Ministry of General Education

Teachers' Curriculum Implementation Guide

Guidance to enable teachers to make best use of the Zambia Education Curriculum Framework 2013

Contents

Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
CSE	Comprehensive Sexuality Education
CTS	Creative and Technology Studies
CPD	Continuous Professional Development
ECE	Early Childhood Education
ECZ	Examination Council Zambia
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
GRACE	Grade Meeting at Resource Centre
HE	Home Economics
HIV	Human Immunodeficiency Virus
ICT	Information Communication and Technology
IEP	Individual Education Plan
JETS	Junior Engineers, Technicians and Scientists
JSSLE	Junior Secondary School Leaving Examinations
MoGE	Ministry of General Education
PISA	Programme for International Student Assessment
RE	Religious Education
SACMEQ	Southern & Eastern Africa Consortium for Monitoring Educational Quality
SEN	Special Educational Needs
SPRINT	School Programme of In-Service for the Term
TCIG	Teachers' Curriculum Implementation Guide
TESS	Teacher Education and Specialised Services
TGM	Teacher Group Meeting.
TEVETA	Technical Education, Vocational and Entrepreneurship Training Authority
TEVET	Technical Education, Vocational and Entrepreneurship Training
ZECF	Zambia Education Curriculum Framework

1. Rationale and roadmap

## Why revise the curriculum? What is the role of the teacher?

In this age of the global economy, governments around the world are revising their curricula. They are doing this in order to prepare learners for the challenges they will have to face in our rapidly changing world.

If learners are to succeed, they need to have not only knowledge but also the values, attitudes, skills and competences which will enable them to make the best use of their learning.

Zambia's curriculum has been revised to achieve this vision for its population. Teachers now face the challenge of planning and providing the daily learning experiences that contribute to achievement of the vision.

So the teacher's role is to ensure that learners become both knowledgeable and capable. This guidance document will help teachers use the revised curriculum documentation effectively and adopt successful teaching methods (pedagogical approaches).

Figure 1. The teacher's role
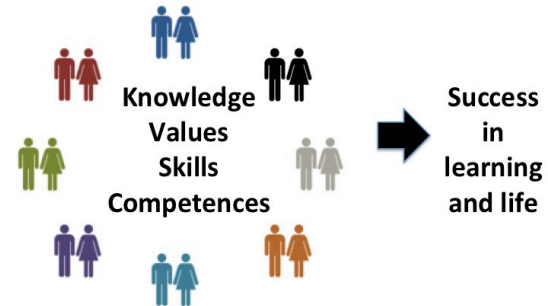
The curriculum implementation roadmap

The roadmap in table 1 shows the stages of development and implementation of the revised curriculum.

Table 1. The curriculum implementation roadmap

YEAR	Stages of development and implementations
2013	• Development of Early Childhood Education (ECE) and Grades 1, 5, 8 and 10
2014	• Implementation of ECE and Grades 1, 5, 8 and 10 • Development of Adult Literacy and Grades 2, 6, 9 and 11
2015	• Implementation of Adult Literacy and Grades 2, 6, 9* and 11 • Development of Grades 3, 7 and 12
2016	• Implementation of Grades 3, 7 and 12 • Development of Grade 4
2017	• Implementation of Grade 4

* Grade 9 learners took the Junior Secondary School Leaving Examinations (JSSLE) for the first time in 2015.

2. The vision: How will the revised curriculum impact learners?

The vision for the revised curriculum is that it should make a real difference to learners both in school and in their lives. This vision is summarized in figure 2.

Teachers should keep this vision in mind, not just in their lessons but in all of their interactions with learners so that they can contribute to the achievement of the national vision in everything they do.

Figure 2. The vision

Learners should be active participants...
...in learning and living with others
...in transforming society as leaders and agents of change
...in lifelong learning
...in creative, innovative and productive learning
...as members of their families and communities, and as citizens of Zambia and the World
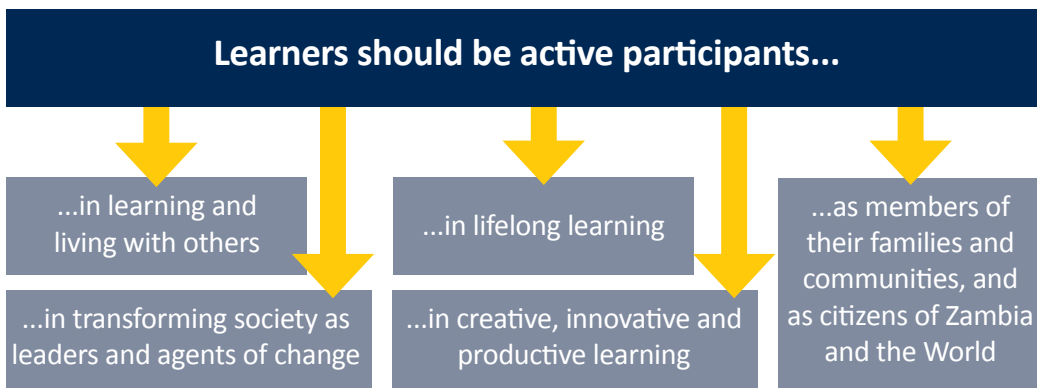
How can the curriculum bring about the achievement of this vision?

We have planned and designed the curriculum with this vision in mind.

Figure 3 shows the different components of the curriculum.

The **aims** set out broad learning outcomes for the curriculum. The aims have to be met if the vision is to be achieved.

The **values** are an essential element of the curriculum. The kind of society we want in Zambia depends upon learners developing appropriate values and **attitudes**.

Competences are very important. These are the key abilities learners need so that they can make the best use of their learning in their young and adult lives.

Subject knowledge is valuable for its own sake but also because skills and competences depend on knowledge. What learners know affects the quality of everything they do. The **cross-cutting issues** also provide vital knowledge that every citizen needs

There is more information about each of these components in this document. These components have all influenced the design **principles** that have been followed in developing the curriculum.

As figure 3 shows, after the curriculum has been designed, the next key factor is the quality of classroom practice. Effective teaching of the intended learning depends upon teachers and the quality of the **pedagogical approaches** that they apply in their lessons every day. As the red arrow shows, high quality pedagogical approaches will lead to the achievement of the aims.

Figure 3. Components of the curriculum
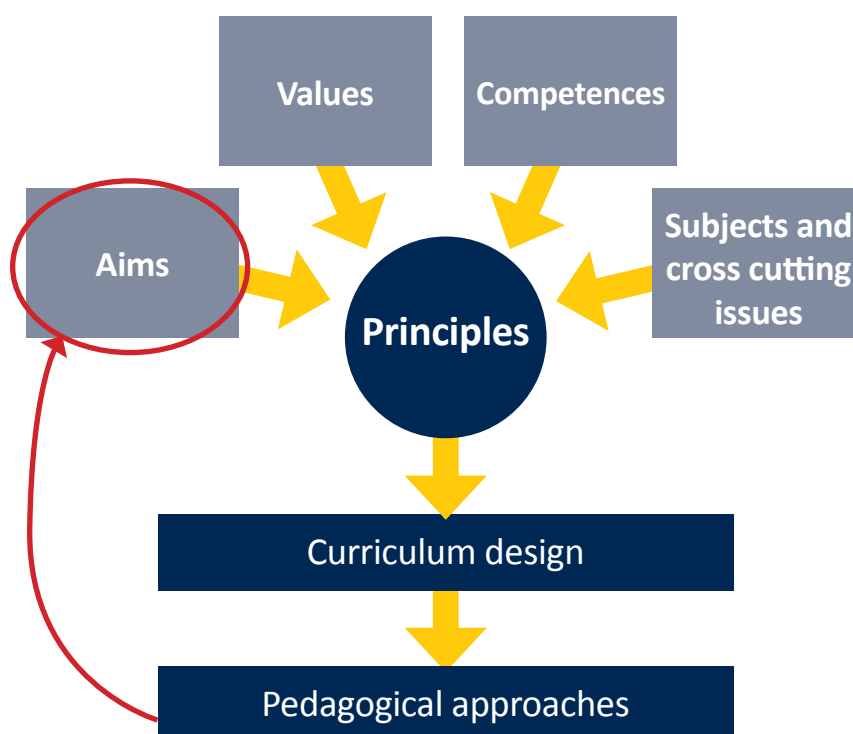
How to share and work towards the vision

Most teachers are familiar with learners asking the question "Why are we studying this?"

The five boxes in the vision diagram in figure 2 and the aims outlined below provide the answer to this question. It is important that you sometimes share the vision and aims with learners.

You could also refer to and incorporate the other components of the curriculum described in figure 3 into your planning for teaching and learning activities.

As you plan lessons, you could ask yourself how the planned learning experiences will help your learners to achieve our shared vision for the future of the nation.

It might be useful to produce some visual aids, made clearly visible in the classroom, to remind learners and teachers of the vision, aims, values, competences, subjects and cross-cutting issues.

During a language lesson, you could explore and debate the vision.

In an art lesson you could give learners the opportunity to illustrate, for example, *what the vision means or the importance of the values or the competences to their lives*.

3. Aims

The aims of the revised Zambian curriculum are to produce:
- self-motivated, life-long learners
- confident and productive individuals
- holistic, independent learners with the values, skills and knowledge to enable them to succeed in school and in life.

The purpose of this guidance document is to help teachers understand and achieve these aims through their teaching.

The aims are reflected throughout the curriculum design. They clearly capture the two key guiding principles set out in the framework, namely that the curriculum should be both:
- learner-centred
- outcome-based.

4. Values

Everyone has a set of values that determine how s/he behaves. The curriculum should make a real contribution to the development of each learner's values. These values will influence their lives and encourage them to become valuable and responsible members of society.

The key values built into the curriculum are illustrated in figure 4.

The values are grouped under four headings so that teachers can easily identify opportunities for exploring and developing them in lessons and plan for appropriate activities.

It is important that learners have a set of values which encourages them to:
- strive for **personal excellence**
- build positive **relationships** with others
- become **good citizens**
- celebrate their **faith** and respect the diversity of beliefs of others.

It is **learners' values that shape their attitudes**. Values are reflected in personality and behaviour and they have a powerful influence on the life chances of every learner.

Figure 4. Key values built into the curriculum

Personal Excellence Discipline Hard work Professionalism	**V A L U E S**	**Relationships** Love for others Respect and honour Appreciation of cultural diversity Tolerance Honesty and integrity Equity and empathy Forgiveness
Citizenship Patriotism Community Participation in society		**Faith in God**
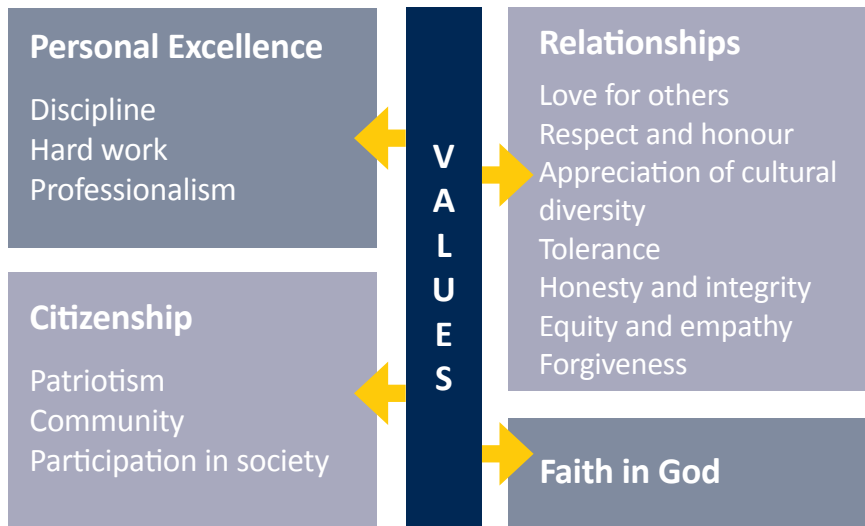
How to ensure learners develop their own set of values

To help learners understand these values and build commitment to them, teachers should plan for them to be incorporated into learning activities.

For example, at the beginning of the school year you could focus on values when discussing behaviour in the context of striving for personal excellence. When classroom routines are being established, you could encourage learners to think about how the values can be put into practice.

You could also ask learners to **compose their own set of classroom rules** as illustrated in this example…

In our class,
we are all important,
we embrace challenge,
we give praise,
we forgive,
we share our joy and
we show respect for all people and all things.

You could encourage them to **develop a class promise** such as the one below.

Our class promise
To try our hardest and always have a go.
To keep ourselves and each other safe.
To be polite.
To listen carefully to each other.
To be a good friend.

You could set them the task of **creating a class excellence motto** such as one of the following:

Learning today… leading tomorrow;
The race for excellence has no finish line;
We enter to learn and leave to achieve.

