MINISTRY
OF
EDUCATION, YOUTH & INFORMATION
Every Child Can Learn, Every Child Must Learn

NATIONAL SCHOOL LEAVING

NSLC

CERTIFICATE

Developing Competencies
Recognizing Achievements

The National School Leaving Certificate
A MANUAL FOR SCHOOLS
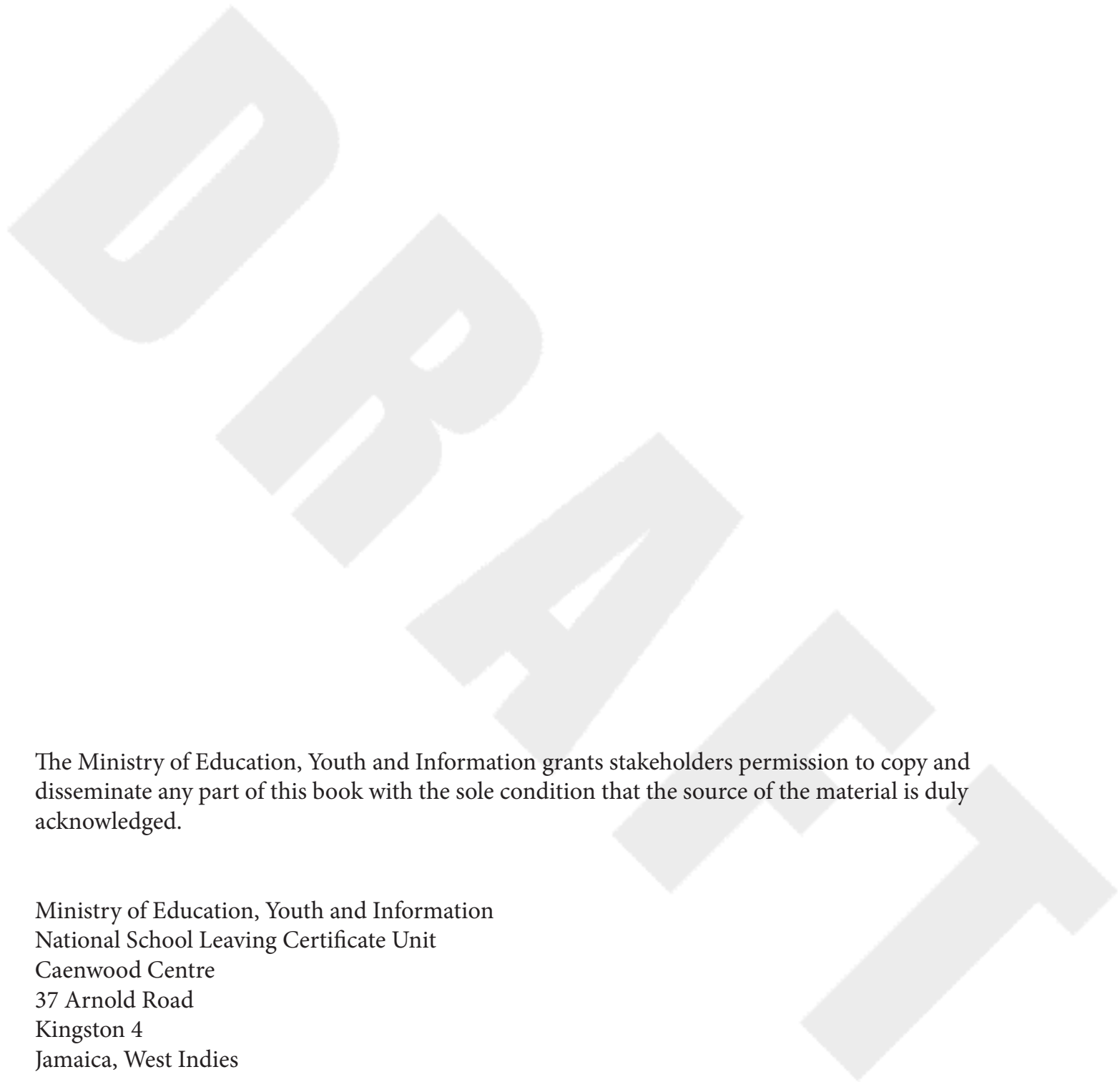
Ministry of Education, Youth and Information

NATIONAL SCHOOL LEAVING CERTIFICATE: A MANUAL FOR SCHOOLS

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PREFACE

The Ministry of Education, Youth and Information (MoEYI) guided by the principles of quality assurance, equity and equality in education, is committed to implementing the Proficiency Pathways Policy through the introduction of the National School Leaving Certificate.

The current focus of the Ministry to provide opportunities for every child to learn and be certified falls, squarely within the societal obligation to grant every child his or her right to succeed based on the development of knowledge, skills and attitudes. The NSLC will make it possible for all learners in Jamaica to exercise this right.

Life in the 21st century requires people to be prepared to fill a variety of roles in which they will need to apply their knowledge, skills and attitudes effectively to rapidly changing situations. Recognizing this need, educational, business and political leaders are increasingly asking schools to equip students with the competencies they will need to navigate a changing world – skills such as problem –solving, critical thinking and collaboration. These skills are often referred to as '21st century skills', 'soft skills' or 'employability skills'. This Manual has been developed as a supportive resource for those designing and delivering the NSLC programme who seek to recognize students' achievement of these skills.

The NSLC Manual for Schools went through a process of development that was uniquely participatory and highly interactive. The team brainstormed and discussed thoroughly the contents of the Manual prior to agreeing on an outline. The approach adopted is practical rather than theoretical, thereby making the contents useful, user-friendly and stimulating for teachers.

THE NATIONAL SCHOOL LEAVING CERTIFICATE

NATIONAL SCHOOL LEAVING CERTIFICATE

NSLC

Developing Competencies Recognizing Achievements

VISION STATEMENT

Equipping learners to participate and succeed in a changing world.

MISSION STATEMENT

To offer a national certification programme that promotes and reflects:
- Growth in personal competencies (knowledge, skills, attitudes) and
- Volunteerism

by providing credentialing for those who complete the secondary education programme.

PROGRAMME GOAL

Provide certification to all graduates by awarding t he NSLC upon successful completion of secondary schooling.

PROGRAMME OBJECTIVES

- Provide evidence of students' competencies to enter the labour force, advance to tertiary education or take advantage of other opportunities for life-long learning.

- To benchmark learners' cumulative achievement as reflected by academic attainment, values, attitudes and skills over the entirety of their secondary school years.

- To standardize the certification process at the secondary level.

RATIONALE FOR THE NSLC SCHOOL'S MANUAL

This *Manual* has been developed as a supportive resource for those coordinating the implementation of the NSLC programme in schools. The NSLC constitutes a vital part of the secondary school experience, offering both an opportunity to learn and an opportunity for learning to be evaluated and certified. There are many factors to consider when designing the school's programme in order to ensure that a wide range of knowledge, skills and attitudes are developed and assessed in a variety of settings. The intent of the Manual therefore, is to provide effective guidance to the leaders of the institution along with members of staff to ensure successful implementation.

As part of its drive to ensure that all schools offer a relevant and challenging NSLC experience, the Ministry of Education, Youth and Information deems it essential that all school-level programmes reflect the same principles outlined in this Manual. The Manual offers a useful supplement to the curriculum and syllabus materials and should be used in partnership with these and other resources provided by the Ministry, as students are prepared to function effectively in a changing world.

There is no doubt that the Manual has come at a time of great need as the National School Leaving Certificate is implemented in schools. It is anticipated that the manual will therefore be of great utility to teachers and others in the education system, involved as they are with the implementation and coordination of the programme and will essentially contribute to strengthening the veracity of the programme in the country.

ORGANIZATION OF THE SCHOOLS' MANUAL

The Manual has an Introduction that deals with international education and workplace trends, and is then divided into four chapters focusing on theoretical and practical principles for the introduction and sustainability of the programme. Interspersed throughout each chapter is the 'Of Note' feature that provides important summative information on the area(s) of focus.

CHAPTER 01

The National School Leaving Certificate: An Introduction

The chapter provides an overview of the National School Leaving Certificate in the Jamaican context. Also, this chapter introduces the accountability and sustainability framework and the guiding principles of the programme. This will help teachers to understand the programme goals and objectives and provides guidance for implementation.

CHAPTER 02

The National School Leaving Certificate: Operational Process

This chapter provides the steps involved in the implementation of the programme. It introduces the steps involved in designing a plan of work for assessing student's competencies and provide suggestions to help teachers tailor the plan to achieve the learning outcomes of the curriculum or syllabus.

CHAPTER 03

The National School Leaving Certificate: Purpose & Structure of the School Level Committee

The chapter provides an overview of the purpose and structure of the NSLC school- level committee to be established in each institution. Understanding and clearly identifying the roles and responsibilities of members of the committee will serve as the foundation for successful implementation. It is important to define and obtain consensus on the work of the committee. The Terms of Reference provides guidelines for the effective functioning of the Committee.

CHAPTER 04

The National School Leaving Certificate: Assessment Tools For Competency- Based Education

The chapter presents a discussion on guidelines and criteria for selecting the appropriate assessment tools for competency achievement and student learning outcomes. Additionally, an inventory of recommended assessment methods that are currently available or can be developed and/or adapted to the programme, is presented.

INTRODUCTION
COMPETENCY- BASED EDUCATION AROUND THE WORLD

There is an increasing number of educational systems worldwide that are accepting the importance of rewarding learners' competencies as well as their ability to perform acceptably in examinations. Competency-based education (CBE) is very different from the traditional transmissive teaching and learning, and includes the following elements:

• ...[Learners] advance upon demonstrated mastery.
• Competencies include explicit, measurable, transferable learning objectives that empower ...[learners].
• Assessment is meaningful and a positive learning experience for ...[learners].
• ...[Learners] receive timely, differentiated support based on their individual learning needs.
• Learning outcomes emphasise competencies that include application and creation of knowledge, along with the development of important skills and dispositions.

According to Frost, Worthen & Gentz (2015), countries like New Zealand, Finland and Scotland, and the Canadian province of British Columbia have adopted education systems that recognise the importance of competency-based learning that focuses on learners' observable skills or "competencies".

New Zealand has adopted a competency based curriculum that incorporates the following:

• Analysis of the learner's competence upon entry.
• Systems supporting multiple pathways for learning and for assessment processes.
• Culture of learners taking responsibility for learning.
• Standards ...[that are] outputs-focused (not inputs-focused) and provide evidence.
• ...[Building of] a marketable identity that is recognised and valued by employers (build cultural capital).
• Common understanding of language.
• Expert assessors in assessment.

Finland's education system is designed to foster learner independence, responsibility, and growth through self-directed, autonomous learning, especially in the later high school grades. Finland's system ensures ...[learners] master skills at a high level and can demonstrate these skills through performance-based assessments. Similarly, Scotland's Curriculum for Excellence focuses on classroom-based formative assessments, a "show what you know" crosscutting pedagogical strategy, learning goals that ...[learners] clearly articulate, and the needs of the holistic well-being of the child.

Furthermore, the British Columbia education plan K-12 Innovation Strategy emphasises "...personalised learning based on guiding principles that increase autonomy at the school level, provide greater curricular flexibility, and focus attention on ...[learners'] demonstrating competency on higher order skills." Elements of the teaching/learning strategy include:

- Making curriculum more flexible to better enable teachers to innovate and personalise learning;

- Focusing new curricula on higher order and deeper learning, giving emphasis to the key concepts and enduring understandings (big ideas) that ...[learners] need to succeed in their education and their lives;

- Making explicit the cross-curricular competencies to support life-long learning.

THE JAMAICAN CONTEXT

The Jamaican Ministry of Education Youth and Information's (MOEYI's) recently-implemented National Standards Curriculum (NSC) for Grades 1 to 9 and Human Employment and Resource Training Trust/National Training Agency (HEART Trust/NTA) curricula are underpinned by the same focus on learner competencies - knowledge, skills and attitudes - that curricula in other countries are offering. Developed on constructivist principles, each of the subject curricula identifies the knowledge, skills and attitudes the learners are to develop, and suggests classroom activities and projects that will assist in developing them.

The foundation of a competency-based curriculum is the theory that underpins it. The theoretical constructs on which the competency-based curriculum framework is built include:

- Vygotsky's social-cultural development theory, which requires supporting learners by providing a scaffolding of their learning experiences;
- Bruner's cognitive development theory, which emphasises the importance of organising learning to build from what the learner knows to what is unfamiliar or unknown, and
- John Dewey's social constructivism, which emphasises the necessity to adopt learner-centred approaches in curriculum design and delivery.

As with the NSC, to implement the NSLC, the education system needs to transform classroom teaching and learning from transmissive approaches to interactive, learner-centred strategies in which the learner has increased responsibility for his/her learning and the teacher is a coach and mentor supporting the learner's acquisition of knowledge, skills and attitudes. This major change in approach is what is at the foundation of competency-based education.

CHAPTER
01

CHAPTER

1.

THE NSLC: AN INTRODUCTION

The National School Leaving Certificate, commonly referred to as the NSLC is an award to be earned by every learner as a result of successful completion of the secondary education programme. This Certificate documents learners' knowledge, skills and attitudes developed over the entirety of their secondary school years (Grades 7-13).

The NSLC is based on the National Standards Curriculum (NSC)'s competency-based approach to teaching and learning, the relevant syllabi used at the upper secondary level and the World Economic Forum's identification of skills needed for those entering the work force by 2022 (See Table 1 on p.17).

The certificate does not replace the academic and/or vocational qualifications awarded through national, regional or international examinations; rather, it is complementary to them, providing a clear record of the competencies attained by each young person as s/he leaves school. The NSLC offers, therefore, a comprehensive record of the school leaver's capabilities, work-readiness and contribution to his/her community at the end of Grades 11 and 13.

Comparing Skills Demand, 2018 vs. 2022

Today 2018	Trending 2022	Declining 2022
Analytical thinking and innovation	Analytical thinking and innovation	Manual dexterity, endurance and precision
Complex problem-solving	Active learning and learning strategies	Memory, verbal, auditory and spatial abilities
Critical thinking and analysis	Creativity, originality and initiative	Management of financial, material resources
Active learning and learning strategies	Technology design and programming	Technology installation and maintenance
Creativity, originality and initiative	Critical thinking and analysis	Reading, writing, math and active listening
Attention to detail, trustworthiness	Complex problem-solving	Management of personnel
Emotional intelligence	Leadership and social influence	Quality control and safety awareness
Reasoning, problem-solving and ideation	Emotional intelligence	Coordination and time management
Leadership and social influence	Reasoning, problem-solving and ideation	Visual, auditory and speech abilities
Coordination and time management	Systems analysis and evaluation	Technology use, monitoring and control

Table 1.   Source: Future of Jobs Survey 2018, World Economic Forum

The World Economic Forum and the NSLC's Identification of Competencies

According to the World Economic Forum, with the advance of the Fourth Industrial Revolution, employers are demanding a more varied mix of worker competencies. **Competencies refer to combinations of knowledge, skills and attitudes that students develop and apply for successful learning, living and working**. They help students build upon how and what they know, understand, think and can do.

