dear Teacher,

The Rwandan Education philosophy for quality Education is to ensure that learners fully acquire and integrate knowledge, skills, values and attitudes at all levels of their Education. They are encouraged to bring their own real experiences and knowledge into the learning processes for an improved learning outcome.

This manual attempt to help teachers understand how to teach SET in the context of Competence Based Curriculum (CBC) for consistency and coherence in teaching and learning process. Learners acquire appropriate skills and are able to apply them in real life; make a difference not only into their own lives but also to the nation and the globe. During the national baseline survey on the implementation of CBC, it was revealed that teachers still need support in:

- Understanding of taught subjects in competence-based approach;
- Addressing cross-cutting issues in taught subjects;
- Developing and integrating generic competences in taught subjects;
- Understanding effective use of appropriate assessment techniques as they ask adequate questions during lesson delivery as they provide positive feedback to students;
- Building on student recorded progress build student portfolio.

We hope, it will help you to develop required knowledge, skills, values and attitudes to confidently adapt each activity, situation or scenario for improved learning outcomes.

My sincere appreciation goes to all people who contributed towards the development of this manual, particularly UR-CE lectures, TTC tutors, primary subject teachers, Development partners, the British Council and REB staff from different departments.

Dr. NDAYAMBAJE Irénée

Director General of REB

ACKNOWLEDGEMENT

I would like to extend my sincere appreciation to all the people who contributed to the development of this manual.

Special acknowledgement goes to the British Council who supported the successful implementation of CBC via “Connecting Classroom” programme, by co-funding, providing the content and expertise in customization, design and layout of this manual.

I owe gratitude to UR-CE for availing lecturers to set manual structures during the initial work and quality assurance for relevance of the content at the validation stage. This work wouldn't have been successful without the invaluable contribution of Secondary and Primary schools by allowing their teachers to work with REB in the development of this manual. Also, my sincere gratitude is extended to all other individuals whose efforts in one way or another contributed to the success of the development of this manual.

To conclude, my word of gratitude goes to the Rwanda Education Board staff particularly those from Teacher Development & Management and Career Guidance & Counseling Department (TDM&CGC), Curriculum, Teaching and Learning Resources Department (CTLR), Examinations, Selection and Assessment Department (ESAD), ICT in Education Department (ICTE) who participated tirelessly in the entire process.

James NGOGA,

**Head of Teacher Development & Management and Career Guidance & Counseling
Department (TDM&CGC)**

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BACKGROUND

The Curriculum for Rwandan schools at primary and secondary levels has been changed from knowledge and content-based to competence-based. Competence-Based Curriculum (CBC) is of great importance in aligning Rwanda's education to the social and economic demands of society. The CBC also presents answers to concerns about the capability and employability of school graduates.

The Competence-Based Curriculum (CBC) was launched in April 2015. Since then, teachers and school leaders underwent different induction trainings so far on 3 modules:

- Module 1: Role out of the Competence Based Curriculum
- Module 2: Implementation of Competence Based Curriculum in school
- Module 3: Reflection on teaching practices and focus on assessment

However, teachers are still struggling to embed/integrate generic competences in teaching and learning activities in different subjects. This has been observed in the gap analysis survey conducted by REB in collaboration with British Council and other development partners, whereby teachers still have development areas on:

- Understanding their respective subject in competence based approach
- How to address Cross-cutting issues in their taught subjects
- How to develop and integrate generic competences in taught subjects
- Understanding effective use of appropriate assessment techniques as they ask adequate questions during lesson delivery as they provide positive feedback to students
- Building on student recorded progress build student portfolio.

To respond to these identified gaps, it was necessary to develop training manual that shows on how competence-based approach (generic competence, integration of cross cutting issues, assessment, etc...) can be embedded in different subjects including primary school examinable subjects namely Mathematics, English, Social and Religious Studies, Science and Elementary Technology and Kinyarwanda.

INTRODUCTION:

The introduction of a competence-based curriculum in schools calls for comprehensive change and new thinking with regard to instructional approaches in teaching, learning and assessment processes. The teacher is the most important player in improving education quality and a key factor in determining learners' success.

Teachers need to be fully equipped with knowledge, understanding and practical abilities to embed/integrate the competence-based approach in classroom and outside the classroom.

It is therefore necessary to provide teacher training to equip teachers in different subjects with competences that will enable them to effectively handle challenges associated with the implementation of a competence-based approach in taught subjects.

The purpose of this manual is to help the teacher to actively integrate principles and features of Competence Bases approach in subject taught.

LEARNING OBJECTIVES:

By the end of this training, teachers will be able to:

- Explain the rationale of teaching SET subject in Competence Based Curriculum (CBC)
- Address and integrate cross-cutting issues in SET subject
- Apply different teaching methodologies that help in developing and embedding/integrating generic competences in SET subject
- Understanding effective use of appropriate assessment techniques as the teacher asks adequate questions during SET lesson delivery and provides positive feedback to learners
- Building on learners recorded progress to build their portfolio.

ABOUT THIS MANUAL

As shown by different surveys, most of teachers who teach SET face challenges of integrating cross-cutting issues and generic competences in real learning situations. Some other challenges that have been realized alongside the above mentioned are big size classes.