These activities could be part of a Literacy lesson on communication or as part of a Social Studies lesson where there is a focus on citizenship or personal development.

5. Competences

Learners need both skills and knowledge, so it is important that they develop a set of competences as well as improving their subject learning. Competences are abilities critical to performance of specific tasks. Competences are composed of three elements: skills, attitudes and knowledge.

Competences are applied in the context of all subject areas.

To become competent at anything, a learner needs to:
- know something about it
- have the skills to apply the knowledge
- have attitudes that ensure s/he will do it well.

The 2013 revised curriculum identifies six competences as shown in figure 5.

Figure 5. Competences

How to ensure learners develop a set of competences

Teachers should **make plans that enable learners to become competent** in each of these 6 areas. They should also consider how each of these competences can enhance learning across the curriculum.

For example, in mathematics there are many areas of learning that involve **problem solving and critical thinking**. When you provide a rich and relevant context for mathematics, learners are motivated to explore, to investigate and to find their own solutions.

Some examples you could use include:
- comparing populations in nearby villages in order to consider the best place for a new community facility
- exploring data about energy and sugar levels in different foods in order to make plans for a balanced, healthy diet
- continuing shape patterns and creating new ones for a specific purpose
- evaluating questions such as 'Would you rather have 10% of 20 Kwacha or 26% of 50 Kwacha?'

When **thinking critically and solving problems**, it is also valuable to work with other people. So in the mathematics activities described above, you could have learners working in pairs or in small groups. This would help them build their competence in **cooperation and communication**.

You could use the same approach if pupils were to investigate for example, properties of materials or physical processes in science.

Group work can be used across all subjects to develop competences. Solving problems together is a good way to involve learners in communication, cooperation and critical thinking. Over time teachers should plan activities that help learners develop all six competences.

6. The subjects

Subjects are clearly a key part of the curriculum. Table 2 demonstrates which subjects are taught in each learning area in each of the phases from Early Childhood through to Senior Secondary.

Table 2. Subjects taught in each learning area

Learning Area	ECE	Lower Primary	Upper Primary	Junior Secondary	Senior Secondary
Grades	Nursery and Reception	1-4	5-7	8-9	10-12
Sciences	Environmental Science	Integrated Science	Integrated Science	Integrated Science Agricultural Science	Science Biology Chemistry Physics Agricultural Science
Social Studies	Social Studies	Social Studies	Social Studies	Social Studies Religious Education	Civic Education Geography History Religious Education -2044/2046
Mathematics	Pre-Mathematics	Mathematics	Mathematics	Mathematics	Mathematics Additional Mathematics
Literacy and Languages	Literacy and Languages	Literacy and Languages (in Zambian Languages) English (oral in Grade 2)	English (literacy) Zambian Languages	English Zambian Languages Foreign Languages	English Zambian Languages Foreign Languages Literature in English
Practical Subjects	Expressive Arts	Creative and Technology Studies	Expressive Arts Home Economics Technology Studies	Art & Design Musical Arts Education Physical Education Home Economics Design & Technology Computer Studies	Art and Design Musical Arts Education Physical Education Fashion and Fabrics Home Management Food and Nutrition Design & Technology Computer Studies
Business Studies				Business Studies	Commerce Principles of Accounts
Special Educational Needs Subjects	Braille Sign Language Activities for Daily Living	Braille Sign Language Activities for Daily Living	Braille Sign Language Activities for Daily Living	Braille Sign Language	Braille Sign Language

There is more information about the learning areas and subjects in section 14 of this document.

7. The national concerns and cross-cutting issues

A number of important national concerns have been highlighted in the revised framework that need to be addressed in the curriculum.

Most of the national concerns are taught as cross-cutting issues. Each of these issues has its own learning but these cross-cutting issues are not stand-alone subjects. Instead the learning takes place within lessons of a range of different subjects. All teachers are responsible for ensuring that cross-cutting issues are covered as part of their normal subject teaching.

One of the national concerns is **Special Educational Needs**. This is different to the others because it is not a cross-cutting issue. The way this concern is addressed is through teaching approaches designed to ensure all learners with special needs can access the curriculum and achieve their potential.

In table 3, where there are named 'carrier' subjects, these subject syllabuses include specific topics relating to the cross-cutting issues.

In some cases, the table shows cross-cutting issues that are the responsibility of 'all subjects'. Teachers should take opportunities to reinforce learning about these cross-cutting issues even when there are no topics built into subject syllabuses.

For example:
- **HIV** and **AIDS** is such a danger that teachers should try to reinforce this message whenever possible.
- **Entrepreneurship** and **financial education** has the potential to make a real difference to peoples' lives and to the economy. Teachers should encourage learners to think about creating their own business opportunities as well as managing their finances well.
- A focus on **Zambian culture and heritage** not only promotes national pride but also helps to deepen learning by making it more relevant to students' lives. Teachers should take advantage of opportunities that arise in their lessons.
- Learners' motivation improves when they have a goal to work towards. It is helpful to learners if teachers offer **careers guidance and counselling** when relevant in their lessons.

Life skills (particularly **literacy** and **numeracy**) and gender are extremely important to the success of the whole curriculum and of the nation. The role of teachers of all subjects in relation to both life skills and gender is explained in table 3.

Much of the learning associated with cross-cutting issues is incorporated into textbooks and other teaching resources. There is also some additional reference or supplementary material available such as public information about comprehensive sexuality education (CSE), environmental sustainability or health and nutrition.

Table 3. The cross-cutting issues

Cross-cutting issues	Carrier subjects
Population and family life education	Social Studies, Geography, Civic Education
Health and nutrition	Integrated Science, Home Economics, Biology
Reproductive health and sexuality	Integrated Science, Home Economics, Biology
Human rights	Social Studies, Civic Education
Governance	Social Studies, Civic Education
Environmental education and climate change	Integrated Science, Social Studies, Geography, Agricultural Science
Gender	Social Studies, Civic Education, RE, all subjects
Careers guidance and counseling	Social Studies, Civic Education, all subjects
HIV and AIDS	Science, all subjects
Entrepreneurship and financial education	Business Studies, Mathematics, Civic Education, all subjects
Life skills including literacy and numeracy	All subjects
Zambian culture and heritage	All subjects

Literacy

Literacy is a crucial life skill. There has been considerable concern at the number of children that have very low achievements in both literacy and English.

Literacy is taught through the language subjects (both Zambian language and English). However, it is also a cross cutting issue that is crucial for successful learning in every subject. So all teachers, whatever subject they are teaching, are responsible for developing learners' literacy and language ability.

Teachers need to focus on both the specialist language related to particular subjects and language and literacy outcomes in the broad sense.

There is more detail about Literacy in section 17.

Numeracy

Like literacy, numeracy is a crucial life skill. For many, numeracy is as important as literacy for everyday living. Numeracy is sometimes described as the ability to calculate. However, it also includes awareness of shape, length, time and size, as well as the ability to count, to estimate and to think in number terms. These are key elements of numeracy that everyone needs in their personal and working lives. A good understanding of money, data, statistics and probability is required in today's world.

Obviously, mathematics lessons focus on developing learners' numeracy. However, as with literacy, numeracy is not confined to one subject. Numbers, shape, size, time, counting, estimation and calculation frequently feature in lessons relating to other subjects. So teachers should always be ready to support learners' progress with numeracy, regardless of the subject and topic they are teaching.

Financial education

Financial education makes an important contribution to the curriculum, by equipping learners with the knowledge, skills and belief in themselves to make informed, confident and timely money management decisions. This ensures Zambians can be included in, and contribute to, the financial life of households, the community and the nation and enhance their personal wellbeing. They will have the ability to access and use financial products and services (both formal and informal) appropriately which, in turn, will allow them to function well in the 21st Century.

As a cross-cutting theme, financial education makes a strong contribution to learners' development by making learning relevant to real life issues that are faced both as they develop and when they leave school. Financial

education has a role in enhancing all curriculum areas. In particular, there are core units in mathematics and social studies (lower primary, upper primary and junior secondary) and civic education (senior secondary), but aspects appear in other syllabi too, such as business studies. Those curriculum areas which include financial education do so because it fits naturally and normally and supports the purpose of that subject too.

Teachers should be alert to financial education opportunities that have not been specifically written into the curriculum. Making links as they arise in the classroom indicate to the learners how important managing money is to all life.

Teachers are not restricted to the activities identified in the syllabi, but are invited to think of other learner-centered approaches which will make both financial education and the 'host' subject applicable to their lives and help them to successfully achieve the outcomes. It is always good to do practical activities and, where possible, handle real money in the classroom.

Zambian culture and heritage

The curriculum has been designed to ensure learners appreciate Zambia's diverse ethnic cultures, customs and traditions and become good and proud citizens. Expressive Arts, Social Studies, Religious Education, Civic Education, Language and Literacy are subjects in which Zambian culture and heritage can be explored in greater depth and detail. However, this cross-cutting issue can be applied across all subjects and teachers need to ensure that their lessons are planned with this in mind.

Gender

The curriculum has been revised to meet the changing needs of society. One of the key changes is the need for every one of our young people to have the best chance of helping in our country's growth and development. As teachers we must think carefully about our role in reducing and removing possible barriers to learning.

Sometimes, the biggest barriers are the limiting expectations we unknowingly put on children. These barriers can be associated with a child's ability, background or gender.

Gender stereotyping:

- is an obstacle to achievement of boys and girls
- places demands on both sexes that inhibit some of their natural talents and interests
- limits economic progress and reduces social cohesion.

Gender stereotyping is communicated to children from babyhood; by parents, social networks, early learning experiences and by media. It is expressed through

interactions, expectations, dress, toys, stories, books and television. From a very early age, boys and girls are placed into the blue or the pink 'box' and expected to behave accordingly. Children often display gender stereotyped attitudes and behaviours as early as pre-school.

When we are teaching we must consider how to make sure the curriculum challenges stereotypes. Girls and boys need to learn in an environment that is free from gender bias.

There are two main ways in which gender stereotyping is reinforced through the curriculum:

1. Teachers teach different material, or treat it differently, according to whether they are teaching girls or boys.

Teachers play an important role in the personal development of their students. How they treat them, and their expectations for them have a real effect on their self-confidence and their learning.

All formal and informal interactions can send powerful messages to learners. Conscious and unconscious behaviours and practices, language used and 'unwritten rules' can all reinforce stereotypes.

The images, words and resources chosen to teach a lesson or unit of work can carry unintentional messages. Teachers need to think carefully about these messages and how they can build the confidence and the aspirations of girls and boys.

2. Some subjects are thought of as masculine or feminine.

Traditionally science and maths have been seen as masculine subjects and languages and arts as feminine. If girls and boys come to school with these beliefs and have them reinforced by teachers, they will have doubts about their ability to do well in some subjects. This can also affect the choices they make in secondary school and in later life.

When you see ⚥ **'Genderwatch'** in this document, you are invited to consider what you can do to counter gender-stereotyping. This will involve thinking about how you present your resources, how you group learners and how you pose questions in a classroom free from gender bias. In addition to the examples highlighted in this way in this document, you will, no doubt, identify many more opportunities to address gender issues in your lessons.

Additionally, teachers have a role in building strong partnerships between parents and school, as these are significant in countering myths about gender, subjects and occupations.

How to promote gender equality

When you are teaching, you could:
- demonstrate that you value the opinions of girls and boys equally in the way you pay attention and respond to what they have to say
- demonstrate that you have equally high expectations of both boys and girls in terms of achievement in different subjects, attitudes, behaviour, participation in lessons and presentation of work
- encourage mutually respectful relationships between girls and boys by ensuring they listen carefully to each other
- challenge views that are sexist and that suggest learners' options should be determined by gender
- avoid resources that promote stereotyping whether in the text or through the images used
- demonstrate that you take the needs and concerns of girls and boys equally seriously
- encourage both girls and boys to speak and contribute equally to discussions by ensuring gender balance in question and answer sessions
- discuss and analyse the roles of both female and male characters in texts and literature
- ensure that there is a gender balance over time when leaders are selected for classroom and sporting activities
- ensure you provide a balance of men and women when giving examples of contemporary and historical figures
- include some examples of non-stereotypical role models such as female scientists, engineers, politicians or sportswomen
- encourage girls to take on responsibilities such as chair of the student council
- train girls and boys to identify stereotyping and challenge sexism in all its forms.

8. The principles

The curriculum principles were developed taking into account the aims, values, competences, subjects and cross-cutting issues. The principles are represented in figure 6. The principles not only guide the design of the curriculum but should also be reflected in:

- classroom practice/pedagogical approaches
- attitudes and approaches to professional and personal development
- policy and practice with regard to
    > assessment at all levels
    > career guidance and
    > monitoring and evaluation of the effectiveness of the curriculum.