The 21st century demands a workforce and citizenry that exhibit knowledge, skills and attitudes very different from traditional academic "right" answers. In the digital society of the 21st century, knowledge is expanding and changing at an ever-increasing rate, and learners who are able to demonstrate only that they have acquired and can recall existing knowledge about assigned topics are insufficiently prepared for the workplace. Consequently, students need to be able to learn and access the most recent information available, and re-learn what they need to know when necessary. They also need to work collaboratively, communicate in a variety of media, solve problems and think critically using creative and innovative approaches that will enable them to operate productively in their lives and communities and develop attitudes that will enable them to be positive contributors to their families, communities and workplaces.
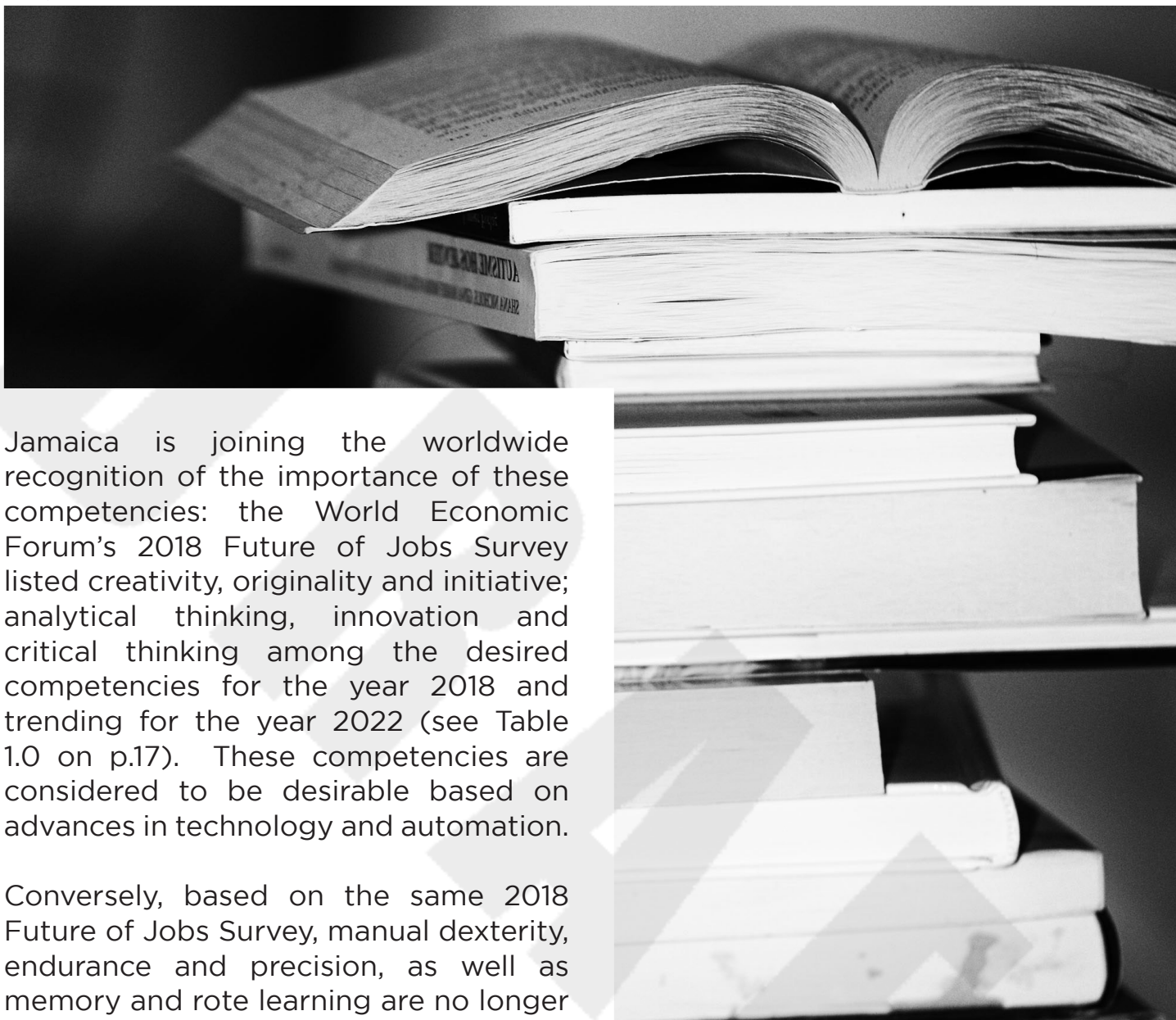
Jamaica is joining the worldwide recognition of the importance of these competencies: the World Economic Forum's 2018 Future of Jobs Survey listed creativity, originality and initiative; analytical thinking, innovation and critical thinking among the desired competencies for the year 2018 and trending for the year 2022 (see Table 1.0 on p.17). These competencies are considered to be desirable based on advances in technology and automation.

Conversely, based on the same 2018 Future of Jobs Survey, manual dexterity, endurance and precision, as well as memory and rote learning are no longer among the desired competencies. As a result, some workers will be displaced by current shifts underway in the workforce while at the same time new opportunities will be created for others.

The Ministry of Education's transition to a competency-based curriculum, and institutionalization of the NSLC are timely as they signal that students will be given opportunities to develop the necessary competencies as they seek to advance in line with the new industrial revolution. Also, these new educational developments embrace learner-centeredness, are adaptive

to the changing needs of society and assume that learners can acquire and apply the competencies needed for the 21st century and beyond.

Accordingly, the National School Leaving Certificate (NSLC) gives schools the means of documenting the personal growth and achievement of students during their years in high school. It reports learners' achievement in thirteen (13) competencies that will assist in the workplace, further education, participation in their community and growth in their personal development.

OF NOTE:

Fig. 1: NSLC's Identification of Competencies

Competencies

Communication Exploration

Creative Thinking Problem Solving

Self-management Creativity

Collaboration Leadership

Digital Literacy Entrepreneurial

Environmental Awareness

KNOWLEDGE
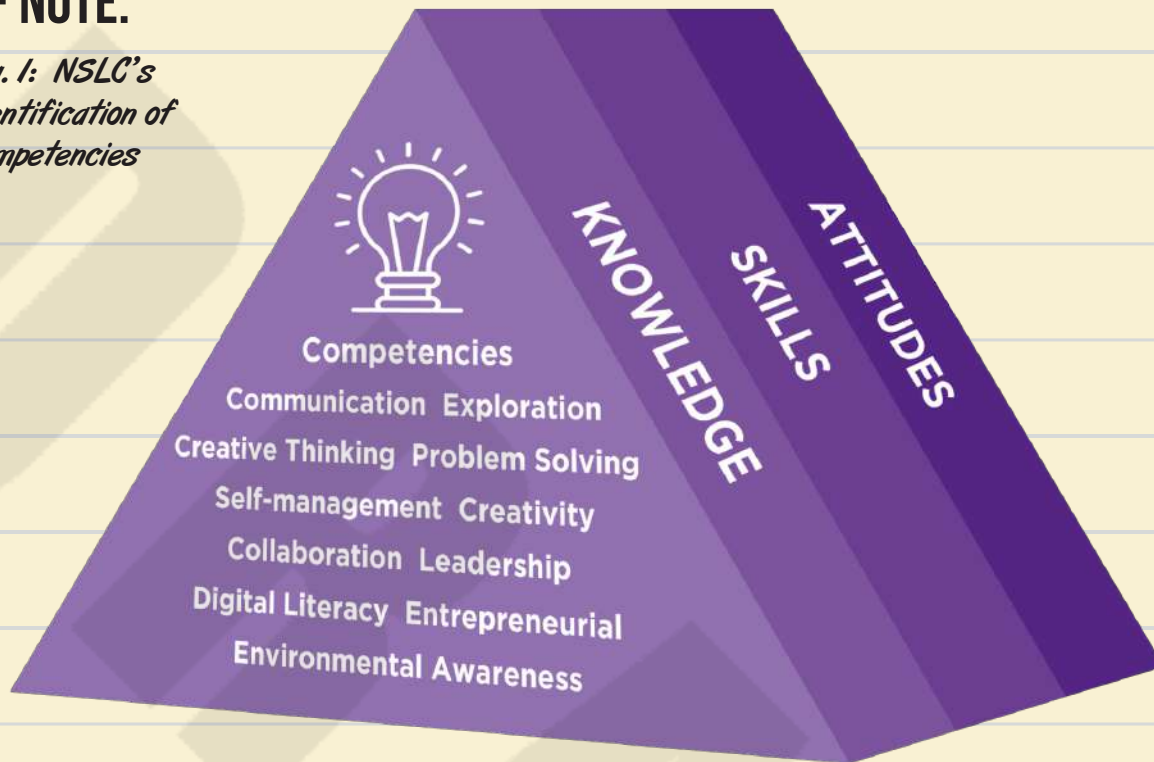
SKILLS

ATTITUDES

- *Competencies are a combinations of knowledge, skills and attitudes that students develop and apply for successful learning, living and working. They help students build upon how and what they know, understand, think and can do.*

- *Competencies are not learned in isolation, but in the context of the subject areas. These provide the knowledge base... Any (competency) can be developed within the context of any subject area. (Curriculum Framework, 2017)*

KEY ELEMENTS OF THE CERTIFICATION

The main purpose of the NSLC is to provide a record of student's growth in two key elements: personal development and participation in community service activities.

Personal Development

Personal development is the ability to identify, understand and effectively manage one's thoughts, feelings and behaviours. The NSLC programme documents the personal developmental attributes a learner exhibits during each academic year using a set of competencies and also the learner's performance in external exit examinations.   A comprehensive list of these competencies, along with their descriptors and performance criteria can be examined in the **Competency Grid** (See Table 2 on pages 21-25). **The Competency Grid is to be used as the foundation for assessing the competencies of learners in Grades 7 through to Grade 13.**

The Grid shows five columns labelled - **competency, descriptor, performance criteria** and **rating** (meets criteria, not yet evident).

- The first column indicates the thirteen identified competencies for the NSLC. Each competency is defined by a descriptor as shown in the second column.

- Competency descriptors provide an overview of key features of each competency. They holistically describe attitudes, skills and knowledge associated with each competency.

- The third column identifies the performance criteria. The performance criteria are evaluative statements, which specify what is to be assessed and the required level of performance. They detail the activities, skills, knowledge and understanding that provide evidence of competence. Performance criteria not only inform the teacher on the specific behaviours to track or the learning outcomes, but also inform students concerning expectations and therefore will eliminate ambiguity regarding the achievement of the competence.

- The fourth and fifth columns indicate the rating scale – *'Meets Criterion'* or *'Not Yet Evident'*.

Assessment of personal development also takes into account the learner's performance in external exit examinations.

TABLE 2 – NSLC COMPETENCY GRID: COMPETENCIES, DESCRIPTORS, PERFORMANCE CRITERIA AND RATING [MEETS CRITERION/NOT YET EVIDENT]

Competency	Descriptors	Performance Criteria	Meets Criterion	Not yet Evident
Oral Communication	Speaks/ Signs SJE accurately, persuasively and confidently, to a wide range of people with or without the use of available technologies	• Speaks/signs SJE at grade level to a designated audience		
		• Speaks/signs SJE coherently		
		• Clarifies the purpose or intention of a message in relation to audience, context or culture		
		• Provides relevant information/ideas in oral form		
		• Demonstrates respect and responsibility when communicating with others		
		• Comprehends oral communication		
Written Communication	Reads at grade level from a variety of literary sources and media; writes in Standard Jamaican English addressing a variety of audiences with few or no grammatical and spelling errors using language typical of grade level	• Reads at grade level		
		• Writes at grade level		
		• Comprehends grade level texts		
		• Writes coherently		
		• Uses media tools to support communication		
		• Considers perspectives, emotions and experiences when seeking shared understandings		
		• Demonstrates respect and responsibility when communicating with others		
Exploration/research /investigation	Carries out investigations into materials, subjects, activities and sources to establish facts, verify information, express new conclusions and state the value of new findings or validate existing information	• Carries out investigation		
		• Compares information from different sources		
		• Checks accuracy and validity of sources		
		• Extracts and explains relevant information/ Presents the findings		
		• Makes recommendations		

Competency	Descriptors	Performance Criteria	Meets Criterion	Not yet Evident
Critical thinking	Departs from or delves more deeply into traditional ways of thinking resulting in the generation of new and innovative ideas that enable the learner to consider new approaches to fact or ideas	• Applies new thinking and information to situations		
		• Synthesizes thoughts and information to discover or extend understandings		
		• Questions assumptions		
		• Tests validity of ideas		
		• Reviews and reaches conclusions about a range of complex data, judging their relevance and value		
		• Reflects upon and evaluates reasoning behind thoughts, beliefs or actions		
Problem-solving	Analyses and applies past experiences and learning in a range of new situations to provide creative solutions to a problem	• Articulates problems		
		• Identifies potential approaches to their resolution		
		• Tests possible resolutions		
		• Evaluates the impact of possible solutions to carry out the most viable option		
		• Reaches a solution (whether in a group or individually)		
Learning application	Acquires and assimilates information and uses what is learned in a range of existing and new situations	• Articulates what s/he knows/has learned		
		• Demonstrates what s/he thinks about implications of learning experiences		
		• Uses learning in new/ comparable situations\		
		• Adapts the learning to suit new/real-life situations		

Table 2. NSLC Competency Grid: Competencies, Descriptors, Performance Criteria and Rating [Meets Criterion/Not yet Evident]

Competency	Descriptors	Performance Criteria	Meets Criterion	Not yet Evident
Self – management	Works on one's own, including undertaking new work under others' guidance or without direct guidance, reviewing previous work and ensuring projects are completed; work undertaken shows planning, thought, intended purpose and/or inventiveness	• Initiates/undertakes activities/projects on own		
		• Pays attention to detail		
		• Demonstrates attention to time management		
		• Practises self-discipline in creating a product or completing an assignment		
		• Explores, select or adapts strategies and resources that support personal growth in life, school or career pathways		
		• Identifies interests, values or skills to set learning, life or career goals		
Creativity, originality and initiative	Generates and applies ideas to create something of value while open to taking risks and adapting to changing conditions.	• Uses activities, performance or/and the arts to express him/herself or an idea		
		• Illustrates/presents an idea or instruction in a new or innovative way		
		• Recognizes opportunities and imagines possibilities to apply ideas in new ways		
		• Demonstrates innovativeness, resourcefulness and perseverance when transforming ideas into actions, products or services		
Collaboration/ Cooperative team work	Makes positive contributions to a group assignment /activity, including sports teams and extra-curricular clubs; takes into account other's ideas; listens actively and considers others' ideas while incorporating one's own.	• Joins team/club activities both in school setting and/or community		
		• Respects the views of others in class and team/club activities		
		• Shares responsibilities and support others to achieve a common goal		
		• Contributes ideas to the group		

Table 2.   NSLC Competency Grid: Competencies, Descriptors, Performance Criteria and Rating [Meets Criterion/Not yet Evident]

Competency	Descriptors	Performance Criteria	Meets Criterion	Not yet Evident
Collaboration/ Cooperative team work		• Helps measure/assess the impact of group activity in which s/he participated		
Digital Literacy/citizenship	Demonstrates knowledge of the ethical operation, use and practical management of digital tools	• Is able to use/operate a number of media correctly		
		• Chooses appropriate media to craft messages and/or complete tasks(s)		
		• Accesses information from a variety of digital or non-digital sources		
		• Demonstrates ability to check the accuracy of digital information and messages and expose inaccuracies		
		• Contributes to creation of digital messages that support and/or enhance the intent of assignments		
		• Practises ethical behaviour in the use and/or creation of digital messages		
Leadership	Exercises guidance, management and direction in settings both in school and the wider community; offers support and advice that help a group to move forward together	• Suggests ideas for others to pursue		
		• Encourages/manages collaboration in a group setting		
		• Shows respect for others by encouraging them to contribute their ideas		
		• Ensures the involvement of all group members in responsibilities, activities and tasks assigned		
		• Seeks ways of incorporating everyone's views in outcomes/solutions/actions		
		• Leads by example		

Table 2.　　　NSLC Competency Grid: Competencies, Descriptors, Performance Criteria and Rating [Meets Criterion/Not yet Evident]

Competency	Descriptors	Performance Criteria	Meets Criterion	Not yet Evident
Entrepreneurial skills	Identifies and encourages aspects of projects or activities which might lead to future work/ income generating opportunities	• Can identify opportunity in challenges		
		• Exhibits tenacity in developing an idea or design		
		• Identifies an idea with practical application that can contribute to community or national development		
		• Can create a business plan for positive business outcomes		
Environmental Awareness	Recognises and/or promotes the preservation and/or restoration of the natural environment, consequently contributing to the control of pollution, protection of plants, and animal diversity	• Shows awareness of ways to protect the environment		
		• Contributes positively to school /community environmental activities (e.g. plastic collection, plantings, tending gardens)		
		• Pays attention to human/community development needs while supporting natural systems and resources upon which the economy and society depend.		