So, the goal of this manual is to assist teachers to incorporate transferable skills and cross cutting issues in order to improve students' learning. There is a need for teachers to apply active methodologies to support the development of the core skills. Teachers will develop these through subject based activities with support from the SET teacher training manual.

In order to provide quality education, SET teachers are expected to engage in professional development activities throughout their career. This allows them to deepen their knowledge, develop their skills and keep themselves updated with major changes affecting their profession.

This manual contains:

- Background,
- Introduction,
- Units with their sessions
 - Unit one has three sessions
 - Unit two has five sessions
 - Unit three has six sessions
 - Unit four has three sessions
 - Unit five has three sessions

Each session is developed into activities and has the following main parts

- a. Session title
- b. Objectives
- c. Materials
- d. Time
- e. Steps

f. Sequences

g. Synthesis /summary

h. Conclusion

- Annex containing Levels of questioning according to Bloom's taxonomy levels of questioning and Model lesson plan.

EXPECTED OUTCOMES

By the end of this training, SET teachers will be able to:

- Integrate cross-cutting issues and generic competences in teaching and learning.
- Explain the structure of SET syllabus and linkage between topic area, units and number of periods.
- Formulate accurate instructional objectives
- Integrate assessment techniques throughout the lesson delivery and provide positive/constructive feedback.

LIST OF ABBREVIATIONS USED

ESAD: Examinations, Selection and Assessment Department

7YGP : 7 Years' Government Programme

A4: a standard paper size

AIDS: Acquired Immunodeficiency Syndrome

CBA: Competence Based Approach

CBC: Competence Based Curriculum

CCIs: Cross-cutting Issues

CoP: community of Practice

CPD: continuous Professional development

CTLR: Teaching and Learning Resources department

EDPRS2: Economic Development and Poverty reduction Strategies 2

ESSP: Education sector strategic Plan

GCs: Generic Competences

HIV: Human Immunodeficiency Virus

HoD: Head of department

ICT: Information and Communication Technology

K.L.W: I Knew, I learnt, I want to learn

KBC: Knowledge Based Curriculum

MINEDUC: Ministry of Education

P: primary

REB: Rwanda Education Board

SET: Science and Elementary Technology

TDM&CGC: Teacher Development & Management and Career Guidance & Counseling

TTC: Teacher Training College

UR-CE: University of Rwanda College of Education

UNIT 1

INTRODUCTION TO THE WORKSHOP

Welcome and introduction

On a circle, pair up with the person on your right and introduce yourself to them, share your names, your teaching experience, where you live, your hobbies. You will need to record their details and introduce them back to the rest of the group.

On piece of paper/post note write you expectation of the training.

Suggest common ground rules you think can guide us throughout the training

Rationale of subject based training.

Suggest training on CBC you might have attended and share with us possible benefits and what you think can be improved for future trainings.

Benefits:

Areas of improvement for future trainings:

Key message

I. Importance of creating a good rapport in the classroom setting

It is important for the teachers to introduce themselves when they enter class for the first time and at the start of every lesson. Setting ground rules helps teachers to hold students accountable of their teaching and learning activity especially discipline in the class room. As the teacher collects learners 'expectations at the beginning of the lesson, they are able to understand and respond to their curiosity

II. Why subject based training?

The facilitator sums up by emphasizing on the below message:

“Since the launch of CBC in 2015 teachers underwent different trainings at different levels and times. However, teachers are still struggling to embed generic competences, cross cutting issues and assessment throughout teaching and learning activities in taught subjects. This has been observed in the gap analysis survey conducted by REB in collaboration with British Council and other development partners on the implementation of CBC after three years.

To remediate on the identified gaps, teacher training on primary examinable subjects was initiated as response. It suggests active methodologies to be applied while teaching successful lessons. It proposes room for sharing experiences and suggests the ways forward. It guides teachers on teaching best practices and integrate cross cutting issues, generic competences and assessment as far as CBC is concerned.”

Session 1

Challenges faced by teachers in teaching Science and Elementary Technology (SET)

Session objective

By the end of this session, participants will be able to discuss challenges faced by SET teachers and suggest possible solutions.

Activity:

Identify challenges related to teacher, subject and learner in teaching SET and

| | Challenges | Solutions |
|-----------------|------------|-----------|
| Teacher related | | |
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UNIT 2

GENERALITIES ON COMPETENCE BASED CURRICULUM

Session 1 Overview of Competence-based curriculum (CBC)

By the end of this session, participants will be able to:

- Explain the concept of the CBC
- Recognize the purpose, principles and values of the CBC

Activity 1

As teacher discuss the following terms:

a. Curriculum:

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b. competence:

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c. Competence-based curriculum:

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Activity 2

Discuss

a. *Reasons behind shifting from KBC to CBC*

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b. Principles underlying CBC

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c. Values of CBC

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Self-reflection

What have you learnt from this session?

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Session 2 **Developing competences**

Session objective(s)

By the end of this session, participants will be able to:

- Distinguish basic from generic competences
- Describe the subject competences

Activity 1

a. Read and discuss about the text in Curriculum Framework 2015, P26 related to Basic and Generic competences, later distinguish the two.