Figure 6. The principles
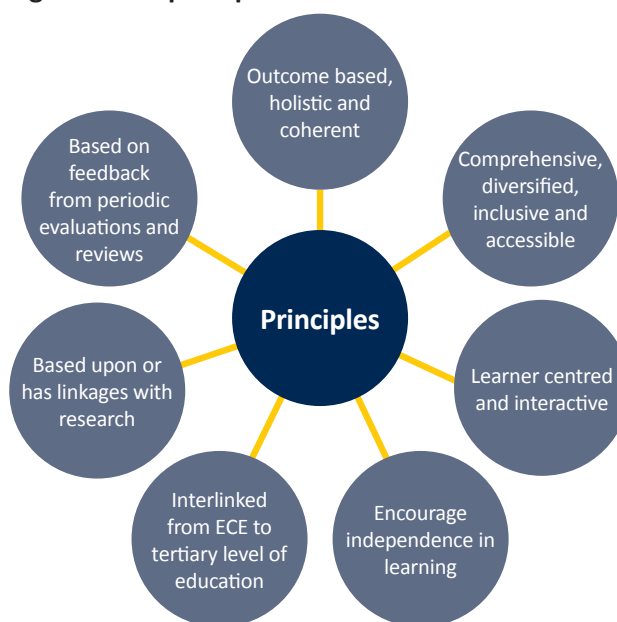
How to build guiding principles into classroom practice

As teachers plan lessons or sequences of lessons, they should be led by these guiding principles. The curriculum has been designed around the principles, but it is up to teachers to make sure the principles are reflected in everyday learning in the classroom.

Table 4. Relating the principles to classroom practice

Principle	Classroom practice
Outcome based, holistic and coherent	When planning lessons, always remember that teaching is a means to an end and the outcome, learning, is all important. The planned learning should include knowledge, understanding, competences and values. There should be clear ideas and themes connecting all the learning.
Comprehensive, diversified, inclusive and accessible	Pace and variety are key features of good classroom practice. Good pace is needed so teachers can build momentum and cover the whole curriculum. A variety of focuses and activities helps to ensure all learners are interested and engaged. **Genderwatch:** Beware of stereotyping when planning activities to engage groups of boys or girls.
Learner centred and interactive	Deep learning comes from active engagement so learning experiences should involve all learners in activities. Teaching should focus on the needs of every learner. Assessment data is a key source of information on prior learning and needs.
Encourage independence in learning	Learners become skilled and confident through experience of independent learning, so regular opportunities must be provided in lessons and homework.
Interlinked from ECE to Tertiary level of education	Links and progression have been built into the curriculum. In the classroom it is important that teachers make sure learners understand the links between what they are learning and what they already know and can do.
Based upon or has linkages with research	Much widely published research takes place into best classroom practice. Teachers should use networks (local, national or international) to explore and draw on best practice research.
Based on feedback from periodic evaluations and reviews	In order to improve practice, teachers need to be well informed about how effective previous practice has been. Evaluations and reviews of the progress of learners (individuals and groups) provide useful evidence for planning for improvement. **Genderwatch:** Look out for any differences in the performance of boys and girls. How can any gaps be reduced?

9. How the subjects link with the competences and with the national concerns/cross-cutting issues

The aims require that the curriculum should provide learners with the **values, attitudes, skills and knowledge** they need in order to succeed. The guiding principles indicate that the curriculum should be **comprehensive** and **diversified**.

Comprehensive subject knowledge is built into subject syllabuses. The inclusion of **competences** and **cross-cutting issues** ensures that learners gain a deeper and more rounded education. The **cross-cutting issues** bring in important learning that may not have a direct link to subjects. The focus on **competences** ensures learners develop their abilities to make practical use of their knowledge and apply their learning.

Figure 7 shows how teachers incorporate cross-cutting issues and competences into their subjects. Both cross-cutting issues and competences are taught in subjects across the curriculum. In other words they 'cut across' subjects.

Figure 7. Interlinking of subjects, cross-cutting issues and competences
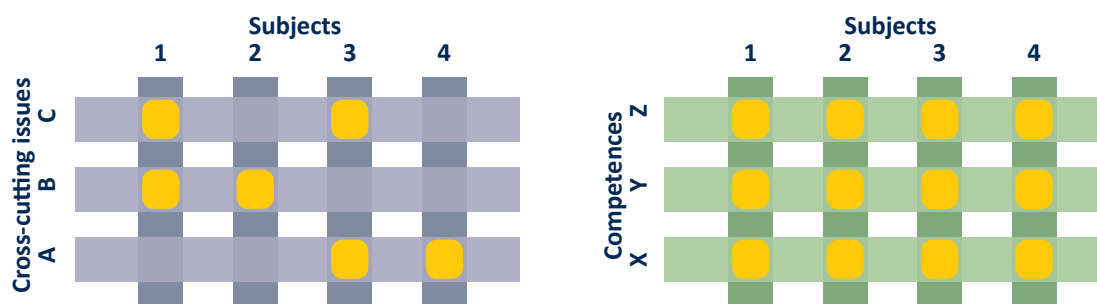
Both diagrams show four subjects, not named but referred to here as subjects 1, 2, 3 and 4. The first diagram shows cross-cutting issues A, B and C 'cutting across' the four subjects. Where the diagram shows a square block at an intersection, this represents a subject where the particular cross-cutting issue is taught.

So, in this example, cross-cutting issue A is taught in subjects 3 and 4; issue B is taught in subjects 1 and 2; issue C is taught in subjects 1 and 3.

In reality, the learning associated with most cross-cutting issues is incorporated into only a few subjects. For example, **health and nutrition and reproductive health and sexuality** are issues covered in just three subjects: *Integrated Science, Home Economics and Biology*. The exceptions are life skills, including literacy and numeracy; Zambian culture and heritage; entrepreneurship; careers advice and guidance; HIV and AIDS. These cut across all subjects.

The second diagram shows competences X, Y and Z cutting across the four subjects. In this case there is a square block at every intersection. This is because every competence can be taught in lessons relating to every subject.

So both cross-cutting issues and competences are taught across the curriculum with this key difference.

Figure 8 represents the way all of the cross-cutting issues are taught through the subjects in Upper Primary. The red boxes indicate the carrier subjects for each cross-cutting issue.

**Figure 8. Cross-cutting issues taught through the subjects**
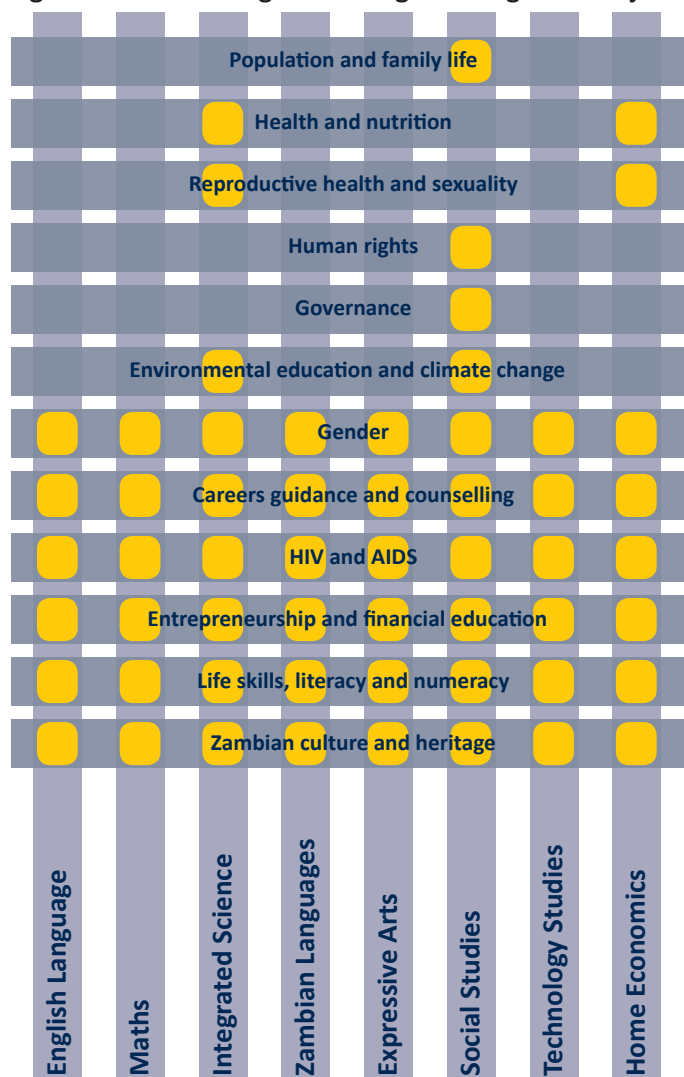
10. From framework to practice: How all the curriculum elements come together

Competences, knowledge and learning experiences

We have already seen, in section 2, how the different elements of the curriculum have been built into the curriculum design in order to achieve the aims and the vision.
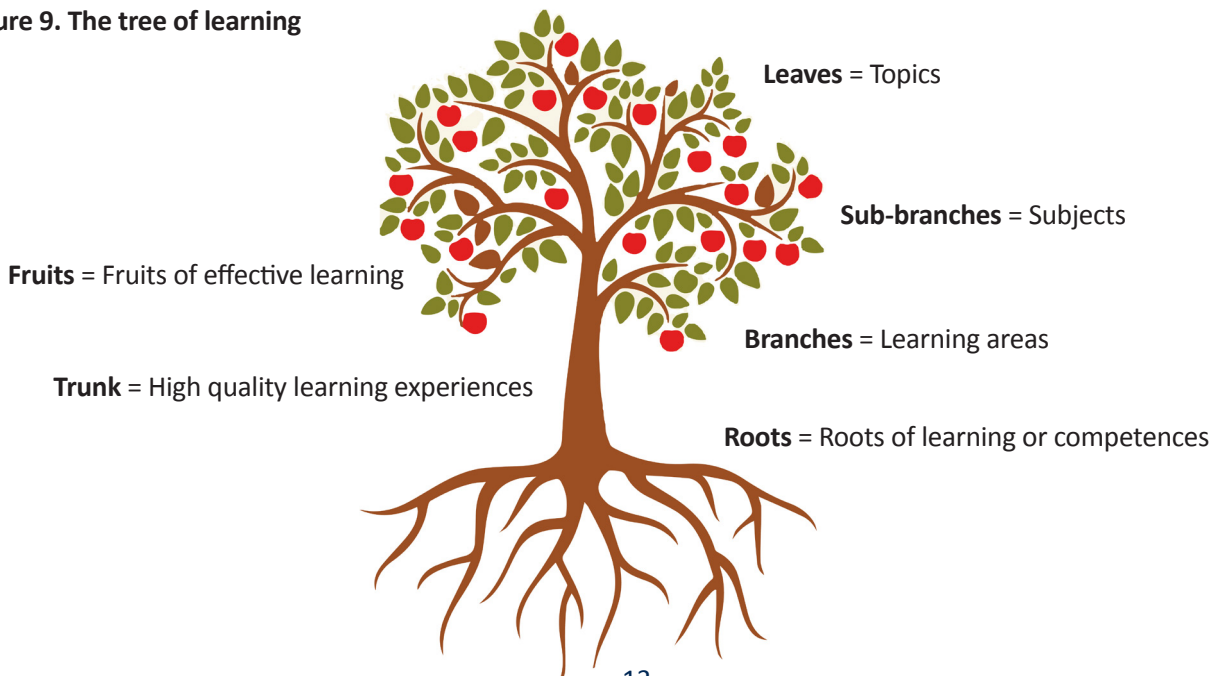
Figure 3. Components of the curriculum
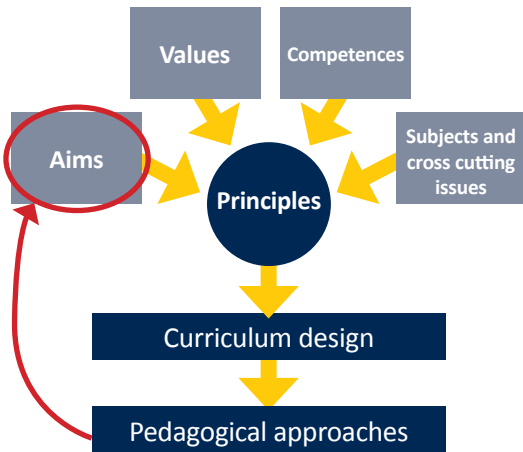
It is teachers who turn these ambitions for the curriculum into reality.

This requires a good understanding of the links between the elements of the curriculum and what they mean for the learning experiences teachers need to build into their lesson plans.

The 'tree of learning' model in figure 9 is useful for explaining the relationship between competences, subject knowledge and learning experiences.

The tree has branches, the 'branches of learning', the **learning areas**: the arts, sciences, languages etc.

These branches divide into smaller branches, **subjects** such as expressive arts, art and design, biology, chemistry, physics, English, Zambian languages and so on.