Table 2.   NSLC Competency Grid: Competencies, Descriptors, Performance Criteria and Rating [Meets Criterion/Not yet Evident]

DECLARATION OF COMPETENCE

The individual learner will provide the evidence to document competencies in consultation with his/her Form Teacher and/or Subject Teacher. The learner will store in his/her portfolio selected paper copies or photos, videos and other evidence of assignments and activities that recognise his/her achievement in the competencies and performance criteria each year (see Table 2 on pp.21-25). The competencies are not subject based, although they may be easier to demonstrate in the assignments in some subject areas than in others. **To be competent, the learner must 'meet' each of the performance criteria listed for the competency.**

OF NOTE:

- *The competency grid provides the performance criteria against which students' work must be measured.*

- *There must be clear evidence satisfying each criterion before a declaration of competence is agreed upon.*

- *All performance criteria for a competency may not appear in a single piece of work, subject, or in a term. These can be evidenced over the academic year.*

COMMUNITY SERVICE

The second key element of the NSLC programme is service learning as demonstrated in community service activities. The National School Leaving Certificate programme describes community service as an educational method by which students in secondary level institutions carry out or participate in active service experiences that develop civic responsibility and meet actual community needs.

The community service component is designed to foster the development of volunteerism, empathy, personal values, awareness, self – esteem, confidence, social responsibility, life skills and citizenship. It is integrated into and influences the lifelong learning of the student and includes structured time for the participants to reflect on the service experience.

OF NOTE:

- *The school coordinates the community service programme, which is compulsory for all students.*

- *A senior teacher will co-ordinate the programme.*

- *Students' choice of activities is based on their interests; however, the school must approve sites or institutions selected as well as the activities to be carried out.*

- *Students are required to do a minimum of sixty (60) hours by Grade 11 and ninety (90) hours by Grade 13.*

- *Students engage in reflection on their service experiences.*

- *Parental involvement is integral to the service learning experience of each student*

HOURS OF SERVICE

The community service programme is governed by specific principles relating to the number of hours, types and sites for completion. A student is required to complete sixty **(60)** hours by Grade 11 and ninety **(90)** hours by Grade 13. Evidence of the number of hours completed must be recorded on the NSLC Time Card **(Appendix 6)**. Table 3 below gives guidance to how the number of hours can be completed by grade levels.

GRADE LEVEL	MINIMUM NUMBER OF HOURS
Grade 7	10 hours
Grade 8	10 hours
Grade 9	10 hours
Grade 10	15 hours
Grade 11	15 hours
Grade 12	15 hours
Grade 13	15 hours

Total **60 Hours**

Total **90 Hours**

Table 3.   Suggested Hours per Grade Level for Community Service

OF NOTE:

- *The number of hours by grade level is not prescriptive.*

- *The focus MUST be on completing the number of hours stipulated by Grades 11 and 13. Schools and students are therefore, given autonomy to decide the number of hours to be completed at each grade level.*

TYPES OF SERVICE-LEARNING

The community service component of the NSLC can fall into one of three types of service-learning. The three types of service learning, **direct, indirect and advocacy**, are defined in the Table 4 below and include several examples.

Direct Service	
Definition	Activities that directly involve interaction with a recipient of the service. Establishing personal contact with people in need.
Examples	• Serve or deliver food for the shut- ins/persons in elderly care or the homeless • Tutor, mentor, or coach individuals • Visit and care for elders in a long term care facility • Volunteer at an orphanage/children's home • Organize a free health fair for members of the community
Indirect Service	
Definition	Activities that do not directly involve interaction with the recipient of service but will benefit the recipient. Students may have little or no contact with the recipient but service meets a clear need, and/or benefits to the larger community rather than an individual.
Examples	• Clean up a community recreational area. • Plan drug, violence, or disease prevention programme • Assist with an environmental project • Participate in urban/rural renewal projects such as mural or house painting • Build low-income housing – Fundraise for same, for an indigent beneficiary • Create brochures, flyers, posters, or annual reports for non-profit organizations • Organize performance to raise money for a charity. • Conduct river/ stream clean- up and learn to test water quality. • Spearhead food drive to support the local infant school, infirmaries, children's homes etc. • Sort food items/clothes at a social service agency.
Advocacy	
Definition	Using voice, writing ability and other talents to champion a worthy cause as a service to others.
Examples	• Lobby on behalf of a community issue • Conduct research for a community organization • Conduct research to protect endangered species or the environment

Table 4.   Three Types of Service Learning

RECOMMENDED SITES

Table 5 presents a list of non-profit organisations, government agencies, clubs and societies through which the community service may be undertaken. Please note that this list is not exhaustive as students may make their own choices subject to the approval of the NSLC Committee (See Chapter 3).

Community Service Sites	Examples
Service/School Clubs	• Kiwanis Club • Lions Club • Optimist International • Rotary Club • Jamaica Junior Chamber • Octagon Club • Environmental Club • Key Club • 4-H Club • Builders Club • Pathfinders
Non-Profit Organizations /Charities	• Jamaica Red Cross Society • St. Patrick's Foundation • Scout Association • Association of Girl Guides • Youth Opportunities Unlimited (YOU) • Abilities Foundation • Angels of Love • Read Across Jamaica Foundation

Non-Profit Organizations /Charities	• Jamaica Society for the Blind
	• Montego Bay Marine Park Trust
	• Mustard Seed Communities
	• Jamaica Society for the Prevention of Cruelty to Animals (JSPCA)
	• Voluntary Organisation for the Upliftment of Children (VOUCH)
	• The Salvation Army
	• Young Men's Christian Association (YMCA)
	• Young Women's Christian Association (YWCA)
Community Youth Clubs	• Police Youth Clubs
	• Clubs affiliated to religious groups
Other	• Children's Home
	• Community Centres
	• Health Centres
	• Infirmaries
	• Parks
	• Libraries
	• Government Ministries and Agencies

Table 5.   Recommended Sites for Community Service

OF NOTE:

- Contribution to the community is recognised through an evaluation and notice of completion signed by the learner, the teacher responsible for the process, the identified supervisor for the activity in the community and the principal of the school (See Appendix 7).

- A community service portfolio should be developed and kept up to date by each student.

- The NSLC Handbook for Community Service has been developed to guide the operations of the community service component. Further information is provided in this resource.

HOW ARE COMPETENCIES ASSIGNED FOR THE LEARNERS IN THE NSLC?

Learners in consultation with their Form Teacher/Subject Teachers will be responsible for selecting their own documentary evidence for the NSLC at all grade levels from any subject area.

Beginning of School Year (September)

- At the beginning of each school year, each learner will prepare a portfolio in which s/he will store the records, projects or other evidence s/he wishes to have considered to record competencies for that year.

During the School Year (October – April)

- Each learner will select the relevant number of graded assignments and/or activities which s/he believes best demonstrate his/her competencies, ensuring that each entry indicates **the subject, the term, performance criterion/criteria and competency** (See Table 2 on pp.21-25). The portfolio should contain original copies of assignments, presentations and/or projects.

- If an assignment results in a presentation, photos or a video recording of the presentation may be included as well. In other words, the portfolio will document the work the learner wishes to have considered as proof of competency.

- The learner is responsible for maintaining and storing in his/her portfolio works that illustrate the achievement of each performance criteria and competency. **Note that one assignment may demonstrate the learner's abilities in more than one performance criteria; however, all of the performance criteria for each competency must be present in order for a declaration of competency to be made**. Furthermore, an assignment may repeat competencies identified in previous terms. However, each competency will be documented only **once** in a year no matter how many times it is recognised in the evidence provided.

End of School Year (May-June)

- At the end of the school year (or the relevant term), the learner will finalise the evidence included, ensuring that the correct number of pieces of work are in the portfolio.

- The learner is responsible for his/her portfolio's completeness and accuracy and for keeping it up to date.

- All documentary evidence is retained in the learner's portfolio and, at the end of the year, once the competencies identified and the evidence **have been verified**, the learner's transcript of competencies is prepared and the documentation is stored electronically in the Ministry's database (See Appendix 2 – Competency Summary Sheet for Students).

OF NOTE:

- Not every learner will demonstrate every competency in the course of a school year or even in the course of his/her school life. There is no minimum or maximum number of competencies to report; every learner is unique.

- The Form Teacher/Subject Teacher and the learner will work together to select and then agree on:

  a) the piece(s) of work to be considered for documentation for the NSLC, and
  b) the competencies achieved.

Grade	Number of pieces of work per year group	Submission time
7 & 8	• **Three pieces of work for the year/one per term**	End of each term or end of year
	• Evidence and log of hours spent participating in the Community Service assignment *(if completed)*	Validated Community Service statement submitted in portfolio at the end of the school year *(if completed)* *Review of portfolio contents occurs toward the end of Term 3*
9, 10	• Three pieces of work per term for three terms = **nine pieces of work for each year**	Twice per year: end of Term 1 and toward the end of Term 3.
	• Evidence of the result of the Community Service assignment *(if completed)*	Validated Community Service statement submitted in portfolio at the end of the school year*(if completed)* *Review of portfolio contents occurs toward the end of Term 3*
11, 12 & 13	• Three pieces of work per term for the first two terms = **six pieces of work for the year** • Evidence of the result of the Community Service assignment	End of Terms 1 and 2 Validated Community Service statement submitted in portfolio at the end of Term 2 *Review of portfolio contents occurs at the end of Term 2*

Table 6.   Required Pieces of Work to be Included in the Portfolio

AWARDING THE NSLC

At the end of each school year, as part of each learner's end-of-year report, the school will provide the following:

- **A transcript that lists each of the competencies that the learner achieved that year.**

- **A record of the hours each learner contributed to a recognised community service activity.**

The school will upload the annual record of each learner's competencies and community service hours to the Ministry' s database and this information will be used to award the NSLC.

The National School Leaving Certificate (NSLC) is awarded to all students who successfully complete secondary schooling. The Certificate is awarded at two levels. **The Level 1 Certificate** is awarded to students at the **end of Grade 11**. Students who continue and complete the seven-year high school programme will receive the **Level 2 Certificate at the end of Grade 13**. All students MUST complete the required number of hours for community service at each level to be awarded the Level 1 or Level 2 Certificate. The NSLC will reflect the following three areas

- **All competencies achieved**
- **All passes in external examinations (CSEC, CAPE, City & Guilds, NVQ-J, CVQ)**
- **Community Service**

Every learner is considered an individual in this model; the only comparison possible is with him/herself. This model is the internationally-accepted model of competency-based education (CBE), which assumes that a competency acquired is valuable in and of itself, and the only comparison of the learner is with him/herself.

At the end of each grade, other than those in which the NSLC is awarded, each learner will receive a transcript of his/her competencies documented in that academic year.

OF NOTE:

- *Each Certificate is unique to the learner. It reflects the learner's achievement of competencies in the thirteen areas, performance in external examinations and completion of community service.*
- *All students will not achieve the same competencies.*
- *There are no core competencies to be achieved.*
- *There is no minimum number of competencies.*
- *The underlying assumption of the NSLC is that every competency is valuable.*

ACCOUNTABILITY FRAMEWORK – LEVELS OF MONITORING

The Accountability Framework is a set of planning and reporting processes for the implementation and sustainability of the NSLC. The purpose of the Accountability Framework is two-fold:

- To ensure secondary level institutions are accountable to the Ministry, their boards, students, and the public for their performance related to ensuring students receive quality educational opportunities relevant to their needs and the needs of the labour market

- To ensure the Ministry is accountable to the public for the sustainability of the programme with the aim that it should benefit various stakeholders by ensuring students ongoing contribution to social and economic development.

According to the model, accountability is sustained through the bi-directional flow of appropriate information as shown in Figure 2 on p.37. The information shared between the various arms of the Ministry and schools, should centre on the policies and performance expectations on one hand and evidence of actual performance based on suitable performance criteria on the other.

At the local level, schools share information regarding the NSLC with students, parents and other stakeholders and report to the NSLC Unit through the Regional Offices. The NSLC Unit and the Regional Office work jointly to ensure schools are adequately supported during the implementation of the programme. The third side of the accountability triangle focuses on the feedback articulated by the Ministry's Executive on progress made towards achieving the stated goals and the citizens' response (in its various forms) to that progress.

Ministry of Education, Youth & Information
Department of School Services
(Executive and Legislative)

Develop policy to establish and recognise the NSLC to be awarded to every learner on successful completion of secondary education

Regional Education Authority
- Oversee the NSLC systems and school records
- Guides external moderation process
- Establish comparability between schools in the standards achieved.

Schools
- Share information with stakeholders
- Establishment of School Level Committee
- Provides opportunities for competency achievement
- Implement the programme of work for the offering of the Certificate
- Plan appropriate arrangements for standardisation of learner competencies

National School Leaving Certificate Unit
- Establishes monitoring system for NSLC and implements through Regional offices
- Conducts final arbitration
- Set the standards and procedures required to document the NSLC competencies
- Establishes criteria for awarding the NSLC

Governance
Teacher training & monitoring
External moderation

Information on performance standards

TRAINING, CONSULTATION, COLLABORATION

Information on student's achievement

Programme goals & objectives
Implementation procedures
Training & support
National Public Education Campaign

Expectations of performance
Policy establishment
Feedback on progress

Information on delivery against expectation

Accountability Framework And Decision Tree For
Implementing The National School Leaving Certificate

Figure 2.

TEN (10) GUIDING PRINCIPLES OF THE NSLC

Principle 1 – Clarity of information

Information about the NSLC should be explicit, accessible and transparent. Clear, accurate, consistent and timely information on the NSLC should be made available to students, staff, parents and other relevant stakeholders.

Principle 2   - Effective feedback

Timely feedback that promotes learning and facilitates improvement should be an integral part of the NSLC programme. Students are entitled to feedback on submitted tasks. The nature, extent and timing of feedback for each task should be made clear to students in advance.