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b. Match Basic and Generic competences to the right descriptors

Competences

- i. Science and technology
- ii. Research and problem solving
- iii. Numeracy
- iv. Literacy
- v. Lifelong learning
- vi. ICT and digital competences
- vii. Entrepreneurship and business development
- viii. Critical thinking
- ix. Creativity and innovation
- x. Cooperation, interpersonal management and life skills
- xi. Communication
- xii. Citizenship and national identity

Descriptors

1. Adapting to different situations including the world of work.
2. Advocating for a harmonious and cohesive society and working with people from diverse cultural backgrounds.
3. Advocating for personal, family and community health, hygiene and nutrition.
4. Advocating for the historical, cultural and geographical heritage of the nation within the global dimensions.
5. Applying entrepreneurial attitudes and approaches to challenges and opportunities in school and in life.
6. Applying science and technology skills to solve practical problems encountered in everyday life including efficient and effective performance of a given task.
7. Assessing, retrieving and exchanging information via internet or cell phones.
8. Be resourceful in finding answers to questions and solutions to problems.
9. Communicate clearly and confidently using a range of linguistic, symbolic, representational and physical expression.
10. Communicating and conveying confidently and effectively information and ideas, through speaking and writing and other forms of communication, using correct language structures and relevant vocabulary in a range of social and cultural contexts.
11. Communicating ideas effectively through speaking using correct phonetics of words.
12. Comprehending language through listening and reading.
13. Computing accurately using the four mathematical operations.
14. Co-operating with others as a team in whatever task assigned.

15. Coping with the evolution of knowledge and technology advances for personal fulfillment
16. Creation of employment and keeping proper books of accounts.
17. Demonstrate resilience when faced with learning challenges.
18. Demonstrating a sense of personal and social responsibility and making ethical decisions and judgments.
19. Demonstrating respect for cultural identities and expressing the role of the national language in social and cultural context.
20. Develop a sense of curiosity, inquisitiveness and research to explain theories, hypotheses and natural phenomena.
21. Developing and communicating formal messages and speech appropriate to the target recipient or audience.
22. Developing motor skills to perform a variety of physical activities for fitness, health, leisure and social interaction.
23. Evaluating resources needed for a business.
24. Explain phenomena based on findings from information gathered or provided.
25. Exploiting all opportunities available to improve on knowledge and skills.
26. Explore and evaluate alternative explanations to those presented by others.
27. Expressing ideas, messages and events through writing legible texts in good handwriting with correctly spelt words.
28. Generate original ideas and apply them in learning situations.
29. Having positive ethical and moral attitudes with socially acceptable behavior.
30. Interpreting basic statistical data using tables, diagrams, charts and graphs.
31. Listening carefully for understanding and seeking clarification when necessary.
32. Locating, extracting, recording and interpreting information from various sources.
33. Manipulating numbers, mathematical symbols, quantities, shapes and figures to accomplish a task involving calculations, measurements and estimations.
34. Perform practical activities related to environmental conservation and protection.
35. Planning and managing micro projects and small and medium enterprises.
36. Produce new knowledge based on research of existing information and concepts and sound judgment in developing viable solutions.
37. Reading a variety of texts accurately and fast.
38. Reasoning deductively and inductively in a logical manner.
39. Relating the impact of historical events on past and present national and cultural identity.
40. Respect others' rights, views and feelings.
41. Responding creatively to different challenges encountered in life.
42. Seeking out acquaintances more knowledgeable in areas that need personal improvement and development.
43. Showing national awareness, a strong sense of belonging and patriotism.
44. Take initiative to explore challenges and ideas in order to construct new concepts.
45. Taking initiative to update knowledge and skills with minimum external support.

46. Taking risks in business ventures and in other initiatives.
47. Think reflectively, broadly and logically about challenges encountered in all situations.
48. Think imaginatively and evaluate ideas in a meaningful way before arriving at a conclusion.
49. Understanding obligations of parties involved in employment.
50. Understanding the historical and cultural roots of Rwandan society and how the local super structure functions in relation to the global environment.
51. Use imagination beyond knowledge provided to generate new ideas to enrich learning.
52. Use numerical patterns and relations to solve problems related to everyday activities like commercial context and financial management.
53. Using and experimenting with a range of objects and tools of science and technology and drawing appropriate conclusions.
54. Using cell phones and internet for leisure and for money transactions.
55. Using computer keyboard and mouse to write and store information.
56. Using information and communication technologies to enhance learning
57. Using oral and written language to discuss, argue and debate a variety of themes in a logical and appealing manner.
58. Weigh up evidence and make appropriate decisions based on experience and relevant learning.

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Activity 2

Read through SET syllabus and show the relationship among subject competences across the syllabus.

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Self-reflection

What have you learnt from this session?

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Session 3

Difference between knowledge-based curriculum (KBC) and competence-based curriculum (CBC)

Session objective(s)

By the end of the session, participants will be able to:

- Differentiate knowledge based curriculum from competence based curriculum
- Identify the role of competence curriculum and apply competence-based approach throughout teaching and learning activities.