At the ends of these branches are the leaves, the **topics** that learners should understand, for example, expressionist art, commercial art, the parts of a plant, acids and alkalis, magnetism, use of sentences, fiction and so on.

A healthy tree requires a good root system. The roots of learning are the **competences** that are necessary for people to be able to learn, both at school and as successful lifelong learners.

The teacher's key role is to provide the trunk of the tree, the great **learning experiences** that connect the competences with the knowledge and understanding in a coherent way. This learning is exciting and engaging so that learners are inspired to perform to the best of their ability.

A healthy tree produces fruits, the **fruits of effective learning**: self-motivated, life-long learners; confident and productive individuals; holistic, independent learners with the values, skills and knowledge to enable them to succeed. Other fruits include a highly capable and qualified workforce for the nation and competitiveness in the global economy.

Figure 9 summarizes all of this in diagrammatic form.

Figure 9. The tree of learning

Leaves = Topics

Sub-branches = Subjects

Fruits = Fruits of effective learning

Branches = Learning areas

Trunk = High quality learning experiences

Roots = Roots of learning or competences

How to plan for high quality learning experiences

Learners who feel that learning is relevant and purposeful are more likely to succeed. Teachers should provide high quality learning experiences that capture the imagination of learners, igniting a deep interest in finding out more.

You can use the tree model to make it clear to students how important it is that learning develops both what they know and what they can do. Referring to the roots and the branches, you can explain that learning experiences have been planned to extend their knowledge and to develop their competences.

For example, religious and cultural festivals can provide a relevant and colourful opportunity to learn **about** religion and culture and to learn **how to** improve literacy where there is a focus on written descriptions and oral presentations. Similarly, studying seasonal changes could provide learning **about** the weather and climate as well as an opportunity to learn **how to** analyse numerical data, compare information relating to seasons around the world and draw conclusions.

Using the model in this way helps learners understand the holistic nature of learning, rather than thinking of learning as a lot of disjointed facts. This will make a real difference to motivation and to the outcomes of your class.

Higher order thinking, deep learning and competences

Most teachers are very familiar with **Bloom's Taxonomy** (as shown in figure 10). At the higher levels (application, analysis, synthesis, evaluation) learners go beyond memorization and understanding and engage in **higher order thinking**. It is this higher order thinking that leads to **deep learning**.

A competency-based curriculum routinely develops higher order thinking. For example, all four of the higher levels of Bloom's Taxonomy involve **critical thinking and problem-solving**. Similarly, synthesis (or creating) involves **creativity and innovation**. Teachers can also take a **creative or innovative approach** to application, analysis and evaluation.

In fact teachers can develop any of the four higher levels of Bloom's Taxonomy along with any of the six competences detailed in section 5. When planning learning experiences, teachers should ensure that, over time, there is a focus on all of the competences and all levels of the taxonomy.

As they plan, teachers should bear in mind that, regardless of the taxonomy level, a learning activity involving:

- group and pair work develops **cooperation**
- speaking, listening, reading and writing activities in all subjects develop **communication**
- taking the initiative to do something better develops **entrepreneurship**
- planning, making good use of skills and abilities and personal improvement activities develop **self-management**.

So developing learners' competences and higher order thinking leads to deep learning.
As a result, knowledge and understanding is much better than it would be otherwise.

Similarly, a focus on the upper levels of Bloom's Taxonomy is important for developing learners' competences.

Figure 10. Bloom's Taxonomy and Deep Learning

Critical thinking and problem solving

Cooperation

Entrepreneurship

Creativity and innovation

Communication

Self-management

Evaluation
Synthesis
Analysis
Application
Understanding
Remembering
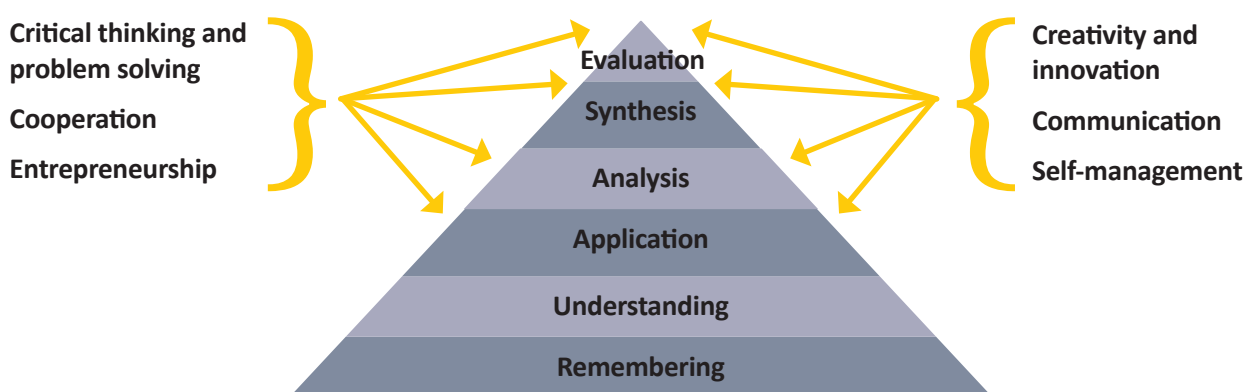
How to plan for deep learning to take place

In order for deep learning to take place, teachers have to plan activities that enable children to learn across all levels of Bloom's taxonomy.

You should remember that Bloom's Taxonomy is not a sequence of learning from younger to older learners. Evaluation is the top level but the ability to evaluate is not confined to older students. Even young children can learn to evaluate, as long as the context is relevant to their age.

For example, in an upper primary Science lesson, having spent some time exploring how sound is produced, learners could evaluate the quality and quantity of sound produced by different instruments or devices. At the other extreme, the start of primary, learners may simply be asked to evaluate a range of sounds according to what they like and dislike, giving reasons why.

It is equally important for teachers to recognise that knowledge and understanding, competences and higher order thinking all combine to enable students to master their learning. For example, it would be very difficult for a learner to think critically and **evaluate** systems of governance in Zambia and other countries if they have no **knowledge** of the different systems.

11.   Pedagogical approach and strategies

The Curriculum Framework puts learners at the heart of the revised curriculum.

The **learner-centred approach** requires teachers and teacher educators to use a range of different methods so that every learner is actively involved. The purpose of the learner-centred approach is to make sure that every learner achieves the best possible **outcomes**. So the learner-centred approach and another key principle of the framework, **outcomes-based education**, are important guiding principles that are very closely linked.

A learner-centred approach develops learners' abilities, attitudes, skills and values to work independently and helps them develop the attitudes and values that encourage them to take responsibility for their own learning. Teachers need to plan, prepare and provide lessons with high quality, learner-centred experiences. This requires skill as well as good knowledge of each individual learner.

When planning learning experiences, teachers should take account of formative assessment information. In this way, learning experiences can be matched with the needs of each learner. Teachers should also plan how formative assessment will be integrated into learning experiences.

See section 13 for more information about assessment.

So, to summarise, when planning lessons teachers need to remember to include learning experiences that:
- develop competences
- develop knowledge and understanding
- help learners become increasingly independent
- make sure learners call on teacher support when needed, so they make good progress
- take account of formative assessment information about the learners
- build in formative assessment opportunities, when appropriate.

With carefully planned learning experiences, learners apply themselves and deep learning takes place. This helps them become lifelong learners and serves them well in school, as members of their communities and in their adult lives.

On pages 16 and 17 are some learner-centred strategies teachers could use in lessons. These should not be thought of as separate strategies. There is overlap between many of them.

How to build learner-centred activities into lessons

STRATEGY	CHARACTERISTICS
Discovery	• Learners are given opportunities to find their own solutions to real problems or challenges. • This teacher may set the task but the learning is self-directed. • Problem solving leads to learners generating their own knowledge, often through research. • The teacher's role is to provide support to assist learners in their discovery. • The discovery method could be used with many of the other strategies below.

Example: Learners have to:
- design packaging for a given number of biscuits (Technology)
- work out the packaging solution that uses the least material (Mathematics), find the strongest form of packaging so the biscuits are not crushed (Science)

STRATEGY	CHARACTERISTICS
Learning by doing	This occurs when learners are involved in any form of active learning. The strategy does not only apply to practical subjects. It can be applied in all learning areas.

Example: Learners compose a short poem or song to be performed at a farewell ceremony for a friend or teacher who is leaving. Learners share their draft poems in order to receive critical feedback from others (Language and Expressive arts)

STRATEGY	CHARACTERISTICS
Debate	• Groups are assigned a topic to discuss or a motion to debate. • There is a wealth of interaction as learners communicate, collaborate with each other and develop thinking skills. • There is scope for developing a wide range of competences.

Example: Learners debate an issue such as how to deal with the challenge of climate change (Science or Social Studies) or discuss how to engage parents and families of new children attending the school in supporting the school vision and aims (Social Studies, Literacy or Languages).

STRATEGY	CHARACTERISTICS
Role play	• Learners are given a practical situation and asked to act it out, playing the roles of the characters involved. • Learners imagine themselves in the situation in order to understand contrasting points of view and develop arguments accordingly.

Example: Learners could develop a series of role plays that enable them to experience what an interview for a job might be like. There would need to be some research undertaken in order to explore potential questions and tasks as part of an interview process. Visitors could be invited into school to share their experiences as an interviewer or as an interviewee (Civic Education).

STRATEGY	CHARACTERISTICS
Whole class discussion	• This familiar approach involves the teacher presenting a whole class task or question to which learners contribute their thoughts. • The teacher can make this more learner-centred by involving everyone in the class, requiring learners to listen carefully and add to what has already been said.

Example: A sample of strategies for engaging whole classes in discussion include: a 'no hands up' approach so that all learners expect to be asked a question; learners acting as teachers to pose questions and select responses; 'names from a hat' so that names are pulled out in turn to promote fairness.

Genderwatch
It is important discussion is not dominated by one gender.

STRATEGY	CHARACTERISTICS
Pair work	• Pair work can be used in a wide range of learning activities. This makes sure all learners take part, including the most passive. • A question might be posed to set learners thinking individually before they are put in pairs to discuss. Pairs can then share their ideas with the rest of the class. This is sometimes described as 'think, pair, share'.

Example: Pairs of learners could be given:
• similar but different number sets in order to create a range of related word problems (Mathematics)
• sets of data to analyse and then report conclusions to the class (all subjects)
• compose outlines of a design for growing a crop in a school garden area (Science).

STRATEGY	CHARACTERISTICS
Field trips	• Learners are taken to places which are relevant to their learning in the locality or further afield. • This might give learners experience of, for example, a resource, a workplace or an environment. In higher grades learners might gather specific information or data to help in their studies.

Example: It is important to make the most of field trips and develop a series of learning activities. If a visit is planned to a local place of worship, for example, a letter of inquiry could be sent to the religious leader, a schedule could be designed for the day and some questions could be prepared ahead as a focus for learning during the visit itself. After the visit, a thank you letter or poem could be composed, a story board could describe the day or a new set of questions could be created 'we want to know more about...' (Religious Education, English or Zambian Language, Literacy).

STRATEGY	CHARACTERISTICS
Individuals and individual education plans (IEPs)	• All learners are unique and individual learning needs should be taken into consideration when planning for all leaner-centred activities. • Learners with Special Educational Needs (SEN) are required to have IEPs. These set out how best to overcome the challenges they face and so ensure they make the best possible progress.

Example: An IEP should be the result of observations and conversations involving teachers, parents and guardians. It is important to take account of all information about the learner before composing the IEP.

STRATEGY	CHARACTERISTICS
Group work	Learners are placed in groups so as to promote participation, cooperation, sharing of ideas, self-confidence and to freely express themselves.

Example: It is important to consider how groups of learners should be organized to gain the greatest benefit for each. Grouping should take into account: levels of ability in different subject areas; interests and experiences; confidence levels; language; gender; friendship groups. It is also useful to define roles in a group in order to motivate all learners to participate and promote cooperation. These roles could include: presenter; encourager; recorder; questioner. It may also be useful to involve learners in composing a set of rules for group work.

Genderwatch
It is important that groups are not dominated by one gender.

Teachers have a **professional responsibility** to ensure that their own skills and knowledge are regularly updated. As the process of implementing and embedding the revised curriculum continues, teachers need to keep up to date with educational developments.

Therefore all teachers are required to belong to an appropriate group to help their professional growth using the Lesson Study approach. This is part of the School Program of In-Service for the Term (SPRINT). Having registered with the Teaching Council of Zambia, teachers must prepare and participate in Continuous

Professional Development (CPD) meetings held in districts, zones or at school level.

Social media (Facebook, Whattsapp, Twitter etc.) give teachers valuable opportunities for online professional discussion with colleagues in Zambia and around the world. Many teachers benefit from engaging in professional learning communities either online or face to face in venues such as District Resource Centres.

The most successful teachers have excellent subject knowledge and great skills in planning, preparing and providing effective learning experiences. Professional development is the key to self-improvement.