Principle 3 – Ongoing staff- development

Ongoing staff development should be included in the NSLC implementation plan. All staff must be competent to undertake their roles and responsibilities.

Principle 4 - Data Driven Decision Making

To help all students achieve, teachers need to systematically and routinely use data to guide instructional decisions and meet students' learning needs. Data use is an ongoing cycle of collecting multiple data sources, interpreting data to formulate hypotheses about strategies to raise student achievement and implementing instructional changes.

Principle 5 – Supportive Culture

The successful implementation of the NSLC requires a culture of institutional support, stakeholder-by- in ownership and resources.

TEN (10) GUIDING PRINCIPLES OF THE NSLC (CONT.)

Principle 6 – Reliability and Consistency

Assessment of competencies should be reliable and consistent. There is a need for assessment to be reliable and this requires clear and consistent processes for the setting, marking, grading and moderation of assignments.

Principle 7 - Embedded nature of competency development

Teaching and evaluation of competencies should be embedded within regular teaching and learning activities whenever possible.

Principle 8 – Celebration of Students

The primary purpose of the NSLC is to celebrate students' achievement. Schools should implement simple ways to recognize students' achievement.

Principle 9 – Service Learning

Promote responsibility to the school and community. Design classroom norms and employ learning strategies that not only enhance academic learning but also encourage community service as essential to purposeful citizenship.

Principle 10 – Stability and Accountability

Establish a school level committee that is stable and promotes accountability. While the organizational structure should be adaptable to changes, it should remain stable for at least 2 years. All members of the Committee must be clearly identified, so that there is no confusion as to who should be responsible for which aspects of the programme, and who should be coordinating the efforts.

BENEFITS OF THE NATIONAL SCHOOL LEAVING CERTIFICATE

The introduction of the NSLC holds great promise for students, secondary level institutions, employers and tertiary institutions.

For the students

- The Certificate is designed to promote the development of positive thinking skills and creative approaches to students' learning, and to encourage reflection about their individual learning development and growth over several years of schooling.

- The process of documenting and verifying competencies gained offers opportunities for young people to be aware of and understand their own progress, and to take pride in their achievements.

- The NSLC encourages young people with skills and abilities outside those recognised in the traditional academic institutions and tested by national and regional examinations to chart their development in the areas in which they have an interest and/or aptitude.

For the school

- The Certificate provides a formalised nationally-recognised system to encourage and reward learners for achievements that are valued as important skills by employers, educators and the larger society. It does so by broadening the basis for the recognition of learner achievement by acknowledging behaviours and skills learners have developed, and recording achievement from activities such as extra-curricular and community activities in which young people are involved and to which they have contributed.

- The Certificate provides opportunities to encourage and recognise positive attitudes towards learning, raise learners' personal expectations, and reward achievement through a nationally-recognised award.

- It encourages the learners' contributions both to the school and the wider community, and promotes positive engagement with parents and guardians that can be a focus for celebration of the unique talents of their children and all young people.

For the employer

- Through the NSLC students' competencies in relation to work place readiness and employability skills will be clearly articulated for employers to view. This information will allow employers to be strategic in their selection of candidates for roles in their establishment. This will ultimately improve productivity within sectors.

- The Certificate will allow employers to identify organisational competencies, skills gaps and areas where development is necessary.

- The NSLC will strengthen labour market requirements.

For the parents

- Parents will be able to view a comprehensive profile of their children's competencies that was not previously available.

- Parents will be able to support their children's achievement based on the feedback provided through the transcript on an annually basis.

- Parents will feel a sense of accomplishment through their children's achievement.

For the community

- Provides a skilled and ready cadre of individuals to support the work of community organisations.

- Ensures the ongoing delivery of a range of important services to the community.

- Helps build social networks, connectedness and community resilience

- Reduces the number of youth who present a level of concern to the community and society.

- Improves cooperation and collaboration between community and school.

OF NOTE:

The National School Leaving Certificate is far reaching and holds great promise for national development.

CHAPTER
02

Operational Process
p.43

Plan — ● ——— ● ——— ● **Do**

● ---- ● ---- ●

Establish the
NSLC Committee
p.44

Sensitize
Stakeholders
p.45

● ---- **Teach & Learn**
p.58

● ---- **Collect Data**
p.58

Create Learning
Opportunities
p.49

Check ● ——— ● **Act**

Record Competencies
p.59

Recommend &
Implement Actions
p.63

-------- **Moderation**
p.63

Analyze Results &
Provide Feedback
p.59

Evaluating, Reflecting
& Enhancing
p.65

Upload
Students
Work
p.64
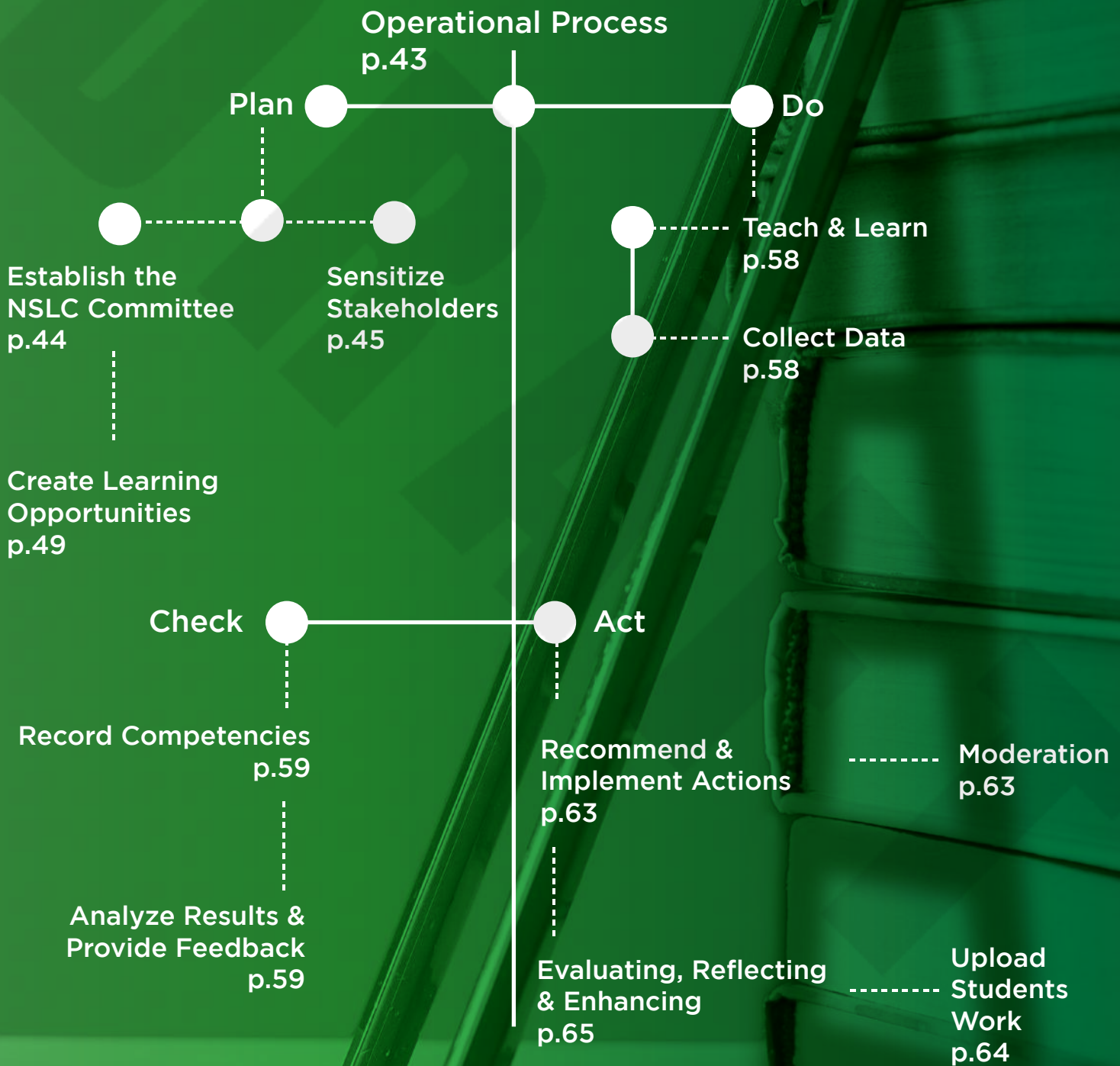
CHAPTER 2.

THE NSLC: OPERATIONAL PROCESS

The implementation of the NSLC at the school level is a systematic, recursive and ongoing process that addresses the needs of the students. The four- phase cycle (plan-do-check- act) provides the basis for implementing the NSLC at the school level. The process or cycle (illustrated below) consists of a series of eleven separate but interlinked activities that contributes to the stabilization of the NSLC operational process and facilitates continuous improvement opportunities.

PLAN
1. Establish NSLC Committee
2. Sensitize Stakeholders
3. Create Learning Opportunitites

DO
4. Teach & Learn
5. Collect Data on Students' Competencies

Continuous Improvement

CHECK
6. Record Competencies
7. Analyze Results & & Provide Feedback

ACT
8. Reccommend and Implement Actions
9. Moderation
10. Upload Students' Work
11. Evaluating, Reflecting & Enhancing
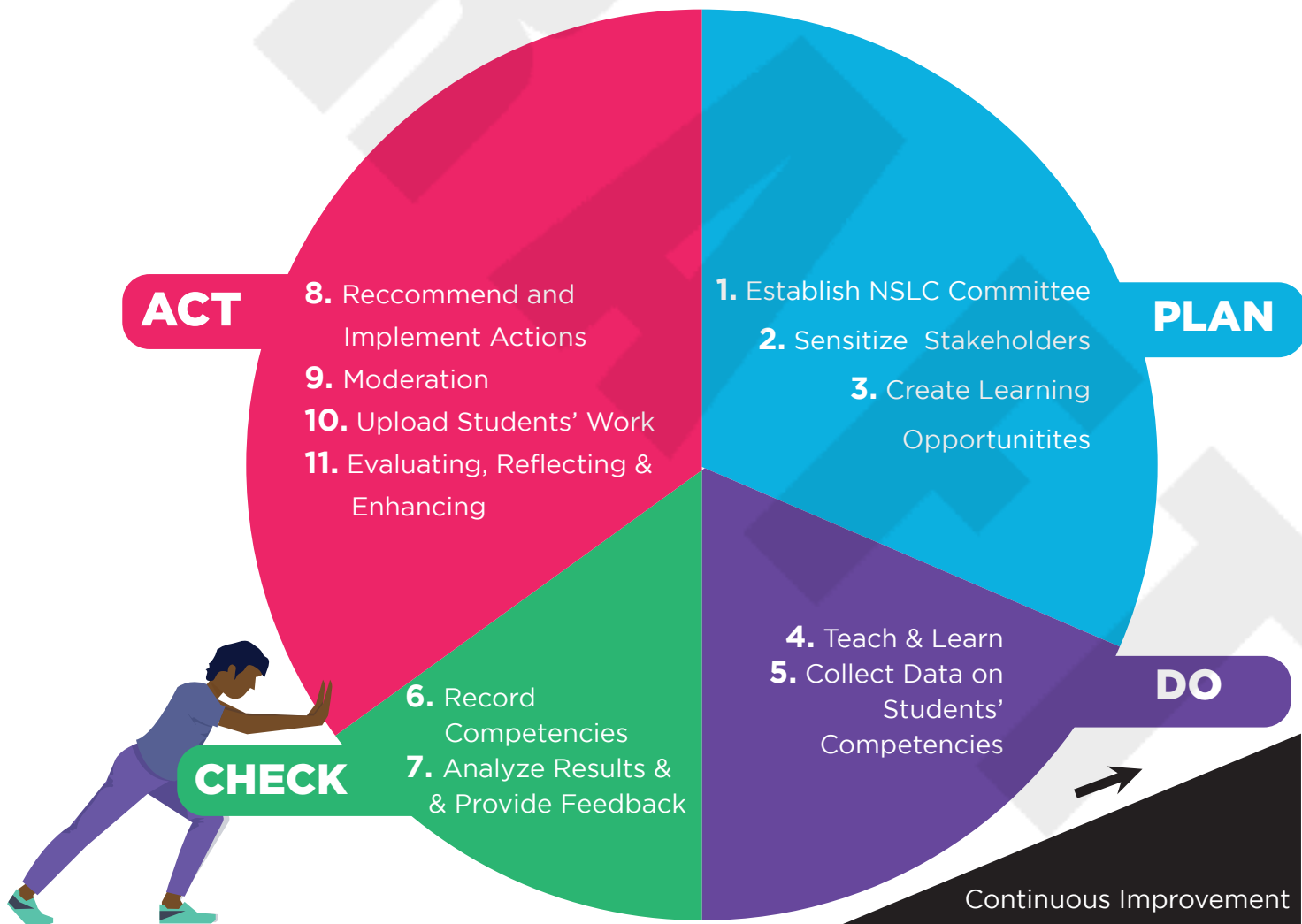
Figure 3.   The National School Leaving Certificate Operational Process

02

PHASE 1 - PLAN

Step 1: Establish a NSLC Committee

Before implementation, it is important to have the proper structure in place to ensure that the process is self-sustaining. For this reason, each school should establish a NSLC Committee which will ideally be led by the Principal and comprise teachers, students, parents and guidance counsellors. The size of the committee will generally be dependent on school size and type. The key function of the members of the NSLC Committee is to ensure that implementation capacity is developed at the school level and that collectively the school and Region build the infrastructure needed for high fidelity implementation. This can be achieved through the development of an implementation plan (See Appendix 3).

Members of the NSLC Committee should understand the purpose and importance of the programme and be willing to share their knowledge, expertise, and interest in the NSLC with other members in their department. The NSLC is more likely to become part of the school culture if departments collectively buy into the implementation plan, identify learning outcomes and align the NSC with the NSLC competencies. They must also embrace ways to measure these, what the data suggest, and what the results mean for programme revision and improvement. Chapter 3 focuses on the purpose and operation of the NSLC Committee at the school level.

As you consider developing an NSLC Committee, first think about the overall scope of work for that team (e.g. support, monitor implementation of the NSLC). Then think about either "repurposing" an existing team or "starting fresh". The following prompts and the information in Chapter 3 will help you think about team formation.

Prompts

- Given the proposed work of the team, what core competencies will be needed?
- Who can bring those competencies to the table?
- Given the work to be done, what is a functional number of members?
- Which stakeholders need to be included?
- Are there potential gaps in team expertise/competency? If so, how will you fill those gaps?

Step 2 – Sensitize Stakeholders

The NSLC introduces a new way for learners to benefit from a holistic education. As such it needs to be promoted as a fundamental change in learning for the school, the surrounding community and the learners themselves. Since it is different in its approach and anticipated outcomes, it will require careful, consistent promotion with teachers, learners, parents, and others in and outside the school community. The importance of this stakeholder sensitization cannot be overstated.

The Principal should have the primary and most visible role in leading the change that introduces the NSLC; however, s/he will be supported in the promotion process by the school's NSLC Committee, which has the primary responsibility to provide oversight for the administration of the programme.