Activity 1

Discuss the difference between knowledge-based curriculum (KBC) and competence-based curriculum (CBC)

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Activity 2

As a teacher, discuss the roles of Competence Curriculum and application of competence-based approaches in teaching and learning activities?

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Self-reflection

What have you learnt from this session?

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Session 4

Addressing cross-cutting issues

Session Objectives:

- Describe the eight cross-cutting issues
- Explain the importance of addressing cross-cutting issues

Activity 1

a. Discuss what Cross-cutting issues are.

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b. Match below Cross-cutting issues with the right descriptors statements

Cross-cutting issues

- i. Comprehensive Sexuality Education
- ii. *Environment and sustainability*
- iii. *Genocide studies*
- iv. *Peace and Values Education*
- v. Financial Education
- vi. Gender
- vii. Standardisation Culture
- viii. Inclusive Education

Descriptors statements

8.It is based on the right of all learners to a quality and equitable education that meets their basic learning needs, and understands the diversity of backgrounds and abilities as a learning opportunity

7.Rwanda, it will be promoted through formal education and plays a vital role in terms of health improvement, economic growth, industrialization, trade and general welfare of the people

6.It will be understood in school beginning with family complementarity, gender roles, responsibilities, the need for gender equity and equality, gender sensitivity, gender mainstreaming and other related issues.

5.Its integration aimed at a comprehensive Financial Education as a precondition for achieving financial inclusion targets and improving the financial capability of Rwandans so that they can make appropriate financial decisions that best fit the circumstances of one's life.

4.It is defined as education that promotes social cohesion, positive values, including pluralism and Personal responsibility, empathy, critical thinking and action in order to build a more peaceful society.

3.The Rwandan children should know about the Genocide perpetrated against Tutsi in 1994 and other Genocides which took place across the globe. They should know what caused the genocide in Rwanda, its planning and execution, how it was stopped and what the consequences have been. Rwandan children should take part in fighting genocide ideology and genocide denial.

2.Its integration in the curriculum focuses on and advocates for the need to balance economic growth, society well-being and ecological systems. Learners need basic knowledge from the natural sciences, social sciences, and humanities to understand to interpret principles of sustainability.

1.Equips children, adolescents, and young people with knowledge, skills and values in an age appropriate and culturally gender sensitive manner so as to enable them to make responsible choices about their sexual and social relationships, explain and clarify feelings, values and attitudes, and promote and sustain risk reducing behaviour.

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Activity 2

Discuss the importance of addressing cross-cutting issues

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Self-reflection

What have you learnt from this session?

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Key message:

Cross-Cutting Issues must be integrated in teaching and learning because it is important for learners to not only have academic knowledge, but also to know how that knowledge affects their lives and the world at large. Connecting school life to social and professional lives helps learners to be fully prepared, as good citizens who strive to build a better Rwanda and the globe.

Session objective(s)

By the end of the session, participants will be able to:

- Discuss learner centered and competence-based approaches in CBC
- Discuss learner-centered methodology in developing learners' competences.

Activity 1

a) Based on your daily teaching practices, differentiate learner centered from teacher centered methodology

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b) Discuss learner centered approach compared to competence based approach in competence based curriculum

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Activity 2

Identify and discuss learner centered techniques that can help to develop learner's competences.

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Self-reflection

What did you learn from this session?

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UNIT 3

UNDERSTANDING SCIENCE AND ELEMENTARY TECHNOLOGY (SET) IN A COMPETENCE BASED CURRICULUM

Session 1

Rationale of Science and Elementary Technology syllabus in CBC

Session objective(s)

By the end of this session, participants will be able to:

- Explain the rationale of teaching and learning SET
- Draw the connections between SET and the society.

Activity 1

Use Science and Elementary Technology syllabi to discuss the importance of teaching and learning SET

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Activity 2

a) Describe the link between SET and society

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b) Describe the roles of learning SET for the learner

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Self- reflection

What have you learnt from this session?

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Session 2 Structure of SET subject

Session objectives:

By the end of this session, participants will be able to:

- Describe the components of SET syllabus
- Understand the structure and the linkage among topics, units of SET syllabus and related number of periods

Activity 1

Read SET syllabi and describe its components

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Activity 2

Read and understand.

Lower primary

| IMBUMBANYIGISHO | Umwaka Wa | Umutwe | Umubare w'amasomo |
|-----------------------------|--------------|--|----------------------|
| IKORANABUNGA RICIRIRITSE | 1 | 1. Ibikoresho biboneka ku ishuri no mu rugo | |
| | | 2. Ibikinisho, ibikoresho binyuranye n'imfashanyigisho | |
| | | 3. Ibikoresho by'ibanze by'ikoranabuhanga | |
| | 2 | Ibikoresho biboneka ku ishuri no mu rugo | |
| | | Ibikinisho, ibikoresho binyuranye n'imfashanyigisho | |
| | | Inshuti yanjye mudasobwa | |
| | 3 | Ibikinisho, ibikoresho binyuranye n'imfashanyigisho | |
| | | Imikoreshereze ya terefoni | |
| | | Inshuti yanjye mudasobwa | |