12. Pedagogical leadership

Schools are best placed to understand the real needs of their learners. With this information, schools can ensure that the revised curriculum is implemented effectively so that all learners make good progress.

Strong leadership at school level is essential in order to develop and share good practice. In this way leaders can make sure the revised curriculum has a positive impact across the whole school.

Figure 11 shows the roles of school leaders in making sure the revised curriculum is implemented effectively.

Colleagues at all levels of the education system have a part to play in ensuring appropriate CPD is provided. Highly-skilled and trained teachers have the confidence and competence to provide high quality learning experiences in their lessons.

As figure 12 shows this is a two way process.
- Some CPD is initiated at national level and cascades down through provinces, districts and zones to schools. (It is important to make sure that the quality of the training is not diluted as it passes from one level to the next.)
- School leaders have a key role in ensuring information flows in the opposite direction so CPD can be provided at each level that addresses real needs that are identified at school level.

Ongoing local activities such as Grade Meetings at Resource Centres (GRACE), Teacher Group Meetings (TGM) and Cluster meetings provide important platforms for CPD to take place.

School leaders have a key role to play in ensuring CPD is customized to meet identified needs.
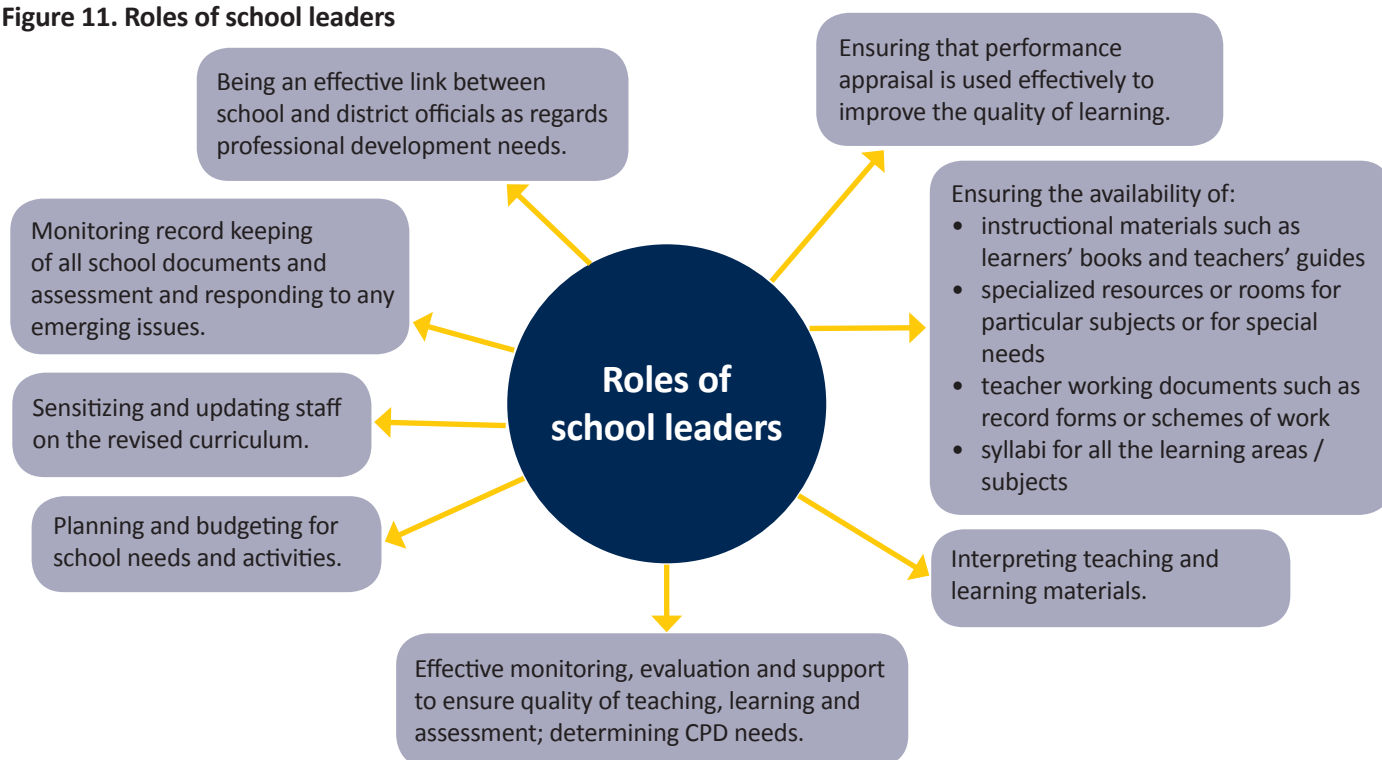
Figure 11. Roles of school leaders

Being an effective link between school and district officials as regards professional development needs.

Monitoring record keeping of all school documents and assessment and responding to any emerging issues.

Sensitizing and updating staff on the revised curriculum.

Planning and budgeting for school needs and activities.

Roles of school leaders

Ensuring that performance appraisal is used effectively to improve the quality of learning.

Ensuring the availability of:
- instructional materials such as learners' books and teachers' guides
- specialized resources or rooms for particular subjects or for special needs
- teacher working documents such as record forms or schemes of work
- syllabi for all the learning areas / subjects

Interpreting teaching and learning materials.

Effective monitoring, evaluation and support to ensure quality of teaching, learning and assessment; determining CPD needs.

Figure 12. CPD information flow

| NATION | ⬌ | PROVINCE | ⬌ | DISTRICT | ⬌ | ZONE | ⬌ | SCHOOL |

13. Assessment

It is essential that assessment is matched with the aims and objectives of the curriculum so that assessment supports teaching and learning. When this is achieved, teachers will consistently focus on the intended learning set out in the curriculum rather than 'teaching to the test'.

Assessment processes involve gathering information about how well learners have learned. It allows teachers and students to identify any gaps in understanding the required content, and this helps them to take precise corrective steps. Assessment is divided into two categories, which differ mainly in how the information is used and where they occur in the learning process.

Summative assessment

Summative assessment involves the grading of student learning and usually takes place at key set points of the learning process through formal testing and examination procedures.

Formative assessment

Formative assessment takes place continuously in the learning environment to inform and improve the learning process. The information obtained through formative assessment should be used to set learning goals and to provide constructive feedback both to the learner and to the teacher.

Summative assessment commonly happens **at the end of a period of learning** (of a module, a term, a year). Its major purposes are:
- evaluating how effective the learning programme was i.e. evaluating the effectiveness of the nature of:
  > the content
  > the text and/or other instructional materials
  > other inputs provided by the Ministry;
- evaluating how well the programme was taught i.e. evaluating:
  > the lesson preparedness
  > plans
  > methods
  > the teacher's delivery.
- making judgements about learner performance i.e. appraising the learner's level of understanding and making decisions about their academic progression.

Formative assessment usually occurs **while the learning is happening**. It allows teachers and learners (as well as parents and others):
- to gain a clear and precise understanding of how well learning is taking place, and particularly signalling gaps between performance and official standards
- to take a variety of targeted actions to address any identified gaps in learning, whether of individuals or groups; and, ultimately
- to improve learner outcomes by raising understanding of students who have not yet met the expected standards and allowing extra opportunities for students who are ready to excel.

Figure 13. Assessing for improved learning
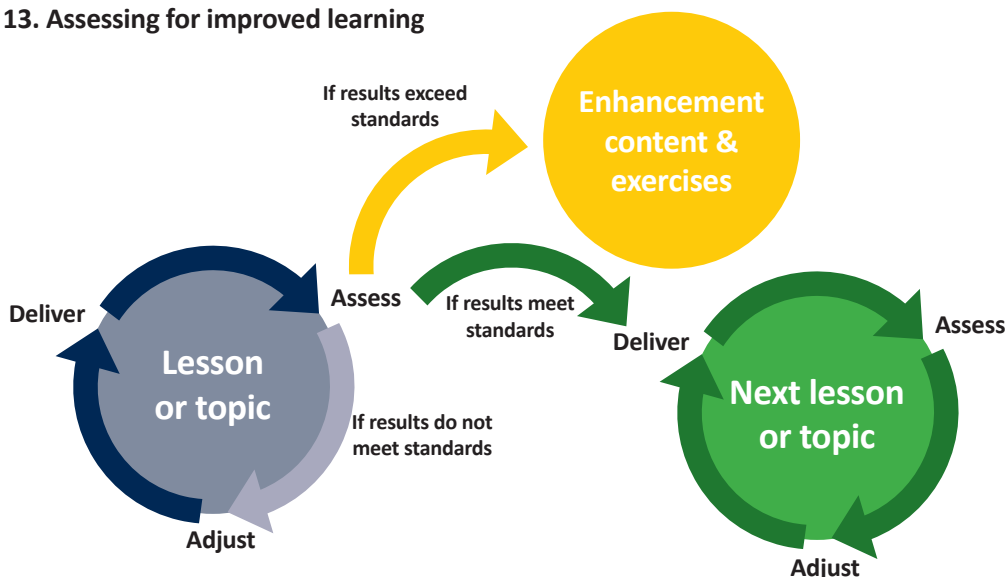
Using all assessment to inform and strengthen teaching and learning

Formative assessment provides feedback that teachers can use to **develop or adapt learning activities to suit learners' needs**. For this reason, effective formative assessment is a key element of good teaching. It ensures that teaching is truly learner-centred. Figure 14 shows how formative assessment data can be used to focus on improving learning at the level of individual learners and at whole class level.

Figure 14. Making use of formative assessment
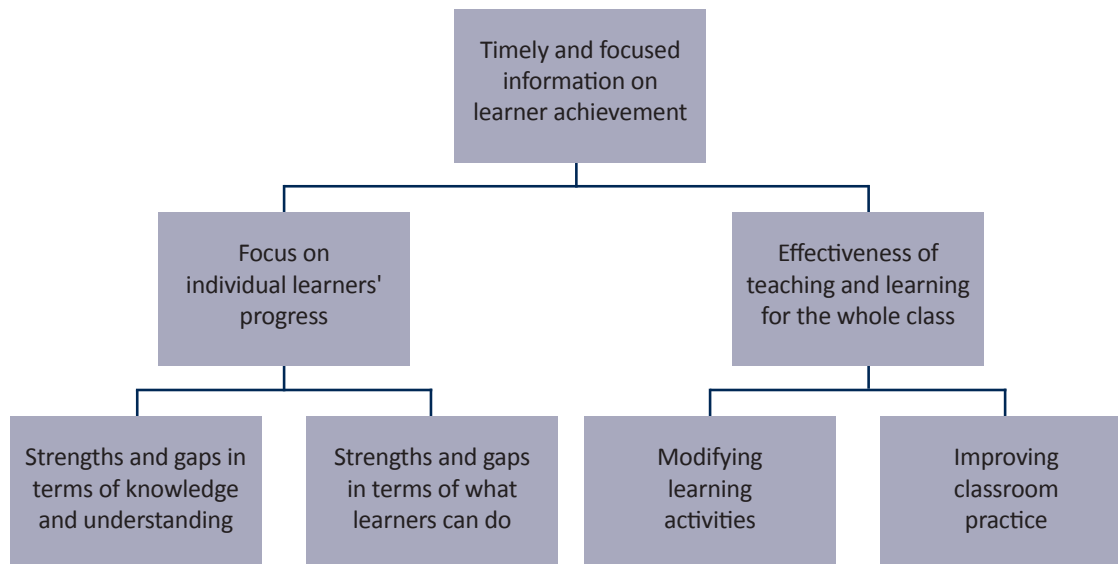
Within a learning programme, summative assessments will occur. Research has clearly shown that the standards learners achieve in such tests and examinations depend strongly on the quality of the formative assessment they undertake **during** the learning programme.

In the course of effective formative assessment, teachers engage with learners regularly around feedback and remediation. For this reason, the term 'continuous assessment' is often used in relation to formative assessment.

Figure 15. The impact of formative assessment on learner outcomes
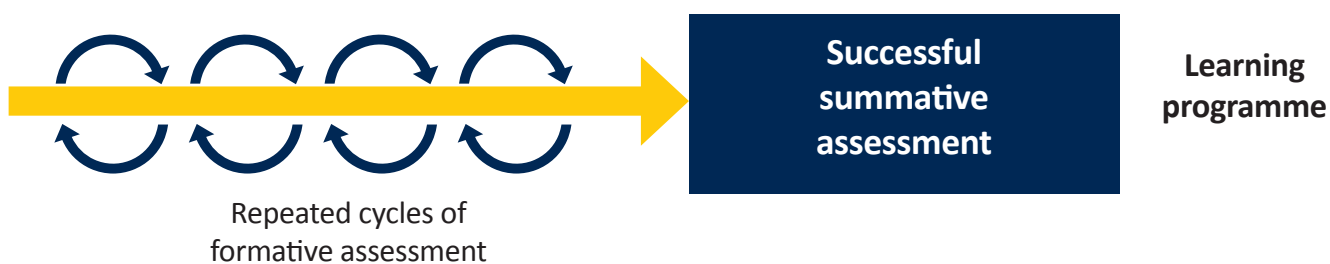

Used well, formative assessment leads to teachers and learners having a clearer understanding of:

- what precisely their strengths and gaps are in relation to the standards set by the curriculum (and of other standards they may set with their teachers or for themselves)
- what they need to do in order to improve – this may be by narrowing or eliminating gaps or by enriching their learning beyond the standards.