Schools can use a variety of ways to introduce and promote the Certificate to learners, parents, caregivers, the community and employers. Some are:

- Professional development sessions
- Staff meetings
- Collaborative planning time
- School assemblies
- In-school pastoral tutorial periods
- Career education classes
- Letters/flyers to learners and parents
- School's newsletter and website
- Public information events at the school
- Parent Teacher Association /Home School Association meetings
- Town hall meetings
- Community Bulletin Boards

These suggested ways can be used to gain the interest, cooperation and acceptance of parents, students and community members.

Academic Staff Members

The NSLC Committee should lead the staff training and awareness raising sessions in the school. All staff at all levels in the school must be aware of the NSLC and understand how they can support learners in managing the documentation of their competencies. Staff meetings and training sessions for all staff should focus on the recognition that learners at all ages have multiple intelligences and ways of learning; that learners contribute in various ways to their own development and that of the community and the nation, and the varying activities in the school that support the learner's development.

All staff should understand how their respective subject areas will contribute to the learning and competencies recognised in the NSLC.

All subject areas can provide evidence for learners in some form, and teachers should be aware of tasks and activities that require a variety of competencies like communication, self- management, creativity and cooperative skills.

OF NOTE:

Teachers must understand they are responsible for:

- Articulating expectations to students before instructing or before any form of assessment or evaluation is conducted.

- Providing students with a variety of opportunities to demonstrate their knowledge, skills and attitudes pertaining to the learning outcomes.

- Using multiple assessment types and methods which include, but are not limited to: presentations, models, oral and/or written reports, journals, performances, graphic/visual representations, experiments, concept maps, debates, projects, checklists, anecdotal records, conferences, or observations.

- Analysing evidence of learning from multiple sources/types (e.g., conversations, observations and products), and a variety of assessment tools (e.g., presentations, labs, debates, test/quizzes).

Students

The regular documentation of competencies is the key underpinning for the NSLC. The first step towards documenting the evidence is ensuring that learners are familiar with the competencies, descriptors and performance criteria. If students are to function in a different way from they do at present, they will have to be highly motivated to adjust to their new way of learning. They will have to be won over to "believe" in the new talents they will be developing. The Committee must ensure this.

The review of the competencies with learners should be an activity carried out initially at the beginning of the school year and then as needed later in the year or in subsequent years. This will allow the learners to ask whatever questions they may have about selecting and reflecting on the work they are going to include in their portfolios. It is essential that schools ensure that learners are well informed about the value of the NSLC, and clear about what exactly is required of them.

OF NOTE:

Students must understand they are responsible for:

- Seeking assistance with assignments when required.

- Completing assignments by specified due dates so that teachers can provide timely feedback.

- Responding to feedback provided during the learning process.

- Preparing portfolio of evidence.

- Accepting ownership of their own learning through active involvement in the assessment and evaluation process in order to discover how they learn best, to understand exactly where they are, and to respond to feedback about how they can improve in relation to the learning outcomes and the desired competencies.

The introduction and award of the NSLC is an opportunity for the school to celebrate the achievements of the students with their parents. Schools should introduce parents to the nature and purpose of the National School Leaving Certificate from the beginning of each learner's entry into secondary school. Parents need to be aware that, the NSLC focuses on celebrating children's achievement - what they can do. Accordingly, by focusing at the time of the learners' entry into secondary school on the importance of their potential achievement in knowledge, skills, and attitudes, the Principal is able to speak positively to every parent. During the session, parents should be introduced to the competency grid, requirements for community service and most importantly their responsibilities in helping their children to achieve the NSLC.

OF NOTE:

Highlighting the performance criteria that contribute to each competency and the competencies themselves will help classroom teachers to report effectively to parents on their children's progress during the school year.

After the initial introduction at the beginning of the school year, the consultation with parents should involve, at the very least, a report once a year for each learner from Grades 7-13. However, Parent-Teacher Association meetings and conferences during the school year are also opportunities to discuss the learners' progress with their parents and/or guardians/caregivers, encouraging them to be involved both in their children's education and in the school.

OF NOTE:

Parents must understand they are responsible for:
- *Supporting students in completing timely assignments.*

- *Actively participating in selecting sites for community service.*

- *Communicating to the school challenges that students may be experiencing.*

Step 3 - Create Learning Opportunities for Competency Achievement

The process of assessing students' competencies begins with the development of a plan that provides adequate learning opportunities for all students. A well- developed plan is the key to collecting useful and valid data. The plan should be developed by subject specialists and submitted to the Head of Departments/Grade Coordinators/ Lead teachers for review and ratification. Each plan should be designed in line with the learner-centred philosophy and aims of the NSC or approved syllabi. The plan should articulate, clear learning objectives, clearly describe instructional and assessment tasks, identify NSLC competencies and performance criteria and demonstrate a logical relationship to the subject area's intended learning outcomes.

A careful look at the description of the plan given above, will show that it bears striking similarities to the plan that teachers are currently expected to develop, with one minor modification. The modification is the addition of NSLC competencies and or performance criteria. To help with this change it may be useful to break down the process of developing a plan into four (4) elements: ***Learning objectives and outcomes, NSLC competencies and performance criteria, Learning activities and Assessment tasks.***
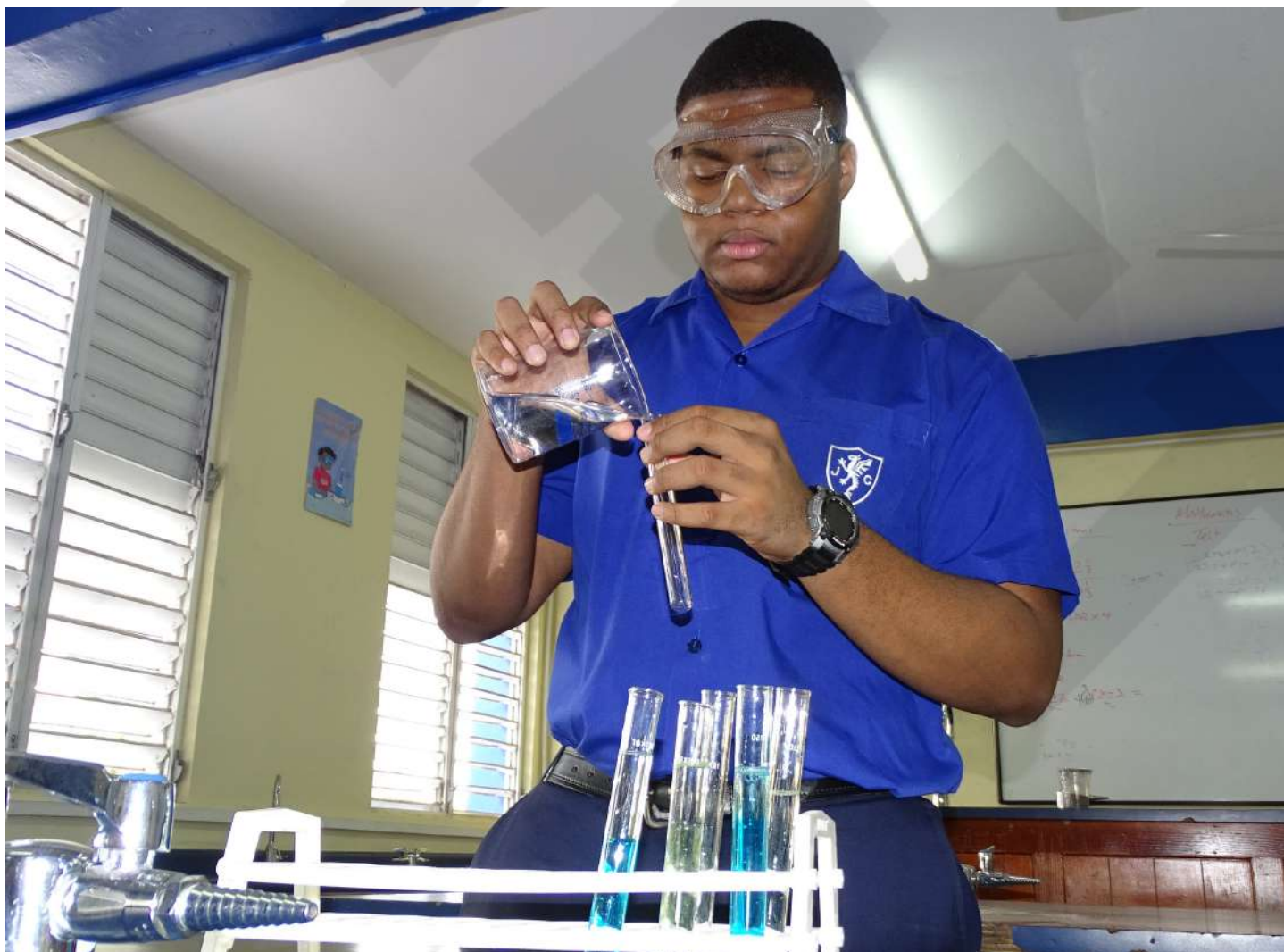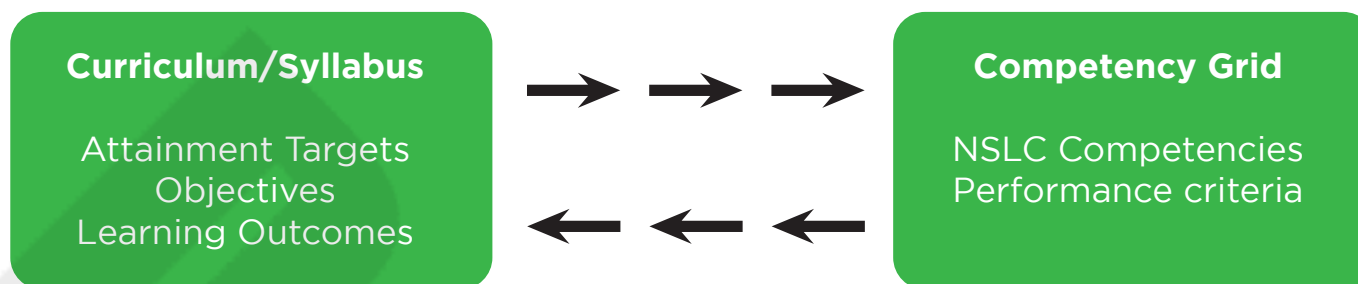
Key elements in developing a plan:

1. Use the NSC or relevant syllabi to decide on the attainment targets, objectives and intended learning outcomes. Ask yourself 'what should the students be able to do on completion of the Unit? Ask also: "What underpinning knowledge and understanding will they need in order to do it? [knowledge that they could not do when they started]

Subject	Chemistry
Grade	8
Attainment Target	**Specific Objectives:**
Understand the existence of materials such as solids, liquids and gases, the particulate nature of matter, and simple chemical reactions that change one material into another. **Use mathematics as a tool for problem-solving, and as a means of expressing and/or modelling scientific theories.**	Calculate the number of each sub-atomic particle present in an atom Deduce the pattern for determining electronic configuration of first 20 elements Relate the number of outer electrons to the group number on the Periodic Table Complete their own activity even if others have already finished theirs Work cooperatively in groups
Learning Outcome**: Students who demonstrate understanding can:** • **Calculate the number of sub-atomic particles in a given atom** • **Identify patterns in the arrangement of electrons for the first 20 elements** • **Show the electronic configuration of the first 20 elements using electron shell diagrams** • **Relate the number of outer shell electrons to groups on the Periodic Table**	

2. The next step is to map the attainment targets, objectives and learning outcomes to the NSLC competencies and performance criteria using the competency grid.

Curriculum/Syllabus	Competency Grid
Attainment Targets Objectives Learning Outcomes	NSLC Competencies Performance criteria

For exaxmple,

Subject	Chemistry	
Grade	8	
Attainment Target	**Specific Objectives:**	**NSLC Competencies**
Understand the existence of materials such as solids, liquids and gases, the particulate nature of matter, and simple chemical reactions that change one material into another. **Use mathematics as a tool for problem-solving, and as a means of expressing and/or modelling scientific theories.**	Calculate the number of each sub-atomic particle present in an atom Deduce the pattern for determining electronic configuration of first 20 elements Relate the number of outer electrons to the group number on the Periodic Table Complete their own activity even if others have already finished theirs Work cooperatively in groups	Exploration/research/investigation Critical thinking Problem solving Collaboration/ Cooperative team work

Learning Outcome**: Students who demonstrate understanding can:**

- **Calculate the number of sub-atomic particles in a given atom**
- **Identify patterns in the arrangement of electrons for the first 20 elements**
- **Show the electronic configuration of the first 20 elements using electron shell diagrams**
- **Relate the number of outer shell electrons to groups on the Periodic Table**

3. Devise the learning activities necessary (including formative assessment tasks) to enable the students to satisfactorily achieve the objectives and performance criteria.

Subject	Chemistry	
Grade	8	
Attainment Target	**Specific Objectives**	**NSLC Competencies**
Understand the existence of materials such as solids, liquids and gases, the particulate nature of matter, and simple chemical reactions that change one material into another.	Calculate the number of each sub-atomic particle present in an atom	Exploration/research/ investigation
	Deduce the pattern for determining electronic configuration of first 20 elements	Critical thinking Problem solving
Use mathematics as a tool for problem-solving, and as a means of expressing and/or modelling scientific theories.	Relate the number of outer electrons to the group number on the Periodic Table	Collaboration/Cooperative team work
	Complete their own activity even if others have already finished theirs	
	Work cooperatively in groups	

LEARNING OUTCOME: Students who demonstrate understanding can:

- **Calculate the number of sub-atomic particles in a given atom**
- **Identify patterns in the arrangement of electrons for the first 20 elements**
- **Show the electronic configuration of the first 20 elements using electron shell diagrams**
- **Relate the number of outer shell electrons to groups on the Periodic Table**

Learning Activities

Engage	Explore	Explain	Elaborate	Evaluate
Students will:				
Create and label a model of the atom using the words proton, neutron, electron, nucleus, shell.	View completed electron shell diagrams of selected atoms. Respond to the following questions: What do you notice about these diagrams of different atoms? How could the identity of each atom be determined? Calculate the number of each sub-atomic particle in the shell diagrams. Why is the atom neutral (not charged)? Use the diagrams to deduce the maximum number of electrons that can be added to each shell. Identify the patterns and trends in the arrangement of electrons and present deductions to the class.	Guide discussion that the number of electrons and protons must be equal to make the atom neutral Explain the formula for determining the number of each particle (Mass # - atomic # (protons) = # neutrons) will be discussed. Point out the trends and patterns in arrangement of electrons Show the distribution of electrons in shells/ energy level follows a pattern/ rule with the lowest level (closest to the nucleus) filled first, then the next two energy levels having a maximum of 8 electrons (for the 1st 20 elements).	Use the completed shell diagrams and write the electronic configuration of selected atoms using the shortened form (2:8:8). Compare the number of outer shell electrons (in the highest energy level) and the group number and determine the relationship between the two Present their deductions for discussion.	View blank diagrams of atoms without any electrons (nucleus and shells only) and place electrons correctly in shells/energy levels Complete electron shell diagrams for the first 20 elements.

4. Determine the assessment criteria and select appropriate assessment methods (summative). These methods should determine whether or not students can satisfactorily demonstrate achievement of the objectives/outcomes and performance criteria.