| | | | |
|--|--------------|-----------------------------------|--------------------------|
| IBIDUKIKIJE | 1 | Amazi | |
| | | Inyamaswa | |
| | | Ibimera | |
| | | Imyanda n'isukura | |
| | 2 | Umwuka n'umuyaga | |
| | | Ubutaka | |
| | | Ibimera | |
| | 3 | Amazi | |
| | | Ubutaka | |
| Inyamaswa | | | |
| UMUBIRI W'UMUNTU | 1 | Umubiri w'umuntu | |
| | 2 | Ibyumviro | |
| | 3 | Imikaya n'amagufa | |
| IBIKORESHA N'IMIMERERE Y'IBINTU | 1 | Ibikoresho n'ibikoresha | |
| | 2 | - | |
| | 3 | - | |
| INGUFU | 1 | - | |
| | 2 | Urumuri n'ubushyuhe | |
| | 3 | 1. Amashanyarazi | |
| | | 2. Rukuruzi | |
| IGITERANYO | 5 | | |
| Upper primary | | | |
| TOPIC AREA | Level | Units | Number of periods |
| TOOLS AND OBJECTS PRODUCTION | P4 | Agriculture tools | 10 |
| | | Objects production | 14 |
| | P5 | Carpentry tools | 8 |
| | | Masonry | 6 |
| | | Objects production | 14 |
| | P6 | Mechanics and blacksmith tools | 6 |
| | | Simple machines | 12 |
| | | Objects production | 8 |

| | | | |
|--------------------|------------------------|------------------------------|---------------------|
| ICT | P4 | Computer my friend | 16 |
| | | Writing skills | 8 |
| | | Graphics and multimedia | 5 |
| | | Programing for children | 20 |
| | P5 | Computer my friend | 9 |
| | | Writing skills | 8 |
| | | Computer research | 8 |
| | | Programing for children | 20 |
| | P6 | Writing skills | 17 |
| | | Computer research | 10 |
| | | Programing for children | 25 |
| | OUR ENVIRONMENT | P4 | Air, wind and sound |
| Soil | | | 12 |
| Animals | | | 12 |
| Animals management | | | 12 |
| Plants | | | 14 |
| P5 | | Water | 16 |
| | | Soil | 14 |
| | | Animals | 12 |
| | | Plants and environment | 10 |
| P6 | | Air pollution | 12 |
| | | Animals | 12 |
| | | Plants reproduction | 10 |
| | | Sustainable waste management | 10 |

| | | | |
|--------------------------------------|---------------|----------------------|-----------------------|
| HUMAN BODY | P4 | Human sensory organs | 25 |
| | | Humana skeleton | 10 |
| | | Muscles | 8 |
| | P5 | Digestive system | 10 |
| | | Reproductive system | 20 |
| | P6 | Circulatory system | 8 |
| | | Respiratory system | 8 |
| | | Reproductive system | 14 |
| | ENERGY | P4 | - |
| P5 | | Light | 7 |
| | | Electricity | 9 |
| P6 | | Energy management | 12 |
| | | Magnetism | 8 |
| MATERIALS AND STATE OF MATTER | | P4 | - |
| | P5 | Materials | 10 |
| | P6 | State of matter | 10 |
| | | | |
| TOTAL | | | 543(<i>or</i> 181×3) |

Self-reflection

What have you learnt from this session?

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Session 3 Addressing cross-cutting issues in SET

Session objective(s)

By the end of this session, participants will be able to:

- Explain how cross-cutting issues are integrated or addressed in teaching and learning SET,
- Design teaching and learning activities that integrate cross-cutting issues in SET

Activity 1

a) Explain how cross-cutting issues can be integrated or addressed in teaching and learning SET

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b) Identify cross-cutting issues that are specific to SET

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Activity 2

In SET syllabi, teacher's guide and pupils' book, choose a lesson within a unit and design a learning situation and activity that you think can address cross cutting issues.

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Self-reflection

What have you learnt from this session?

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Session 4 Analyze key unit competence in SET

Session objective(s)

By the end of this session, participants will be able to:

- Discuss the key unit competences that are specific in each form (lower and upper primary).
- Explain the importance of a key unit competence within a unit.
- Design activities of a unit and suggest approaches that can help learners achieve key unit competence

Activity 1

a. Define the term "key unit competence"

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b. Read and understand the following flow chart of the competences