As a result, learners believe that they can in fact learn and perform better, they develop **positive attitudes** towards learning, they **take responsibility** for their self-improvement and they **achieve standards** that are possible only with high levels of self-motivation and more concentrated, effective effort.

Figure 16. Formative assessment flow diagram
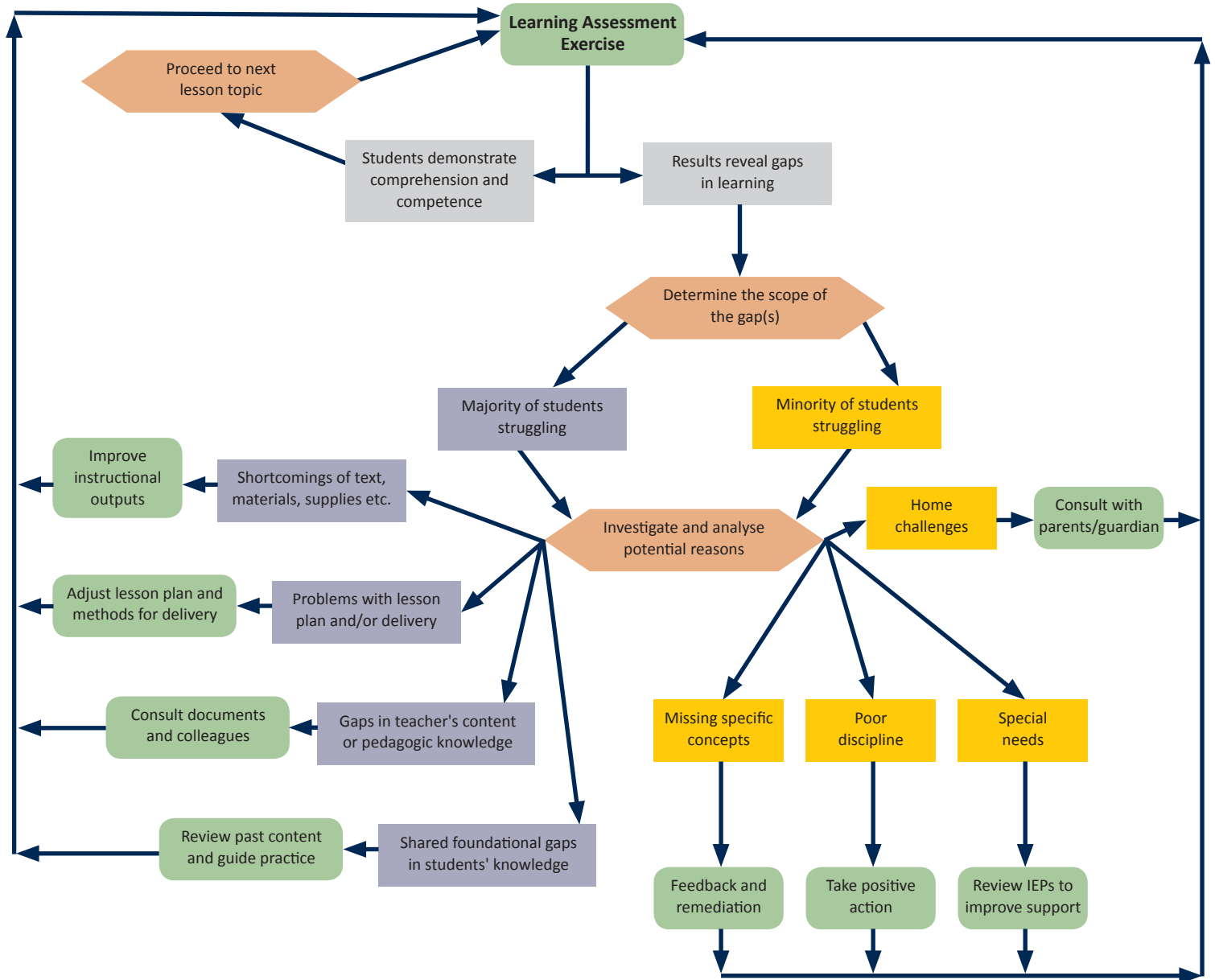
The fundamental purpose of formative assessment is that it should **make a difference** to both teaching and learning. Figure 16 shows the process of moving from formative assessment to formative actions for improving teaching and learning. The focus of formative assessment should therefore include all aspects of learning that are covered by the curriculum:

1. The 'basics' of learning: literacy and numeracy;
2. The lower levels of Bloom's taxonomy: **knowledge** and **understanding**;
3. The higher levels of Bloom's taxonomy: **application of knowledge, analysis, synthesis and evaluation**;
4. The competences: **critical thinking and problem-solving, creativity and innovation, cooperation, communication, entrepreneurship, self-management**;

5. The many **skills** that learners need to be able to master the competences and to perform effectively at all levels;
6. The **attitudes** (that stem from the values) and that learners need so that they can become self-motivated, confident, productive holistic, independent, life-long learners (as described in the aims).

Given the prominence of these aspects in the National Curriculum Framework, it is essential to use formative assessment to measure attainment for each of the learning aspects listed above in order to inform feedback and support to improve teaching and learning.

Teachers need to ensure lesson plans involve activities that, over time:
- develop learning relating to all of these headings
- provide opportunities for formative assessment of each
- use the results of the formative assessment to strengthen on-going teaching and learning across this full breadth of learning.

There are opportunities for **formative assessment in every lesson**. How well teachers use these opportunities can have a **real impact on learners' outcomes**.

Formative assessment feedback to learners can be either **oral or written**, depending on the task. Feedback can be **provided by the teacher**.

However feedback can also be **provided by peers or by the learner her/himself**. If the assessment criteria are clearly explained to learners, and once they become familiar with the process, **peer and self-assessment** can make a valuable contribution to formative assessment.

How to plan and conduct effective formative assessment

When planning lessons and other learning experiences it is helpful if teachers build in formative assessments. Sometimes these may be written but oral assessments can be equally effective.

For example, in a primary geography lesson about sources of pollution, you could ask pupils to prepare a poster or presentation to illustrate the importance of caring for the environment.

During the activity, you could talk to groups of pupils about what they believe are the most dangerous forms of pollution. This conversation would promote thinking and analysis and so deepen learning. At the same time, you can assess at class level how well they have understood the topic.

This lesson could also be a good opportunity to demonstrate how a single activity can be used to assess across several learning dimensions. For example, you could talk also about assessing dimensions such as creativity, teamwork, negotiation, communication, etc. You could also help students come up with their own appraisal rubrics, and apply them to their own and collective work.

Genderwatch: It is important to have a balance of feedback from boys and girls.

On an individual basis, you can establish clear routines for writing feedback in the learners' books so that learners can easily understand what they are doing well and what they need to do to improve. For example, a 'star and a step' system highlights one feature of a learners work that is successful (a 'star') and another aspect that needs improvement (a 'step').

There are also self-assessment methods that encourage learners to take responsibility for their own learning. For example, a traffic light system can enable learners to identify work that they found difficult (red), work that they need to practise further (amber) and work that they found easy (green).

In all of these cases of formative assessment, the teacher must plan for adequate time for the activities to take place and to provide the appropriate feedback and remediation. Time devoted to formative assessment demonstrates to learners how valuable it is, and helps them reach their full potential.

Summative Assessment

Summative assessment normally takes the form of tests and examinations at the end of a block of learning, a term, a year or a phase of education. Summative assessment is very important but, as explained above, its main purpose is to **measure how well learning has taken place** over a period of time both to account for and to improve learning. The results of summative assessments can also serve formative purposes

extremely effectively. Indeed, it is to highlight areas that need attention that the Examinations Council of Zambia (ECZ) prepares and distributes its annual Performance Review document, which analyses the results of the respective tests.

Traditionally the focus of summative assessment has largely been knowledge and understanding. This is equally true of system-led and classroom-based

assessment. However, summative assessments need to be matched with the full breadth of expected learning set out in the revised curriculum: Values; Key Competences; and Subject Learning. Therefore, also with classroom-based summative assessment, teachers must be sure to include the aspects of the curriculum outlined in points 1 to 6 on page 21.

Measurement of these aspects can fruitfully be combined in unified assessment tasks. For example, the same geography poster assessment task given in the formative assessment example may occur summatively at the end of a grading period. A teacher may grade a student's content knowledge while also grading their creativity, critical-thinking, communication skills, self-management, attention to detail, and other key competences.

Summative assessment takes place at a number of levels, as shown in table 5.

Table 5. Levels of summative assessment

Level	Tests and examinations
Classroom	Teachers set tests and other summative assessment tasks for their own classes
School	Schools set consistent tests or examinations at the end of a term or year for learners across grades
Local	Districts or Provinces conduct mock examinations for students in their jurisdiction
National	Learners sit national examinations at Grades 7, 9, and 12
Regional	Regional Tests are taken annually by Grade 6 learners and are part of the Southern & Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ)
International	Zambia began to participate in the Programme for International Student Assessment (PISA) tests in 2014. A random sample of learners takes the tests

It is important to rationalise the summative assessment taking place at all these levels so that the assessment burden does not reduce learning time too much.

It would be wrong to state that all classroom assessment is formative and that tests and examinations are always summative. Figure 17 shows there is overlap between formative and summative assessment. Teacher assessments can be used for summative purposes and test results can be used formatively.

Figure 17. The overlap between formative and summative assessment
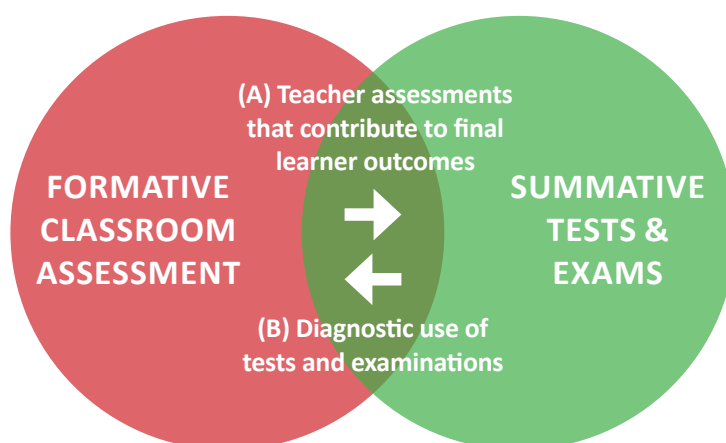
It should be noted that, while A and B are used within all learning programmes, there are drawbacks to both.

Regarding (A), because of concerns regarding how to moderate teacher assessments and scoring of these to ensure fairness, these are not widely used to contribute to decisions about learners' academic progress.

Regarding (B), test and examination results can be used diagnostically, but the focus is often on knowledge and understanding so the scope of this approach is limited in terms of some of the wider aspects of learning prioritised in the revised National Curriculum Framework.

Assessment through EGMA and EGRA

Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) are particular ways of testing that are being used in Zambia and in other countries around the world. They have been developed to assess children's attainment of the basic building blocks for, respectively, literacy and numeracy. These tests are examples that illustrate the overlap between formative and summative tests shown in figure 15.

- They are diagnostic, in that they can tell us what is going well and what is going wrong with the reading and mathematics programmes.
- They are also used to assess the system's effectiveness, measuring how many children have achieved key learning competences at a specific grade level; e.g. decoding skills or basic number recognition, the foundations for literacy and numeracy.

The testing process is based on a one-to-one test with the assessor spending up to ten minutes with each learner. In literacy tests, learners are asked to sound out letters, then syllables, words and finally, if they achieve these, to read a short paragraph aloud and answer two or three questions. Children who cannot recognize letters will not be able to proceed to any higher-level reading. Similarly, for numeracy, the first learning outcome is to see if children can recognize numbers. These tests are used by the Ministry to assess a random cross-section of children. They then draw conclusions about the overall standards across the country and the success of the literacy and numeracy curriculum. They are then able to identify strategies for improvement where they find any shortcomings.

They are very valuable as formative and diagnostic tests with individual children. The recently designed Catch-Up Programme is specifically designed to address the alarmingly low level of reading in early grades that these tests uncovered. Teachers can decide who is progressing well and which children may need to catch up, with additional work in phonics, sight word recognition or number recognition before they can progress.

Teachers should refer to the National Learning Assessment Framework for more detailed guidance relating to formative and summative assessment.