Subject	Chemistry	
Grade	8	
Attainment Target	**Specific Objectives**	**NSLC Competencies**
Understand the existence of materials such as solids, liquids and gases, the particulate nature of matter, and simple chemical reactions that change one material into another.	Calculate the number of each sub-atomic particle present in an atom	Exploration/research/ investigation
	Deduce the pattern for determining electronic configuration of first 20 elements	Critical thinking Problem solving
Use mathematics as a tool for problem-solving, and as a means of expressing and/or modelling scientific theories.	Relate the number of outer electrons to the group number on the Periodic Table	Collaboration/Cooperative team work
	Complete their own activity even if others have already finished theirs	
	Work cooperatively in groups	

LEARNING OUTCOME: Students who demonstrate understanding can:

- **Calculate the number of sub-atomic particles in a given atom**
- **Identify patterns in the arrangement of electrons for the first 20 elements**
- **Show the electronic configuration of the first 20 elements using electron shell diagrams**
- **Relate the number of outer shell electrons to groups on the Periodic Table**

Learning Activities

Engage	Explore	Explain	Elaborate	Evaluate
Students will:				
Create and label a model of the atom using the words proton, neutron, electron, nucleus, shell.	View completed electron shell diagrams of selected atoms. Respond to the following questions: What do you notice about these diagrams of different atoms? How could the identity of each atom be determined? Calculate the number of each sub-atomic particle in the shell diagrams. Why is the atom neutral (not charged)? Use the diagrams to deduce the maximum number of electrons that can be added to each shell. Identify the patterns and trends in the arrangement of electrons and present deductions to the class.	Guide discussion that the number of electrons and protons must be equal to make the atom neutral Explain the formula for determining the number of each particle (Mass # - atomic # (protons) = # neutrons) will be discussed. Point out the trends and patterns in arrangement of electrons Show the distribution of electrons in shells/ energy level follows a pattern/ rule with the lowest level (closest to the nucleus) filled first, then the next two energy levels having a maximum of 8 electrons (for the 1st 20 elements).	Use the completed shell diagrams and write the electronic configuration of selected atoms using the shortened form (2:8:8). Compare the number of outer shell electrons (in the highest energy level) and the group number and determine the relationship between the two Present their deductions for discussion.	View blank diagrams of atoms without any electrons (nucleus and shells only) and place electrons correctly in shells/energy levels Complete electron shell diagrams for the first 20 elements.

ASSESSMENT CRITERIA:	Summative Assessment Method
Number of sub-atomic particles correctly calculated	Research paper
Logical inference made about number of electrons needed to balance charges in an atom	Model of periodic table
Electron configuration trend correctly deduced	Model of atom with sub-atomic particles
Electron shell diagrams for first 20 elements correctly done	
Element/ atom correctly placed in the Periodic Table	
Relationship between outer shell electrons and group number correctly deduced	

At Grade 7-9 teachers will find this process is relatively simple with the use of the National Standards Curriculum as these elements are clearly outlined for use.

OF NOTE:

These steps should be conducted iteratively, with each stage informing the others to ensure coherence.

For the plan, it is important that teachers include and use more than one assessment to measure each outcome or competency but care should be taken not to make the process cumbersome. A significant portion of the data should be reasonably objective in nature, and specific to the learning outcomes and competencies, not just whether or not the students passed a particular subject.

Additionally, it is crucial that the plan that is developed includes assessments that are embedded in the teaching- learning activities. Assessments that are embedded in activities of the plan will provide excellent data because these types of assessments are likely to be direct rather than indirect measures of student learning. Embedded assessments possess excellent validity since they are designed directly by the subject specialists to assess students they know and teach. *In addition, since teachers are collecting these data anyway for subject grading, the NSLC information regarding students' achievement of competencies can be collected without creating additional work for teachers.*

Examples of embedded assessment that provide direct measures of student learning include:

- Writing samples

- Projects

- Comparisons between pre and post-test scores (this does not have to be the exact same test as long as you are testing the same area of knowledge or skills)

- Research papers

- Case studies

- Team/group projects and presentations

OF NOTE:

- All teachers should be actively involved in the development of learning opportunities and assessment of competencies.

- Assessment of competencies should be embedded within regular teaching and learning activities whenever possible.

- Assessment of competencies is an ongoing process.

- The plan must be inclusive in design, providing all students with the opportunity to achieve learning outcomes and competencies.

- The plan should provide valid, reliable and transparent measures of student achievement.

- The results of assessment activities should be clearly linked to descriptors and performance criteria.

- The results of assessment activities should be available to students and parents.

PHASE 2 - DO

Step 4: Teach and Learn

After the plan has been developed, the next step is to implement. This part of the process might be called simply 'teaching and learning', since it refers to all the activities carried out to prepare and support students through their learning journey leading up to assessment. It consists of delivering a mixture of structured activities and independent study. As mentioned above, these learning activities should be aligned throughout to the learning outcomes, competencies and the assessment tasks. Different types of assessment tasks will have different support requirements.

Step 5: Collect Data on Students' Competencies

Often the most important student learning outcomes are the ones most difficult to assess with any recognized level of objectivity. These outcomes include competencies such as communication and critical thinking skills. In these cases, the use of a scoring rubric can bring clarity and a measure of objectivity to the assessment process. **Rubrics** specify exactly how an assignment is measured/ assessed, tying the grade to evidence of specific skills or information and ensuring that grading is consistent among instructors. The competency grid is one such rubric.

The competency grid provides the performance criteria against which students' work **should** be measured along with the text descriptors indicating the quality of the work required within each competency (See pages 25 -29). This is a key tool for both staff and students in the assessment process and both the criteria and descriptors should be related to the method of assessment selected for the teaching and learning activities/task (s).

Before the assessment task is undertaken, teachers are required to share and discuss the competency grid and other marking rubrics (where necessary) with students. Teachers should focus on the competency and objectives that will be assessed by the particular task(s). This should help teachers to communicate their expectations and enable students to seek clarification of any points in the scheme.

During the marking process, the competency grid is the point of reference for the teacher who should make active use of it to inform his/her determination of competency, thereby ensuring that the process is as objective as possible. Effective use of the grid and other rubrics will help to ensure consistency of marking and use of feedback across a cohort of students particularly where more than one teacher is involved in the process. Teachers should clearly indicate to students whether or not they meet the performance criteria and ultimately achieve the competency.

In addition, when feedback is given to students, the competency grid should provide the basis for comments which should include explicit reference to the descriptors and performance criteria.

OF NOTE:

The evidence collected from assessment methods should be summarized clearly and concisely to provide effective feedback.

PHASE 3 - CHECK

This phase represents the extent to which evidence of student achievement is used to conference with students and parents, identify areas where changes in practices may lead to improvement, inform institutional decision-making, identify problems , plan, set goals, and review programmes.

Step 6: Record Competencies

Teachers should record in their mark books students' performance on each criterion and later students' achievement of competency. Sample documentation materials in Appendix 2 provide both guidance and templates for the school's use.

Step 7: Analyse Results & Provide Feedback

Analyze

At this point, all teachers should analyse students' performance on the learning outcomes and competencies that were identified in the plan. This step should be done to coincide with the school's established reporting period. Subject teachers should share their analysis with form teachers, grade coordinators and heads of departments/ lead teachers. This information should be cascaded to the NSLC School Committee for decisions to be taken prior to the start of the next teaching cycle.

The NSLC Administrators should review the effectiveness of the programme after each assessment cycle, record reflections and update the Committee through an evaluation report. (See Appendix 4) The NSLC Administrator should review assessment across each level on a termly basis, using results and student and staff evaluations as a basis for discussion and for considering necessary recommendations for implementation.

In order for students to know how to improve, they need to understand three things about their performance:

- strengths
- areas for improvement
- what they need to do differently in order to be more successful

During this phase, teachers should help students to understand these three areas by giving them useful feedback. Feedback is any reaction connected to a learner's work. It can be spoken, written, or simply be a symbol. Feedback is not limited to the end of a task, activity, or unit. Effective feedback includes useful suggestions while a task is in progress, and suggestions that are doable and which learners are able to understand.

OF NOTE:

Feedback is an important aspect of improving learner motivation. In order for our learners to move forward, they require feedback that is both encouraging and helpful – this is often referred to as feedforward.

The feedback learners are given on their performance generally has a direct impact on them. This is why much thought must be given to making feedback as significant, comprehensive, and meaningful as possible for learners.
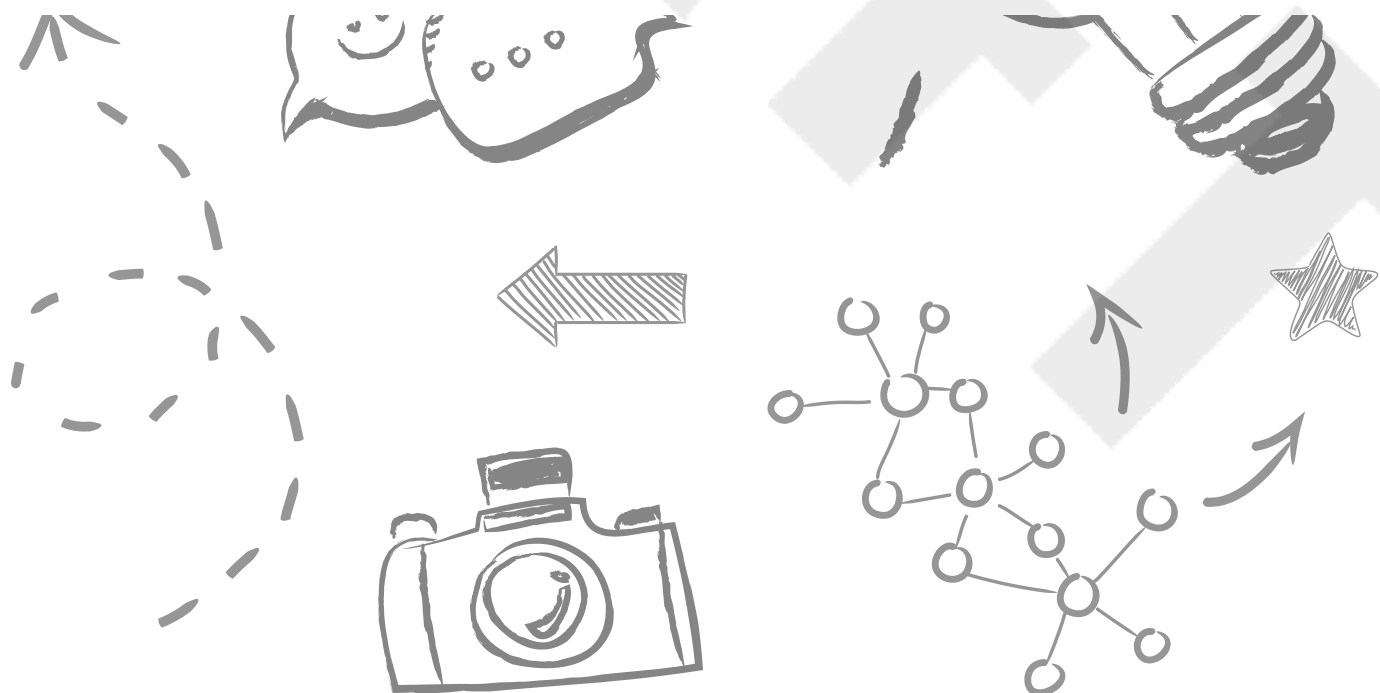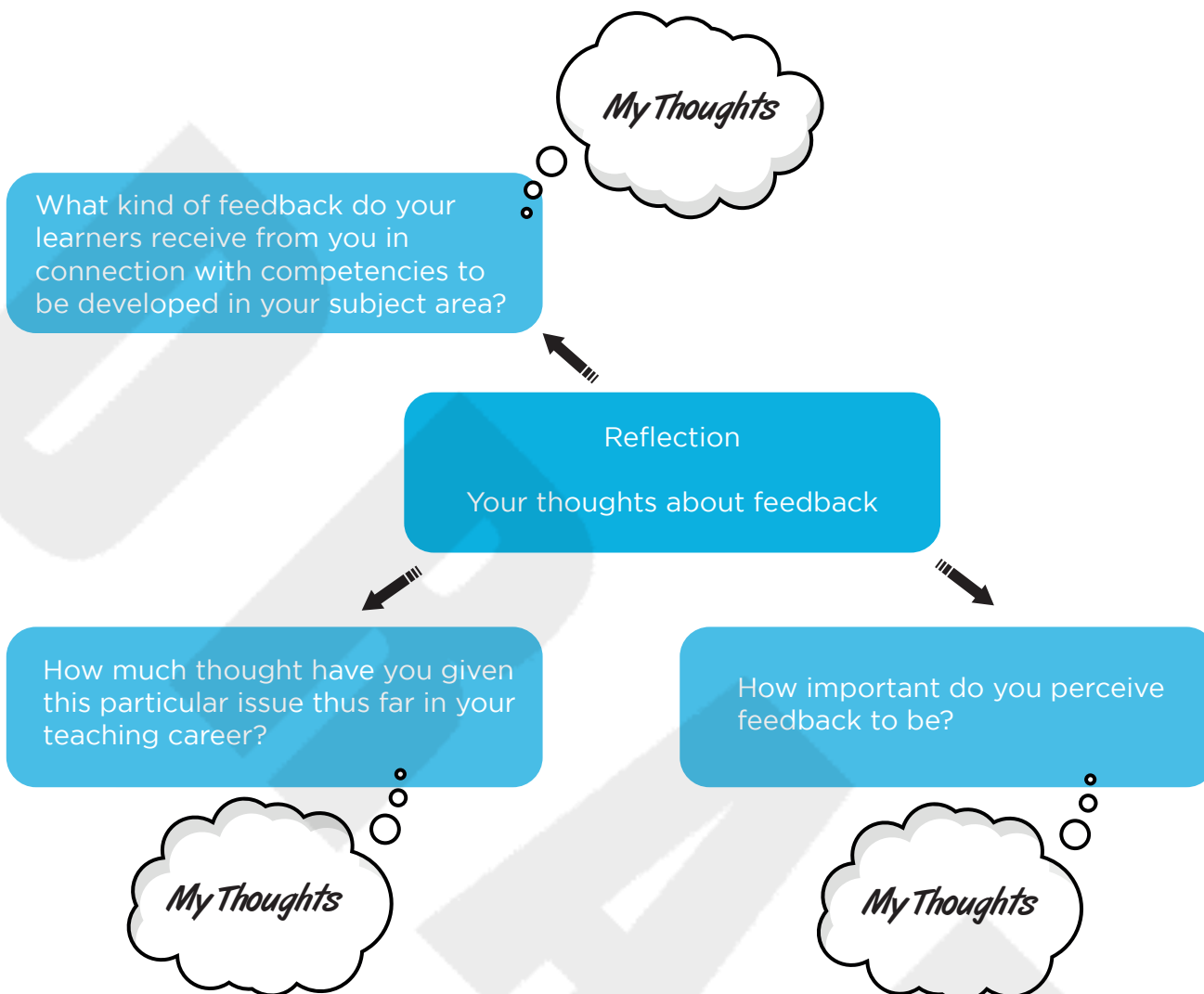
Figure 4.   Flowchart Showing Mental Feedback Process

Feedback must be related to the learning aims to ensure that students' learning progresses as much as possible. Teachers should allow students to self-reflect and ask questions and not simply tell them what they did or did not do. For this reason, students can use the following questions as they engage in self-reflection:

| What are my goals for this Unit/ class? | What progress am I making toward the goals? | What do I need to do to improve? |

OF NOTE:

Principles in Providing Feedback

- *Effective teacher feedback must support students' learning rather than only judge their learning outcomes.*

- *Feedback must be comprehensible to learners so that they can use it to improve their learning.*

- *Feedback should not be a one-way phenomenon. Learners should be allowed to self-reflect, question and respond to feedback – Do they agree? Do they know the consequences it will have on their learning?*

- *Any feedback you give should be personal. Naturally, feedback can also be given to groups or pairs, but this should be in addition to and not a substitute for personal feedback.*

- *Feedback should be timely.*

PHASE 4 - ACT

Step 8: Recommend and Implement Actions

Assessment results are worthless if they are not used. This step is a critical step of the cyclical process. The process has failed if the results do not lead to adjustments or improvements in plan. The results of assessments should be disseminated widely to all members in the grade and or department in order to seek their input on how to improve teaching and learning from the assessment results. In some instances, changes will be minor and easy to implement. In other instances, substantial changes will be necessary and recommended and may require a longer time to be fully implemented. The NSLC School level committee should meet and revise the plan based on observations, feedback from stakeholders and assessment data. The implementation of key improvement strategies requires consistent monitoring, agile leadership and a focus on learning.