| Umwaka | Ubushobozi bw'ingengi bugamijwe |
|-------------|---|
| Umwaka wa 1 | <ul style="list-style-type: none"> • Gushobora gusobanura umumaro w'ibikoresho biboneka ku ishuri no mu rugo • Gushobora gukora ibikinisho binyuranye • Kurondora ibikoresho byinjiza cyangwa bisohora amajwi n'amashusho n'ibyandika no gukoresha terefone, radiyo na tereviziyo • :Gushobora gutandukanya amasoko no gusobanura amoko n'akamaro by' amazi, kumesa imyambaro yoroheje no kuronga ibiribwa bibisi • Gushobora gutandukanya inyamaswa zo mu rugo (zororwa) n'izo mugasozi (zitororwa) zo mu karere ishuri ryubatsemo ,akamaro kazo n'ibice bigize udusimba duto • Gushobora gutandukanya ibimera bihingwa n'ibyimeza biri mu karere ishuri ryubatsemo • Gutandukanya amoko y'imyanda gusukura ahadukikije n'umumaro wabyo • Gutandukanya ibice bigize umubiri w'umuntu, umumaro wabyo no kuwugirira isuku • Gushobora gutandukanya ibikoreshwa karemano n'ibikoresho bitari karemano binyuranye |
| Umwaka wa 2 | <ul style="list-style-type: none"> • Gushobora gukoresha no gufata neza ibikoresho biboneka ku ishuri no mu rugo • Gukora ibikinisho / ibikoresho binyuranye / n' imfashanyigisho • Gutandukanya ibice by'ingenzi bya mudasobwa no kwitwararikirira uburyo bwo kuyikoresha • Kuvumbura ukubaho k'umwuka no gusobanura ibiwuranga, akamaro kawo, gutandukanya amoko yawo, ingaruka zawo no kuzirinda. • Gushobora kuvumbura akamaro k'ubutaka, ibyangiza ubutaka n' ingaruka z'amazi k'ubutaka • Gutandukanya ibice binyuranye by'ikimera n'umumaro wabyo no gutandukanya (amatsinda) ibihingwa hakurikijwe umumaro wabyo • Kuvumbura inkomoko y'urumuri n'iyubushyuhwe n'isano iri hagati y'urumuri n'igicucu • Gushobora gutandukanya ibyumviro by'umubiri w'umutu, kubisukura no kurondora umumaro wabyo |

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|---------------------------|--|
| <p>Umwaka wa 3</p> | <ul style="list-style-type: none"> • Gukora ibikinisho/ibikoresho/imfashanyigisho mu ndodo, mu bitambaro, mu byatsi, mu birere mu mpapuro, mu bikarito mu mikwege no mu ibumba • Gukoresha terefone mu guhamagara , mu butumwa bugufi no mu ikoranabuhanga rusange • Kunoza imyandikire muri Typing turtle na Write activity no gufata amafoto, amashusho n'amajwi muri Record activity • Gushobora gutegura no kubika amazi yo kunywa • Gutandukanya amoko y'ubutaka, amoko y'isuri n'uburyo bwo kuyirinda ubutaka • Gutandukanya amoko y'inyamaswa ushingiyeye ku rutirigongo • Gusobanura isano iri hagati y'ingingo, imikaya n'amagufa n'uko bifatwa neza • Gusobanura amoko atandukanye y'ingufu • Gushobora kuvumbura ibikoresho bikoresha amashanyarazi n'umumaro wayo • Kuvumbura ingufu n'ibiranga rukuruzi ; gutandukanya ibikururwa n'ibidakururwa na rukuruzi |
| <p>P4</p> | <ul style="list-style-type: none"> • To be able to use and maintain agricultural tools safely • To be able to make play, utility and learning objects • To be able to use common ICT terms and differentiate Sugar and Gnome user interfaces • To be able to perform write activity • To be able to use Paint activity to draw and colour different shapes and to enhance project work • To be able to design and construct geometric shapes in Turtle art activity and create animations using Scratch Activity • To be able to explain properties and importance of air and effects of wind as well as sound in surrounding environment • To be able to choose good soil and prevent it from erosion • To be able to classify the animals according to their backbone, locomotion, feeding, reproduction and respiration mode. • To be able to explain and practice the rabbit keeping • To be able to demonstrate stages of germination and establish the relationship between parts of plants and their function • To be able to explain the structure, function and maintenance of the human sensory organs • To be able to describe the human skeleton and explain its functions and maintenance • To be able to identify and explain the functions and maintenance of muscles |

P5

- To be able to use and maintain carpentry tools
- To be able to use and maintain masonry tools
- To be able to make simple utility objects, toys and learning materials
- Learner should be able use data storage devices and data sharing
- Learner should be able to perform write activity
- Learner should be able to explore and use the Browse Activity and the use of E-mails (Sugar Interface)
- To be able to perform arithmetic operations, draw geometric shapes (parallelogram, rhombus, trapezium, regular polygons) using Turtle Art Activity and create dialogue and cartoons using Scratch Activity.
- To be able to purify water for drinking and explain dangers of polluted water
- To be able to prepare the soil for cultivation and use fertilizers
- To be able to explain and practice effective chicken farming
- To be able to explain the importance of plants and deforestation's effects on the environment
- To be able to explain different stages of digestion and prepare a balanced diet
- To be able to practice hygiene and recognize sexual characteristics and responsible behavior
- To be able to demonstrate the existence of light ,explore its properties and transmission according to intensity
- To be able to construct , manage an electric circuit and explain its importance
- To be able to classify materials according to their properties in metals and non-metals, and calculate their density

P6

- To be able to use and maintain mechanics and blacksmith tools safely
- To be able to classify simple machines and levels
- To be able to make toys , utility and learning objects
- To be able to perform write activity.
- Explore and use search engines
- To be able to design and construct geometric shapes using Turtle Art Activity and design different projects in scratch and use Etoys Activities.
- To be able to explain the phenomenon of air pollution, its consequences and management
- To be able to explain and practice effective management of goats and cows
- To be able to describe the parts of a flower and explain the process of sexual and asexual reproduction in plants
- To be able to apply garbage collection techniques and separate hazardous, organic and recyclable waste materials
- To be able to describe and explain the functioning of the circulatory system, its hygiene and maintenance
- To be able to explain the mechanism of respiration
- To be able to explain the function of male and female genital organ the prevention , transmission and treatment of STIs and HIV and state ways of preventing unplanned pregnancy
- To be able to understand the use of energy and its transformations from one form to another
- To be able to explain and demonstrate the existence of magnetic forces and magnetic field
- To be able to demonstrate and explain changes of state of matter

Activity 2

As a teacher, discuss the roles of a key unit competence within a unit.