14. Curriculum structure

The curriculum can be defined as all the planned experiences and opportunities that the school provides for learners.

This means that the **curriculum** is much more than the subjects listed in section 6. The curriculum has two components:

1. The **core curriculum** (or national curriculum) prescribes the learning required in all schools across the country.
2. The **co-curriculum** includes all the additional learning that schools judge necessary to provide a fully rounded education.

Some of the co-curriculum learning takes place as part of the timetabled core curriculum, integrated into subject learning. Schools also have time dedicated to aspects of the co-curriculum.

The co-curriculum time might include sports; preventive maintenance; student leadership; gardening; community outreach; localized curriculum activities; talks from external specialists or organisations; clubs such as library, debate, Junior Engineers, Technicians and Scientists (JETS), HIV and AIDS or cultural and religious groups. There can be no definitive list that applies to every school as the co-curriculum is likely to vary according to the school's circumstances and to change over time.

Figure 18. The core, co- and school curriculum
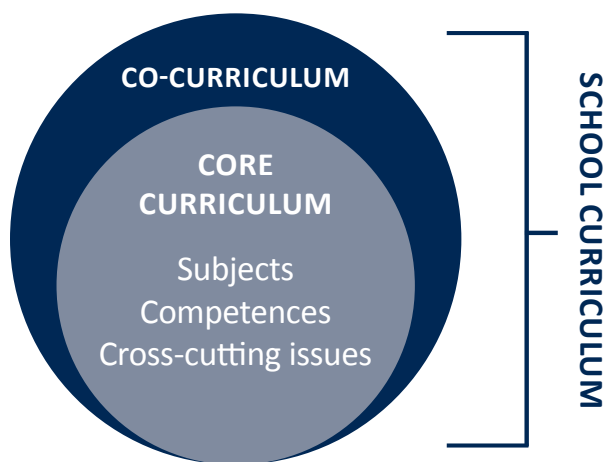
The school curriculum covers both the planned co-curriculum and core curriculum learning activities.

Figure 18 shows the components of the curriculum.

The core curriculum structure is detailed on page 26 of the Zambia Education Curriculum Framework 2013. It describes curriculum pathways, compulsory and option subjects, key competences and subject time allocations from Early Childhood to Senior Secondary. This detail is not duplicated in this guide.

Time allocation for the core and co-curriculum

Table 6. Core and additional co-curriculum time allocation

Level of education	Grades	Core learning time per week (prescribed)	Additional co- curriculum time (not prescribed)
Early Childhood Education	Nursery and Reception classes	15 hours	Co-curricular activities at this stage are integrated within the 60% of learning which takes place through play.
Lower primary classes	1-4	21 hours	Additional time for co-curriculum activities provided as circumstances permit
Upper primary classes	5-7	28 hours	1hrs 30 minutes per day*
Secondary	8-12	30 hours	2 hours per day*

*Time allocations shown are typical but set at the discretion of school leaders

Time allocation early education

No	Learning areas	Time allocation per week
1	Social Studies	2 hours
2	Environmental Science	2 ½ hours
3	Pre-Literacy and Language	3 ½ hours
4	Pre-Mathematics	3 ½ hours
5	Expressive Arts	3 ½ hours
Total		15 hours

Time allocation Grades 1 to 4

No	Learning areas	Time allocation per week	Periods
1	Literacy and Languages	6 ½ hours	13
2	Mathematics	5 hours	10
3	Social Studies	2 ½ hours	5
4	Integrated Science	2 ½ hours	5
5	Creative and Technology Studies	4 ½ hours	9
Total		21 hours	42

Time allocation Grades 5 to 7

No	Learning areas	Time allocation per week	Periods
1	English Language	4 hours	6
2	Mathematics	4 hours 40 mins	7
3	Integrated Science	4 hours	6
4	Zambian Languages	4 hours	6
5	Expressive Arts	2 hours 40 mins	4
6	Social Studies	3 hours 20 mins	5
7	Technology Studies	2 hours 40 mins	4
8	Home Economics	2 hours 40 mins	4
Total		28 hours	42

Time allocation Grades 8 to 12

No	Learning areas	Time allocation per week	Periods
1	English Language	4 hours	6
2	Mathematics	4 hours	6
3	Zambian Languages	3 hours 20 mins	5
4	Practical Subjects	8 hours	12
5	Social Studies	4 hours	6
6	Business Studies	3 hours 20 mins	5
7	Computer Studies	2 hours 40 mins	4
8	Religious Education	2 hours 40 mins	4
9	Foreign Languages	2 hours 40 mins	4
Total		30 hours	52

The organization of co-curricular learning varies from school to school. Some learning activities can take place within the formal timetabled hours and others may have a dedicated additional time slot each week. An example of the pattern an upper primary or secondary school might typically offer is shown in table 7.

Table 7. Example of co-curricular learning pattern

Monday	Tuesday	Wednesday	Thursday	Friday
Library	Clubs	Sports	Preventive maintenance	Out of school assignments

On Friday the learners may be given take home assignments and asked to present the outcomes of their work or the resources they have made or gathered the following week. For instance, the assignment at secondary level may be to:
- do some research involving their families or in the community
- find information about local history, culture, traditions or heritage
- gather data about employment in local business, industry or agriculture
- complete a task involving and promoting reading or writing
- investigate animals or plants in the local environment or an aspect of environmental sustainability
- make simple equipment or learning resources such an abacus or a circuit board
- bring some resources such as clay for moulding, reeds for basket-making or grass, fibre and rafters for roof repairs.

How to use co-curricular activities to enhance learning in the core curriculum

Co-curricular activities make an important contribution to all-round (holistic) learning. They can also boost learning in the core curriculum.

For example, developing a school garden or involvement in student leadership, can provide opportunities for individuals or groups of learners to share their experiences in core curriculum time.
- A presentation in a Science lesson from learners who have worked in the school garden could be a motivating activity or 'lesson starter' that engages all learners in finding out about e.g. seeds, germination or caring for crops.
- A written report from a recent School Council meeting or school event, shared by a student leader in a Literacy lesson, could support work on how to take notes or structure a report.
- A community project is a great opportunity for learning across the curriculum. Depending on the project, there is an opportunity to involve visitors in a Civic Education lesson, to prepare a presentation for a whole school gathering in a Language lesson or to provide a report on a local enterprise for entrepreneurship.

The quality of co-curriculum activities will have a direct impact on achievement and progress in the core-curriculum. When taking part in co-curricular activities learners build their understanding of the relevance of their school work to their lives. They also develop their love of learning and become more motivated to succeed in school and as lifelong learners.

Co-curriculum activities should be planned in order to meet the agreed aims of the curriculum. Sporting activities for example should promote the values of personal excellence, respect and honour whilst also enabling leaners to develop competences of cooperation and self-management. A Junior Engineers club should embrace the opportunities for innovation and discipline whilst addressing gender equity and entrepreneurship.
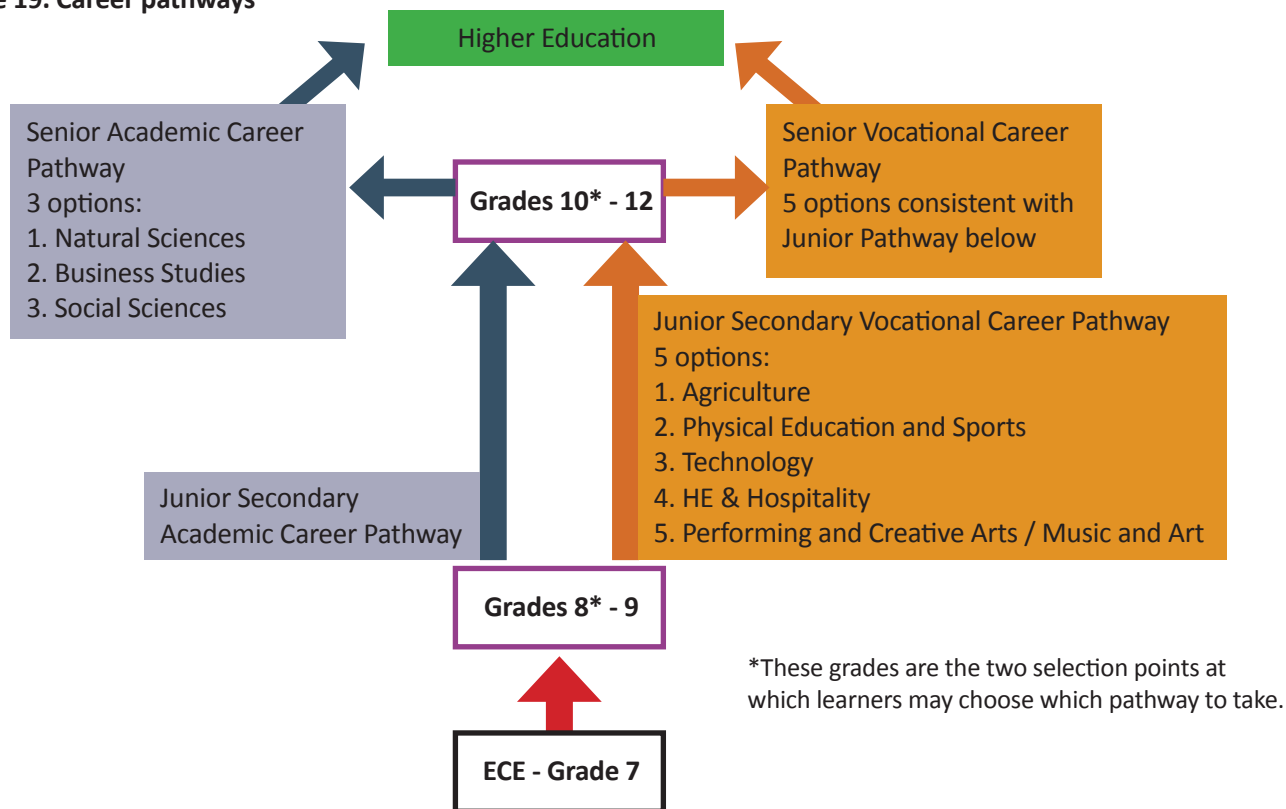
Genderwatch: Boys and girls should be encouraged to avoid selecting stereotypical co-curricular activities because of pressure from others.

15. Career pathways and the two-tier system

There are two career pathways for learners at secondary school level, the academic and vocational career pathways. The vocational career pathway promotes practical skills acquisition and knowledge while the academic career pathway is for learners who wish to study only academic subjects. Figure 19 shows how the two pathways are harmonised:

Figure 19. Career pathways

Higher Education

Senior Academic Career Pathway
3 options:
1. Natural Sciences
2. Business Studies
3. Social Sciences

Grades 10* - 12

Senior Vocational Career Pathway
5 options consistent with Junior Pathway below

Junior Secondary Vocational Career Pathway
5 options:
1. Agriculture
2. Physical Education and Sports
3. Technology
4. HE & Hospitality
5. Performing and Creative Arts / Music and Art

Junior Secondary Academic Career Pathway

Grades 8* - 9

*These grades are the two selection points at which learners may choose which pathway to take.

ECE - Grade 7

Selection and implementation of the career pathways

Selection and placement of learners within the career pathways should take account of learners' interests and aptitudes as well as the availability of teachers and resources. Assessment of learners' capabilities should also be considered.

As figure 19 shows, the flexibility built into the system means that learners who have selected one pathway at Junior Secondary may have the opportunity to switch choices at Senior Secondary with the guidance of teachers.

Schools must offer both pathways at **junior level**: the academic pathway plus, if possible, any two of the five vocational options.

At **senior level**, schools must offer two of the three academic options and two of the five vocational options.

In the interest of ensuring breadth and balance, the following requirements apply at senior level:
• One of the two academic options each school offers must be Natural Sciences.
• Biology is a compulsory subject for learners following the Performing and Creative Arts option.

The two-tier system

The two-tier system allows learners to combine both academic and vocational learning. Early Childhood Education and primary schooling provide the foundation for the two-tier system. At secondary school level, vocational learners follow distinct two-tier learning programmes including both academic and vocational subjects.

The two-tier system provides:
• flexibility for learners to cross between the academic and vocational pathways
• more versatility in terms of employability

It is intended that the Flexible Two-Tier Education and Training system will provide a foundation for continuous lifelong learning for all. The pathways provide a route to Higher Education courses, both academic and vocational, including university degrees. It is important that teachers make learners aware of these possibilities.

Certification of learners

Learners involved in the two-tier system will have the advantage of being able to gain Trade Certificates as they progress through school, at the grades shown in table 8.

Table 8

Grade	Trade Test Certificate
9	Level 3
10 and 11	Level 2
12	Level 1

The Trade Test Certificates will be awarded by the Technical and Vocational Education and Training Authority (TEVETA) while the academic certificates will be awarded by the Examinations Council of Zambia (ECZ).