Step 9: Moderation

Moderation is a key step separate from the marking of assessments, which ensures that an assessment outcome is fair, valid and reliable, that performance criteria have been applied consistently, and that any differences in judgement between individual markers can be acknowledged and addressed. It ensures consistency in marking within cohorts and across time. The NSLC Committee should establish the moderation period at each school. Moderation must take place before student outcomes and evidence are externally reviewed and uploaded to the database.

The NSLC Committee is responsible for determining the form of moderation and for ensuring the appropriate operation of the moderation processes. Heads of Departments are responsible for organising and supervising the moderation processes for the assessments for their subject areas. The Head of Department recommends one or more member(s) of academic staff (a 'moderator') to undertake the moderation activities.

OF NOTE:

The moderator should not be a first marker for the assessment.

The Head of Department, Grade Coordinators and NSLC Administrator should meet with those involved in the moderation process in advance to ensure everyone understands how the processes will operate, who is responsible for which aspects of the process, and to arrive at a shared understanding of how the performance criteria should be applied.

While we recognize that moderation can be done through a variety of methods, the NSLC recommends the moderation method of **Sampled Second Marking.**

Sampled Second Marking involves one or more first markers marking all students' assignments for an assessment, and a moderator reviewing these marks for a specified proportion of students' assignments.

The NSLC Committee should determine and state the proportion and minimum number of assignments to include in the sample prior to the assessment. A recommendation is for a minimum sample size of 10% of the total number of assignments, and a maximum sample of 50% of assignments be moderated. For courses with small cohorts (e.g. 20 or less), a sample of five to ten would be appropriate. **The sample should include examples of assignments that have been deemed to achieve competency and those that have not yet met the level of competency.** Where the marking has been conducted by a team of first markers, the sample should include assessments marked by each of the first markers.

The moderator should review the first markers' scores and comments for the sample, and check that scoring for the sample is consistent with the competency grid. If a team of first markers is involved, the moderator should also check that they are all taking a consistent approach. If the moderators are not satisfied that the ratings are appropriate, they should discuss them with the marker(s) concerned and then negotiate any necessary adjustments to the rating and associated feedback. Where the moderator identifies a systematic issue regarding the marking, any adjustments or remarking should be applied to all relevant students (e.g. all the students who attempted the assessment, or all the students marked by a particular marker), not just those in the moderation sample. Moderation and remarking must be completed by May of each academic year.

Step 10: Uploading of Students Work

At the end of the year, after the moderation process has been completed students will select the pieces from their portfolios that reflect their achievement of competencies for submission. Using the Competency Summary Sheet for Students (See Appendix 2), each form teacher will document the competencies achieved by each student once the piece of assignment sample submitted bears the ratification of the subject teacher. This information will be uploaded to the NSLC's database by the person(s) authorized by the Committee.

Step 11: Evaluating, Reflecting and Enhancing

At the end of the year the NSLC Committee should use the database to generate individual, class level and school level reports. Once the reports have been analysed, a period of reflection should ensue and plans made for the next academic year. This is facilitated through the completion of the evaluation report (See Appendix 5). At this point the **plan-do-check-act cycle** is complete.

OF NOTE:

The plan-do-check-act cycle provides the basis for the NSLC implementation.

Summary Thought

As your school moves through the implementation process, there may be challenges and barriers from workforce capabilities and professional learning, to resource management and leadership that may be encountered. An adaptive approach to implementation, therefore, will help to ensure the successful outcome of the programme. The approach must surely focus on open, on-going communication with staff and students, shared/distributed leadership, and student-centred learning.

OF NOTE:

Principles of effective implementation

- *School leaders should manage expectations of staff at the initial stage of implementation.*

- *An appropriate amount of risk and uncertainty are accepted.*

- *Solutions to challenges and barriers are collaboratively negotiated and discussed with students and staff.*

- *Implementation values and prioritises reflection and learning.*

- *Professional learning for staff is embedded in the approach to implementation.*

CHAPTER
03

Overall Responsibilities of the NSLC School Level Committee

Development of the NSLC Committee
p.68

NSLC Committee Members - Responsibilities
p.69

Principal •••••••••• NSLC Administrator

Lead Teacher/ Heads of Departments •••••••••• Form Teachers

Guidance Counsellor •••••••••• Special Education Coach

Student Representative •••••••••• Data Entry Personnel

Parent/ Community Representative •••••••••• Territotial Education Offcer

Terms of Reference
p.74
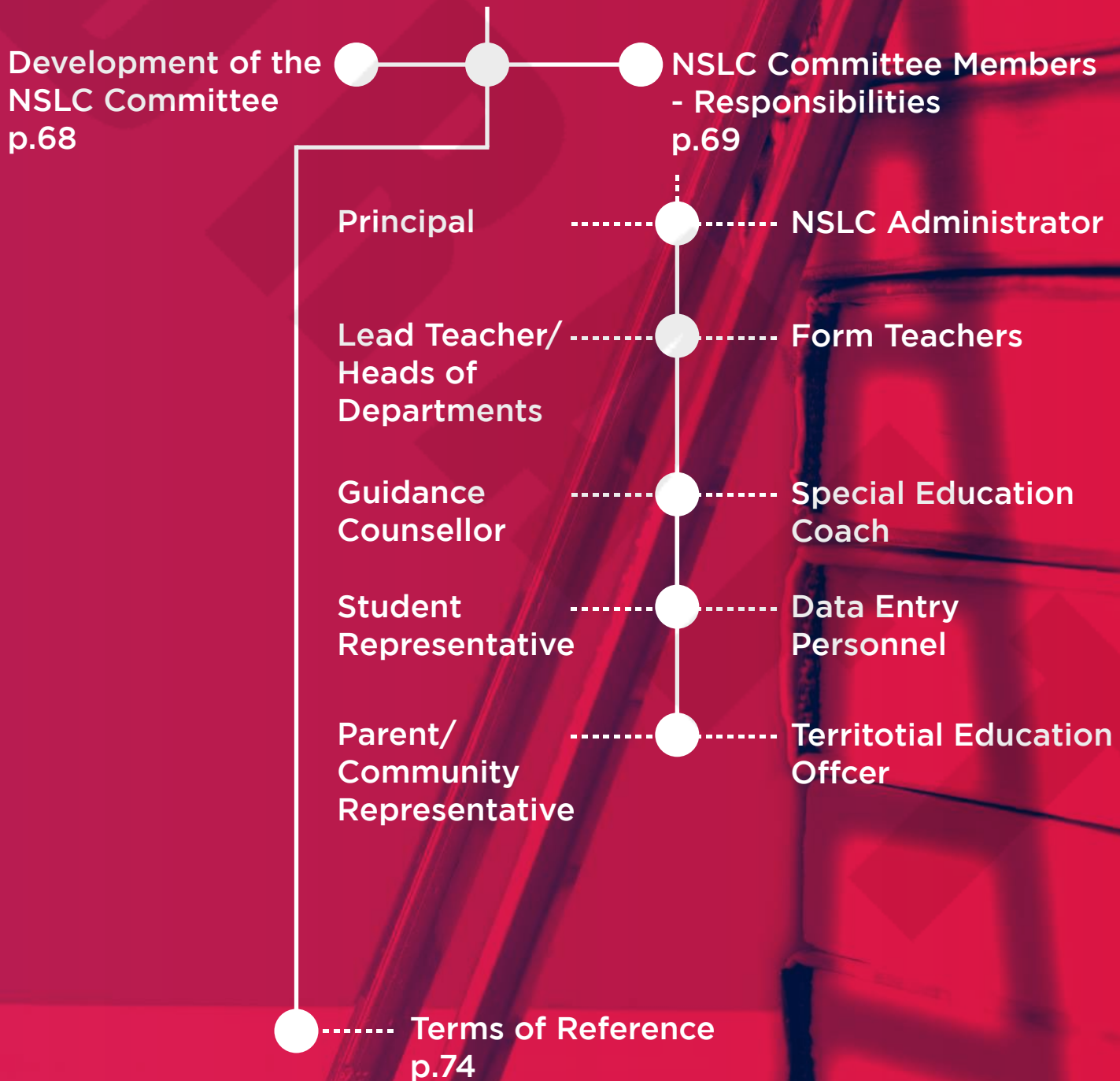
CHAPTER

3.

THE NSLC: PURPOSE AND STRUCTURE OF THE SCHOOL LEVEL COMMITTEE

Fundamental to any institution are the operating systems that clearly delineate structure and management. Both of these are critical for the institution to achieve its projected goals. Committees, in effect, are the operating systems of an institution. For this reason, the development of school level NSLC committees and their effectiveness are critical to the offering of the National School Leaving Certificate.

The National School Leaving Certificate School Level Committee should be a sub-committee of the Curriculum Implementation Team (CIT) already established in many schools. The main purpose of the Committee is to create a system that provides opportunities for recording evidence of achievement and learner's reflection on progress towards the certificate. To ensure the appropriate offering of learning opportunities for the Certificate, the following are specific responsibilities of the NSLC School Committee.

The NSLC School Committee will:

- develop an implementation plan for the NSLC with a clear public education strategy
- guide the implementation of the NSLC in the school
- be responsible for planning and conducting orientation with staff, students and parents
- facilitate on-going training sessions of staff based on identified needs
- establish the moderation period and coordinate the moderation process
- act as final arbiter of complaints about competency assignments and community service
- conduct annual review of the operation of the NSLC and plan for the next academic year
- represent the school at workshops, meetings and conferences regarding the NSLC
- respond to queries, concerns or requests from stakeholders

Development and Composition of NSLC Committee

The work of the National School Leaving Certificate Committee should represent a collaborative initiative that draws on the competencies of several stakeholders in coordinating the programme. Each school is therefore, required to carefully select a team of individuals that share a common vision of the programme and have a vested interest in students' welfare.

The following identifies the recommended composition of the NSLC School Level Team.

NSLC School Level Committee
- Principal (s)/Vice Principal
- NSLC Administrator/Exam Coordinator
- Lead Teachers – (Grade Coordinators/Heads of Department)
- Form Teachers/Subject Teachers
- Guidance Counsellor
- Special Education Coordinator/Pathway Coach
- Student Representative
- Data Entry Personnel
- Parent/Community Representative
- Regional Education Officer – (Ex Officio)

NSLC Committee Members - Roles and Responsibilities

To ensure the appropriate identification and documentation of learning opportunities for the NSLC, each school needs to assign the roles and responsibilities as outlined in Table 7.

Staff member	Responsibilities
Principal	• Chairs *(or assigns chair)* the NSLC School Committee • Ensures appropriate arrangements for documenting learning experiences are in place for the offering of the Certificate • Provides appropriate human resources and the relevant structures to facilitate and sustain the NSLC • Ensures appropriate classroom instruction, assessment and evaluation practices are being utilized by the teachers • Facilitates seminars/workshops where necessary for staff development to maintain best practices • Introduces the NSLC to parents at the beginning of the school year • Serves as liaison with the Regional Office
NSLC Administrator/Exam Coordinator	• Plans and oversees the implementation of systems for gathering and recording of evidence; for assessing and standardising of learners' growth and improvement in knowledge skills and attitudes within established timelines • Organises and supervises the moderation process • Ensures compilation and submission of relevant data/reports to the Principal, the committee and the Regional Education Officer • Implements appropriate systems for the completion of the community service component • Conducts site visits to strengthen and improve community service placements • Manages the NSLC database

Table 7.   Roles and Responsibilities of NSLC Committee Members

Lead Teachers / (Grade Coordinators/Heads of Departments)	• Ensure that lesson plans identify the competencies that are to be developed • Ensure information regarding procedures for completion of late or missed assignments are communicated to students and parents /guardians early in the school year • Assist with the standardisation of the evidence identification and documentation process in the school • Oversee submission of accurate information for documentation on the Certificates (Grades 11 & 13) • Liaise with Form/Subject Teachers on learners' progress towards gaining the Certificate
Form Teachers/Subject Teachers	• Ensure classroom assignments provide students with multiple opportunities to demonstrate their progress toward achievement of the competencies within the context of the subject/ course design • Clearly communicate to the students the purpose and expectations of the assignment; the criteria for evaluating the work and the competencies identified to the students • Confirm, collate and document the achievement of learner competencies • Advise and support learners on selection of assignments in the various subject areas for students' portfolios • Provide timely, descriptive feedback of what each student knows and is able to do in relation to the expected learning outcomes, and how the student can improve in relation to those outcomes • Support learners' participation in the community service component of the NSLC

Table 7.   Roles and Responsibilities of NSLC Committee Members

Guidance Counsellor	• Counsels individual students and provides group education on the importance and value of competency development and volunteerism • Assists students to conscientiously assess their personal characteristics and potentials • Assists with student orientation to the community service component of the NSLC • Advises on site selection for the community service component • Serves as liaison between school and community • Monitors time cards, journals and evaluations received from institutions in which community service is undertaken • Provides career and academic counselling

Student Support Pathway Coach	• Supports individual learners with special needs where appropriate regarding the achievement of the NSLC • Provides the Committee with current knowledge of special education best practices and trends • Prepares and assists students with special needs with the undertaking of the community service component of the NSLC • Liaises with site supervisors to encourage the welcome and support of students with special needs • Liaises with teachers to ensure appropriate modifications and accommodations for students with special needs

Table 7.   Roles and Responsibilities of NSLC Committee Members

Student Representative	• Participates in Committee meetings to provide learner perspective • Presents matters for consideration in the implementation and operation of the NSLC • Provides feedback, gives guidance and encouragement to peers regarding achievement of the NSLC
Data Entry Personnel	• Assist the NSLC team in the data collection process. • Enter ratified learner- competence data in the Ministry's database annually. • Review data for errors; correct any inconsistencies if possible and check output. • Access, scan and print relevant files when needed. • Must comply with data security policies
Parent/Community Representative	• Participates in the promotion of the NSLC and serves as liaison between school and community • Assists with the identification of community service activities • Provides general supervision of students on site where applicable • Reports observations or areas of concern to the Committee
Regional Education Officer *(Operates as an Ex Officio member of NSLC School Level Committee)*	• Coordinates the external moderation of learner competencies • Plans staff development training/seminars to improve teacher competence and enhance delivery of the curriculum • Reviews reports, provides feedback and make recommendations for improvement on an annual basis • Establishes system for improvement of schools within the QECs • Ensures preparation and delivery of Certificates to cluster schools

Table 7.   Roles and Responsibilities of NSLC Committee Members

OF NOTE:

- The committee ensures that the entire school knows about the programme and receives regular updates

- The membership of the committee MUST be submitted to the NSLC Unit by the 2nd Friday in October biennially (If there are changes prior, then the school should inform the Unit)

- The Committee must meet regularly to discuss plans for monitoring and evaluating the programme objectives

- The NSLC Committee is governed by a Terms of Reference (ToR)

- Emphasis should be placed on the undertaking of the roles and responsibilities of the committee and not on the size of the committee

- The data entry personnel MUST comply with confidentiality terms, data integrity and security policies.