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Activity 3

Choose one unit from the syllabus, design your own activity and suggest appropriate approaches which can help learners to achieve the key unit competence

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Self-reflection

Write something new that you have learnt from this session and how it is going to help you improve on your teaching.

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Session 5 Integrating Generic Competences in teaching and learning SET

Session objectives

By the end of this session, participants will be able to:

- Explain the generic competences
- Design activities that integrate generic competences in SET and identify approaches used

Activity 1

a. a) Outline the generic competences

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b. Read the learning situation below, analyze the related picture and then discuss they generic competences that are developed from this task (Picture from P5 SET book, Unit 14 on page 184).

Comparing how light travels through different media

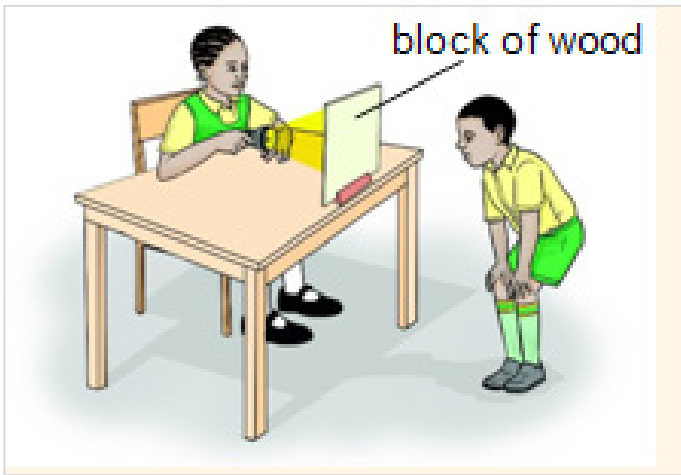
Materials needed:

Various materials for example:

- • Oiled paper
- • Clear polythene paper
- • Notebooks
- • Torch
- • Block of wood
- • Clear glass

Task:

- iii. Get into your working groups.
- iv. Let one of you shine a torch on the materials listed above one by one.
- v. Let the rest of you stand on the opposite side of the materials being illuminated by the torch. Observe what happens.



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Activity 2

Referring to SET syllabus, teacher’s guide, pupil’s book, choose a lesson within a unit and design an appropriate activity that can help learners to develop the generic competences and then explain different approaches that can be used

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Self-reflection

What have you learnt from this session?

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Key message:

These generic competences help learners to deepen their understanding of subjects and apply acquired knowledge in a range of situations.

As learners develop these generic competences, they also acquire a set of skills that employers look for at the labor market, thus, the competences help prepare learners for the global market.

The generic competences are also vital for enabling learners to become life-long learners who can adapt to our fast-changing world and the uncertain future (Curriculum framework, 2015 Page 27).

Session objectives

By the end of this session, participants will be able to:

- Explain the importance of using teaching and learning materials
- Select and discuss how to use local teaching and learning materials
- Create teaching and learning materials using local available resources.

Activity 1

As a teacher, discuss the role of using teaching and learning materials

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Activity 2

Identify possible local available teaching and learning materials that can be used in SET and then explain how they can be used

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Activity 3

Select any topic of your choice from SET syllabus and then create and discuss teaching and learning materials using local available resources that can be used.

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Self-reflection

What have you learnt from this session?

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ASSESSMENT IN COMPETENCE BASED CURRICULUM

Session 1

Different forms of assessment in CBC

Session Objective (s):

By the end of this session, participants should be able to;

- Differentiate formative from summative assessment
- Explain why, what and when we assess
- Assess knowledge, skills, values and attitudes (Competences)

Activity 1

Define the term is assessment differentiate formative from summative assessment.

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Activity 2

a. Why do we need to assess in teaching and learning?

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b. What do we assess in teaching and learning?

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c. When do we assess in in teaching and learning??

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Read and discuss about the below task given to P5 learners, and discuss how knowledge, skills, attitude and values are assessed.

Task for Primary 5;

Unit 8, Page 101.

Activity 8.11:

Identifying ways of preventing water pollution

“Look at the following pictures and answer to questions underneath.



(a)



(b)



(c)



(d)

1. (a) Describe the activities labelled (a), (b), (c) and (d).
(b) Which activities will cause water pollution?
(c) Which activities help to prevent water pollution?
2. Propose different ways of preventing water pollution in your community.

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Session objectives

By the end of this session, participants will be able to:

- Explain the importance/benefits of questioning
- Describe levels of questioning according to Blooms taxonomy model
- Set appropriate questions following Blooms taxonomy model

Activity 1

Answer the following questions:

a. Why do we ask questions to our learners?