Both the vocational and the academic qualifications are recognised by the Zambia National Qualifications Framework (ZNCF).

Implementation: Key systems and processes

The successful implementation of the Flexible Two-Tier Education and Training System depends on:
- effective systems for collaboration between schools and vocational training centres
- school leaders and managers of vocational training centres ensuring that:
  - > learners have access to appropriate education and training facilities
  - > monitoring and evaluation of provision ensures consistency, coherence and quality
- teachers and schools offering the two tier system must gain certification and accreditation as providers of vocational / Trade Test courses
- the Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA) will facilitate the process of accreditation and certification of Trades Centres in schools. This will depend on the readiness of schools in terms of having the facilities in place
- schools that have appropriate facilities (as provided in the Trades Centres) will be given priority to offer the two tier system regardless of their distance from the skills centres.

16. Merged subjects

The merging of subjects in the 2013 revised curriculum resulted from two particular concerns:
1. The previous curriculum was too fragmented, with many different subjects that had overlapping content and repetition of concepts.
2. Some subjects were overloaded and content-driven because of examination requirements.

Table 9. Details the merged subjects and their contributing subjects

S/N	GRADE LEVEL	CONTRIBUTING SUBJECTS	MERGED SUBJECT / LESSON AREA	ZECF REF.
1	1 to 4	Home Economics Expressive Arts Technology Studies	Creative and Technology Studies (CTS)	Page 31
2	5 to 7	ICT Technology	Technology Studies	Page 32
3	8 to 9	Office Practice Book Keeping	Business Studies	Page 34
		History Civic Education Geography	Social Studies	Page 34
4	8 to 9	Woodwork Metalwork Technical Drawing Building Crafts	Design and Technology	Page 34
5	10 to 12	Woodwork Metalwork Geometrical & Mechanical Drawing **Building Crafts**	Design and Technology	Page 39

Implementation strategies for the merged subjects

1. Teachers should read the revised syllabuses carefully and focus on the **General outcomes, Key competences and the Specific outcomes of the merged subject** as a whole rather than its contributing subjects.

2. Wherever possible, teachers should take an integrated approach to teaching concepts that apply across merged subjects. For example, there are elements of Geography, History and Civic Education in all **Social Studies** topics in the revised curriculum. Teachers need to consider these carefully when planning learning activities. e.g. In Rural / Urban Migration, there are historical reasons why rural populations were more stable in the past; geographical and civic reason for past and present population distributions; civic and geographical implications of migration to urban areas. Understanding these connections between learning topics across subject boundaries helps to deepen learning.

3. **Design and Technology** requires specialised resources including materials (wood, metal and plastics). In schools where there are no specialist facilities, specialised equipment is needed so that non-specialist rooms can be used for teaching the subject.

4. **Team planning and preparation** is encouraged in schools, with colleagues making best use of diverse experience and specialisms to plan schemes of work and prepare lessons collectively.

5. Formal Continuing Professional Development (CPD)/lesson study platforms should be used to **plan learning activities collaboratively** at school, zonal and district levels.

6. Teachers are advised to **develop their content knowledge**, particularly in learning areas or subjects with which they are less familiar. There is a wealth of information available both in printed form and online.

17. Language of learning/instruction

Learning, rather than teaching or 'instruction', is the key focus of a modern learner-centred curriculum. The term **'language of learning'** has come to be more commonly used (rather than 'language of instruction') to refer to the language used in the classroom, both as the spoken and written language.

It must be emphasized that, if the language of learning is the local language, then initial literacy learning should take place in that language. In addition, textbooks or other learning materials, what is written on the blackboard and what children write in their exercise books all need to be in the local language (for all subjects other than English). Research shows that concepts, competences and ideas are better developed in the early years of education through the language that is most familiar to the learner. Learning in the local language will ensure better conceptual development and will mean literacy skills are more rapidly acquired. Research has also shown that learners who are competent and literate in their first or familiar language are better able to go on to master a foreign language.

Consequently, from Early Childhood Education to Grade 4, the language of learning is one of the Seven Zonal Languages of Zambia: Cinyanja, Chitonga, Icibemba, Kiikaonde, Lunda, Luvale and Silozi.

From Grade 5 onwards, the language of learning becomes English, the national official language. However, even in this grade, the local language will have an important support role. It should be used to provide scaffolding or framing of lessons that are otherwise in English as learners transition from the local to the international language. The situation is summarized in table 10.

Table 10. Language of learning/instruction

Grade level	Language of learning/instruction	
	Zonal language	**English**
Early Childhood	✔	
1 – 4	✔	From Grade 2 English is introduced as an oral subject and in grade 3 and 4 phonics knowledge and word recognition in English are developed
5 – 7		✔
8 – 9		✔
10 – 12		✔

18. Literacy and numeracy

Literacy

Up to and including Grade 4, when the appropriate zonal language is the language of learning, literacy is taught through a systematic phonics approach. Teachers, many of whom were trained to teach using the 'Look and Say' method in English, need to be aware of this significant shift in approach to teaching initial literacy. Table 11 shows the stages of literacy learning.

Table 11. Stages of reading development

Stage of reading development	Explanation	Learning aids
1. Phonemic awareness	Children become aware of the different minimal meaningful sounds in language unrelated to letters.	Stories to develop listening. Teacher & children make the minimal sounds and recognize how spoken words are made up of separate sounds.
2. Phonics	Children learn to match the sound with the letter and the letter with the sound. They may also learn the letter names. They will start to recognise combinations of letters that form syllables.	Letter cards, including letter combinations that make a sound. Alphabet and phonic charts. Syllable cards that can be built into words.
3. Word decoding and sight word recognition	Children are able to decode a word by sounding out the letters. They also learn to recognize common and often phonically irregular words on sight.	Letter cards that can form words, word cards for sight recognition, for decoding and for forming sentences. Picture cards that they can match.
4. Reading with fluency	Children read short passages aloud and with confidence. They start to acquire 'automaticity'. i.e. instant recognition of words, phrases and their meaning.	Pictures and sentence cards. Short story cards.
5. Comprehension	This is the key to reading. Children should be able to perform tasks that show comprehension.	Stories with activities such as questions, matching, completing and reordering pictures. Sentence strips to match and reorder.

These stages are shown in sequence with phonemic awareness and phonics coming before word decoding and recognition. However, in reality there is some overlap in lessons.

In parallel to the reading program, children learn to write. They learn the letters, how to form them correctly and how to write words and sentences. They learn to punctuate and to spell as they master reading with fluency.

Once fluency with comprehension has been achieved, children can start to read for real, i.e. reading comprehension, reading widely and reading to acquire knowledge. They then start to read silently to themselves. This should be achievable in the local language by most children within their first year or

year and a half and before they start English. Then, as long as they have first developed some oral language, these same skills can be easily transferred to the new language, English.

These methods and stages are clearly spelt out in the Literacy Framework. For more information, refer to this document.

Numeracy

The early years are crucial to later development. If children do not acquire the basics of numeracy in the first two years then they will not be able to move on to higher levels or apply their numeracy in other subjects.

The Numeracy Framework provides a list of the key topics and skills e.g. number recognition, sorting,

addition and subtraction etc. For each topic there are two important types of learning that must take place in parallel:

1. Children need to understand and internalize the concepts such as numbers, addition, shapes etc.
2. They need to know and achieve 'automaticity' with related number facts, e.g. number bonds, multiplication tables, names of shapes.

Traditional mathematics teaching tended to put too much emphasis on the second of these. More modern and child-centred teaching has put more emphasis on the first. Teachers need to be able to achieve both if their children are to become fully numerate.

To achieve the first (conceptual understanding), children must handle everyday objects, carry out the calculations, use sticks and stones to count and add and use different measurement units to measure things **for themselves**.

To achieve the second, (know number facts and achieve automaticity), they will need to memorise, calculate and repeat many times. When we say that children need 'automaticity' we mean that answers to simple number bonds and multiplication tables come automatically. They do not need to calculate on their fingers that 3 + 5 = 8 as it is automatic.

For more information about teaching numeracy, refer to the Numeracy Framework.

Catch-Up

In addition, the Ministry has introduced 'Catch-Up' materials for literacy and numeracy.

They are designed to ensure that all children acquire these basic foundations in literacy and numeracy so that they can continue to make progress. Those children who have failed to master their letter knowledge in the early years are taken back to the level they have reached on table 11 and given a second chance to master basic literacy. Similarly, those whose number recognition is not good enough return to the appropriate level for them to catch up.

19. Conclusion

This document has been developed collaboratively by teachers for teachers to ensure that it is grounded and realistic in terms of both practice and aspirations for the future.

It provides a comprehensive guide for teachers in all aspects of their role in relation to the 2013 revised curriculum framework. Effective teaching results from a wide range of practices applied skilfully and appropriately. The framework provides two key principles that underpin these practices.

Every teacher should adopt a learner-centred approach

This is essential to equip learners not only with knowledge but also with the values, attitudes, skills and competences they need to become successful lifelong learners.

The curriculum should be outcome-based

The second key principle is that the curriculum should be outcome-based. The process of teaching is critical but is not an end in itself. Teaching must be carefully planned to deliver the all-important learning outcomes.

It is hoped that the information in this guide will support teachers in their endeavour to provide a vibrant and dynamic curriculum for all learners to experience and enjoy so that the curriculum aims are achieved nationwide.

Glossary

Adult literacy: Reading, writing and numerical calculations designed for adults and youths who missed formal schooling.

Assessment: Assessment focuses on the individual learner, the institution or the educational system. Assessment is the process of documenting, usually in measurable terms, knowledge, skills and attitudes acquired by the learner.

Automaticity: The ability to do something without occupying the mind with low-level thinking, allowing it to become an automatic response. It results from learning, through repetition and practice.

Catch-Up: The Catch-Up Programme is designed to identify learners who have not achieved the basics in Literacy and Numeracy and to make sure they do so.

Co-curricular: Play and educational activities that complement academic learning. They also include the general character and organisation of an institution of learning.

Community language: A language which is widely used in a particular area by adults and young people, and may be a mother-tongue for the majority of the people in the area.

Competences: Abilities crucial to the learner in the performance of specific tasks.

Compulsory subjects: Subjects to be taken by all learners at a particular level or in a career pathway.

Cross-cutting issues: Issues of national concern which affect all people such as democracy, good governance, gender equality, sustainable environment, life skills and HIV and AIDS.

Curriculum: A prescribed programme of study for learners in institutions of learning.

Distance education: Learning that is done through open and distance programmes i.e. not in traditional classroom settings.

Early childhood education: A learning programme provided to young children of 3-6 years which prepares them for formal schooling.

Entrepreneurship education: The type of education which instils 'practical life skills which can make learners improve their lives using the knowledge, values and attitudes acquired.

Familiar Zambian language: A local language that is commonly used by children in a particular locality. It could be a zone or community language.

Foreign languages: Languages other than English which are not indigenous to Zambia such as French, Chinese, Portuguese.

Formative assessment: A wide variety of methods which support teachers in identifying concepts that learners are having difficulty understanding and skills they are struggling to acquire so that adjustments can be made to lessons and learning techniques. Formative assessment is normally carried out as a continuous part of the learning process and enables the learner to participate actively in the achievement of their learning targets and goals.

Junior secondary education: Formal or school education provided at Grades 8 and 9.

Learning area: A study discipline consisting of learning experiences drawn from different subjects.

Learner centred approach: A view of learning where the learner assumes the responsibility for learning while the teacher is responsible for creating a conducive environment that facilitates the learning process; encouraging students to reflect on what they are learning and how they are learning it.

Lower primary education: The learning programme offered to Grades 1–4 learners.

Merged subjects: Subjects which have been integrated to form one single subject such as History, Geography and Civics merged to form one subject, Social Studies.

Middle primary education: The education offered to Grades 5–7 learners.

Optional subjects: Subjects which learners can choose to study.

Outcome based: When we focus on what is to be learned, i.e. things that are real and measurable.

School experience: A period when teacher trainees teach in real classrooms.

Senior secondary school: Institutions of learning that provide Grades 10 to 12 education.

Social interaction: This is the interaction that takes place among children involving guided and unguided play activities in an organised environment in order to overcome their social barriers.

Special educational needs: The education services and strategies provided to learners with different abilities and challenges.

Summative assessment: A type of assessment which aims to find out the extent to which learners have acquired skills, values, knowledge and attitudes in relation to the expected outcomes of topics at the end of a specified period of time.

Two-tier system: Where learners are able to elect to follow an academic or vocational route in their education.

Vocational & technical subjects: Subjects which provide learners with the opportunity to gain hands on learning experiences enabling them to develop their technical and vocational skills and knowledge within a structured learning programme.

This Guide was produced with the assistance of:

This publication was produced with technical assistance provided by ZESSTA.

About ZESSTA

All images in this document © Unicef Zambia.