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b. What challenges do we meet in questioning?

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c. What is the importance/ benefits of questioning in the teaching and learning process?

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Activity 2

a. Propose descriptive words of each of the levels of Bloom’s Taxonomy

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b. Match the following question with their relevant levels of Bloom's Taxonomy

A

- what materials are suitable for cleaning ears?
- List five masonry tools?
- Discuss why it is important to clean our ears?
- How can you take care of masonry tools for their durability?
- Differentiate between a water level and a plumb line.
- Argue out on the fact that planting trees prevent soil erosion.

B

- *Remembering*
- *Understanding*
- *Application*
- *Analysis*
- *Evaluation*
- *Creation*

Activity 3

Using SET syllabus, pupil's book, choose one unit and Set questions for each for each level of Bloom's taxonomy.

Self-reflection

What have you learnt from this session?

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Session 3 learner's progress record keeping and portfolio

Session objective(s)

By the end of this session, participants will be able to:

- Explain learner's progress record keeping and Portfolio
- Discuss the importance of record keeping and communicating learner's progress in CBA
- Identify the importance of giving positive feedback
- Propose the elements of feedback format
- Fill in the feedback format using kept records

Activity 1

Give the meaning of the learner's progress record keeping and Portfolio

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Activity 2

As a teacher, discuss the importance of record keeping and communicating learner's progress in CBA

a. Why do we record learner's performance?

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b. What do we record in a portfolio?

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c. Why do we communicate learner's performance?

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Activity 3

a. why do we provide positive feedback in teaching and learning activities?

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b. What are the best ways to provide positive feedback to learners?

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Activity 4

Discuss the elements of the following feedback format

FEEDBACK FORMAT/PROGRESS STUDENT REPORT

SUBJECT:

UNIT:

KEY UNIT COMPETENCE:

| Student names | Achievement description | Comment (area for improvement/ good points) | Way forward |
|---------------|-------------------------|---|-------------|
| 1. A | ... | ... | ... |

| | | | |
|------|-----|-----|-----|
| 2. B | ... | ... | ... |
| 3. C | ... | ... | ... |
| | ... | ... | ... |
| | ... | ... | ... |
| N | N | N | |

Activity 5

Suggest learner's assessment activity, mark it and fill the feedback format

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Self-reflection

What have you learnt from this session?

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UNIT 5

CLASSROOM PRACTICE (LESSON PLAN AND DELIVERY)

Session 1 Understanding lesson plan format

By the end of the session the participants should be able to:

- Identify different pedagogical documents needed in teaching and learning activities
- Identify and describe the components of lesson plan format
- Explain how to complete a lesson plan format.

Activity 1

Explain how the pedagogical documents are used in teaching and learning activities

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Activity 2

Identify and describe the components of a lesson plan format

Activity 3

Observe the bellow lesson plan format and discuss the challenges you encounter in completing it.

SET Lesson Plan format

School Name: ...

Teacher's name:

| Term | Date | Subject | Class | Unit N° | Lesson N° | Duration | Class size |
|--|------|---------|-------|---------|-----------|----------|------------|
| | | | | | .../... | | |
| Type of Special Educational Needs to be catered for in this lesson and number of learners in each category | | | | | | | |
| Unit title | | | | | | | |

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|---|--|
| Key Unit Competence | |
| Title of the lesson | |
| Instructional Objective | |
| Plan for this Class (location: in / outside) | |
| Learning Materials (for all learners) | |
| References | |

| Timing for each step | Cross cutting issues to be addressed + a short explanation: | | Generic competences + a short explanation |
|----------------------------------|--|--------------------|--|
| | Description of teaching and learning activity | | |
| | Teacher' s activities | Learner activities | |
| Introduction | | | |
| Development of the lesson | | | |
| Conclusion | | | |

Teacher self-evaluation

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Self-reflection

What have you learnt from this session?

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Session 2 Making instructional objective

Session objective(s)

By the end of this session, participants will be able to:

- Elaborate the main components of instructional objective
- Formulate an instructional objectives which are inclusive
- Design teaching and learning activities responding to the instructional objective formulated earlier.

Activity 1

a. Discuss about the five components of instructional objective as per teacher training manual 2015

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b. Read the following instructional objective and identify its five components.

Through practices and by using charts, water from the river or dam and small containers, the learner will be able to explain boiling and filtration as water purification methods and explain how they can correctly use them.

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Activity 2

Referring to the SET syllabi, choose a lesson and formulate related instructional objectives containing all five elements of instructional objective.

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Activity 3

Design teaching and learning activities responding to the instructional objective formulated earlier. What have you learnt from the activities you were led into by the facilitator?

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Self-reflection

What new have you learnt?

What surprised you?

What will you do differently?

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Session objective(s)

By the end of the session, participants will be able to develop lesson plans, execute microteaching and provide positive feedback.

Activity 3

“As teachers expect learners to come to class prepared to learn, learners expect teachers to come to class prepared to teach.”

a. What should the teacher think about? Look for before developing a lesson plan?

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b. Select a lesson from any topic/unit of your choice, prepare the lesson and microteach.

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