TERMS OF REFERENCE FOR THE NSLC COMMITTEE

1.0   INTRODUCTION
These guidelines are designed for the **National School Leaving Certificate Committee in all secondary level institutions.** It is intended to provide concrete ideas on how the local committee can be organized and maintained to function effectively. The most important ingredient for success, however, is a willingness and commitment on the part of the school's administration and the committee members to have an effective body.

2.0   PURPOSE
The local committee has several major goals:
- Provide information to update, modify, expand and improve the quality of the NSLC programme
- Support and strengthen the relationship between business, industry, the community and education
- Make recommendations to strengthen the delivery of the curriculum, and provide assistance in implementing these recommendations
- Assist in identifying needs, determining priorities, and reviewing and evaluating the plan developed by the school
- Articulate long-term goals and objectives of the NSLC programme to parents, employers and the community.

3.0   DELIVERABLES
The Committee will provide to the Ministry of Education, Youth and Information through the Chairperson, periodic updates regarding the pilot and full implementation of the NSLC, which should include the following:
1. The names of members of the Committee
2. The implementation plan for the NSLC
3. Proposed mechanism for the public education campaign.
4. Minutes of meetings
5. Report on the programme

4.0   THE CHAIRPERSON
The Principal or his designate shall chair the committee. A deputy chairperson can be drawn from the membership on a rotational basis for a maximum period of two serving terms of two years each.

4.1   Responsibilities of the Chairperson
The overall responsibility of the chairperson will be to represent the NSLC Committee, oversee and guide the deliberations of the NSLC Committee to ensure that decisions taken are actionable and are in line with the objectives for the National School Leaving Certificate. He/ She will work closely with the National Coordinator on advancing the implementation of the National School Leaving Certificate.

5.0   MEMBER APPOINTMENTS
The membership of the NSLC Committee shall be determined by the Principal, based on the recommendations of the Lead Teacher, taking account of the job functions to be performed and the representation necessary to deliver the Committee's remit. The members will provide services in the areas of staff development, student support, partnership and collaboration and programme development.

6.0 COMMITTEE MEETINGS

6.1 Frequency of Meetings

Meetings will be convened every other month or at such other times as the Chairperson requires. Members may join meetings via video or teleconferences as allowed by the Chairperson.

6.2 Quorum

The quorum shall be set at one third of the membership including the Chair (or nominated deputy).

6.3 Notice of meetings

Meetings of the Committee shall be called by the NSLC Coordinator at the request of the chairperson.

Unless otherwise agreed, notice of each meeting confirming venue, time and date, together with an agenda of items to be discussed shall be forwarded to each member of the Committee and to any other person required to attend no later than 2 working days before the date of the meeting. Supporting papers shall be sent to Committee members and to other attendees, as appropriate, at the same time.

6.4 Attendance and Decisions

The Chairperson of the NSLC Committee may allow an appropriate alternate to attend a meeting in place of a member who is unavailable. For a quorum, the alternate shall be counted as a member and shall have full decision making rights on that occasion.

The NSLC Committee may request the presence, at any of its meetings, other stakeholders as it may decide; however, such stakeholder will be deemed to be a non-member and as such has no decision making rights. It is expected that all major decisions will be approved by the majority of members present.

7.0 GOVERNANCE

The NSLC Committee shall report to the School Board and Education Officer and shall submit a written report on the administration/activities of the NSLC Committee or otherwise as directed.

8.0 TENURE OF THE NSLC COMMITTEE

Committee members will serve for a period of one (1) year in the first instance but no longer than three (3) years. The Committee will be dissolved on completion and submission of its deliverables. Dissolution will be done on the instruction of the Principal.
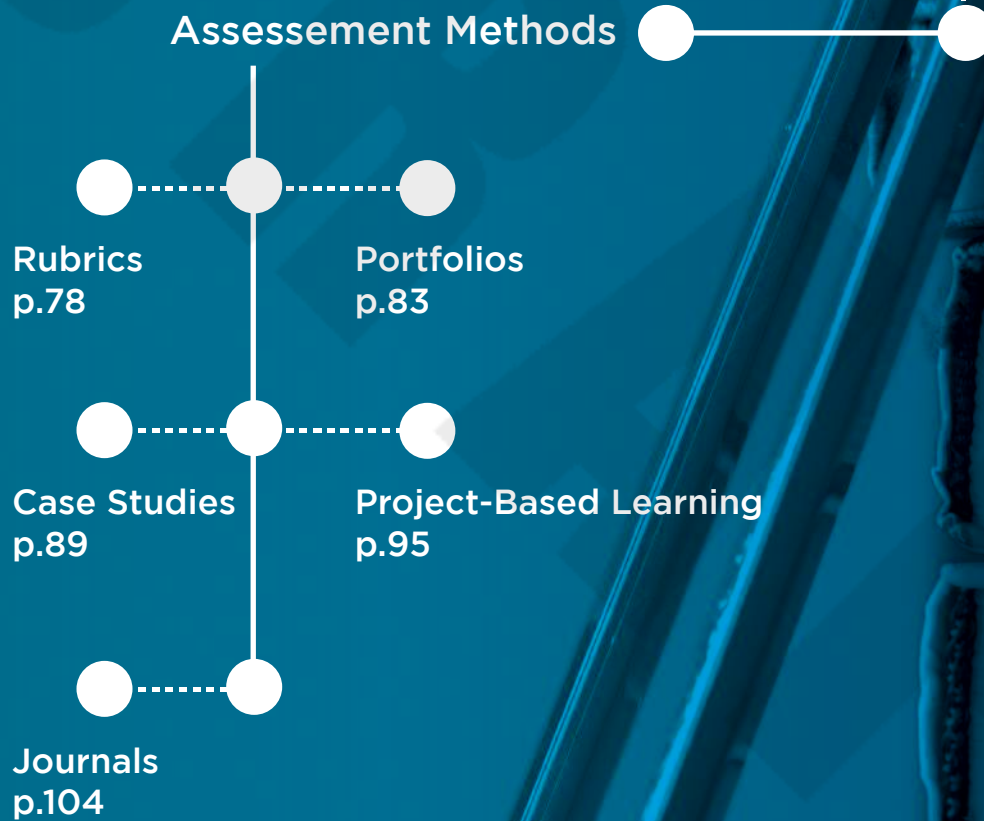
9.0 AMENDMENTS TO THESE TERMS OF REFERENCE

Amendments to the Terms of Reference may be made at any time in the same manner as these Terms of Reference were reviewed and affirmed.

CHAPTER
04

Competency Assessment Process

Assessement Methods

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Portfolios
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Case Studies
p.89

Project-Based Learning
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Journals
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CHAPTER

4.

THE NSLC: ASSESSMENT METHODS FOR COMPETENCY BASED EDUCATION

The integration of competency-based learning in the classroom environment reflects the world our students are preparing to enter after secondary school. Therefore, designing competency-based assessments is about creating opportunities for the demonstration of knowledge, skills and attitudes in authentic contexts. The purpose of these assessments is to focus less on data collection and more on empowering students to manage what they have learned, reflect on how they are doing, and plan what they will learn next.

There are different approaches to competency based assessment. One typical approach is explained in the Fig 5.0 on p.78. As teachers contemplate the various assessment methods to be utilized, it is important that they are guided by the key principles involved in the assessment process. Each step in the diagram is critical to the learner achieving competency in an area.

Selecting Assessment Methods

The assessment method selected must take into account the subject being taught, the characteristics of the learner and the expected learning outcomes. For example, a portfolio may be ideal for students focused on designing or writing, but difficult or impractical for calculating a mathematical problem. Subject area specialists and heads of departments are most suited to determine what type of assessment method best measures student competency.
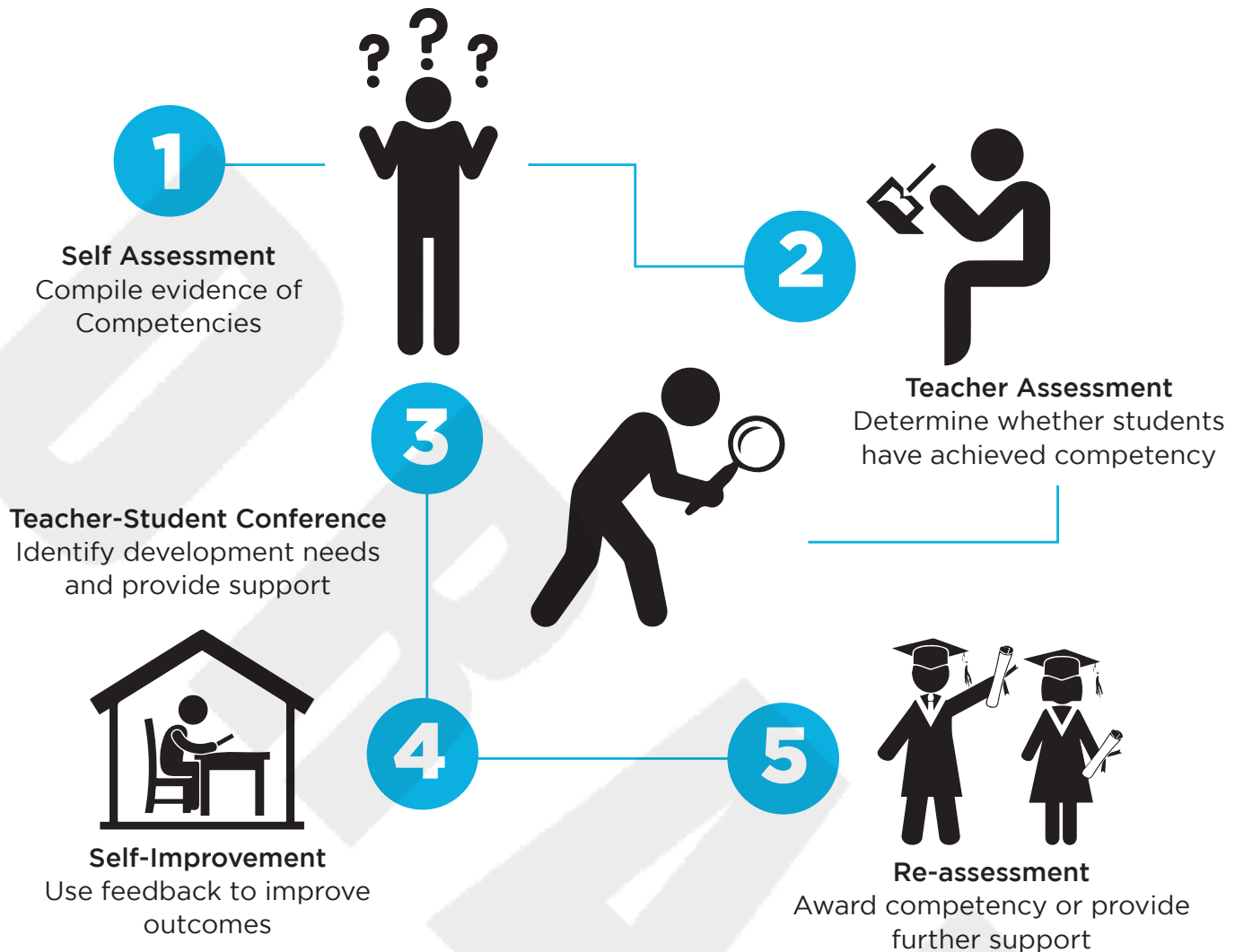
Figure 5. A Typical Competency Assessment Process

What is a rubric?

A rubric is a coherent set of criteria for students' work that includes descriptions of levels of performance quality on the criteria. In competency-based learning, a rubric is used for far more than scoring. Rubrics provide a simple and clear solution to articulating students' achievement in the desired competency. Rubrics built on clearly articulated competencies and learning outcomes can be used to establish clarity with students about what they are learning and why they are learning it.

Purpose

Like any other assessment tool, rubrics are useful for specific purposes. *The main purpose of rubrics is to assess performances.* For some performances, teachers observe the student in the process of doing something, like using an electric tool or discussing an issue. For other performances, teachers observe the product that is the result of the student's work, like a finished chair or a written report. Table 8 lists some common kinds of school performances that can be assessed with rubrics. This list by no means covers every possible school performance. It is just meant to help teachers think of the types of activities they might assess with rubrics.

Type of Activities	Examples
Processes • **Physical skills** • **Use of equipment** • **Oral communication** • **Work habits**	• Playing a musical instrument • Doing forward and backward defensive shots • Preparing a slide for the microscope • Making a speech to the class • Reading aloud • Conversing in a foreign language • Working independently
Products • **Constructed objects** • **Written essays, themes, reports, term papers** • **Other academic products that demonstrate understanding of concepts**	• Wooden chair • Handmade apron • Watercolour painting • Laboratory report • Term paper on themes explored in West Indian Literature • Written analysis of the effects of Climate Change • Model or diagram of a structure (atom, flower, planetary system, etc.) • Concept map

Table 8.   Types of Activities That Can Be Assessed with Rubrics

OF NOTE:

Benefits of Using Rubrics

1. Rubrics create a focus on instruction and learning.

2. Rubrics improve the clarity of the feedback provided to students – students get a clear description of their strengths and weaknesses.

3. Rubrics characterize the desired results/products of student work objectively – they give students clear instruction about the instructor's expectations for an assignment.

4. Rubrics are operational definitions for the standards used to evaluate performance – enables multiple graders to evaluate student work consistently and reliably.

5. Students can use a rubric to assess their own work – they can have a better idea about whether they are meeting expectations before they submit their work for formal evaluation; thus, rubrics develop competence in self-evaluation.

6. Rubrics engage students in the learning process – when students can describe exactly what is expected of them, they may be more strongly motivated to work to meet these expectations.

04

Advantages and Disadvantages of Different Types of Rubrics

There are four basic types of rubrics. Rubrics are usually categorized by two different aspects of their composition. One is whether the rubric treats the criteria one at a time or together. The other is whether the rubric is general and could be used with a family of similar tasks or is task-specific and only applicable to one assessment. The two basic types are analytic and holistic.

- Analytic rubrics describe work on each criterion separately.

- Holistic rubrics describe the work by applying all the criteria at the same time and enabling an overall judgment about the quality of the work.

- General rubrics contain criteria that are general across tasks, or can be used with, different tasks. Note that the tasks all have to be instances of the same learning outcome—for example, writing or mathematics problem solving.

- Task- specific rubrics are unique, designed to assess specific tasks Task-specific rubrics contain the answers to a problem, or explain the reasoning students are supposed to use, or list facts and concepts students are supposed to mention.
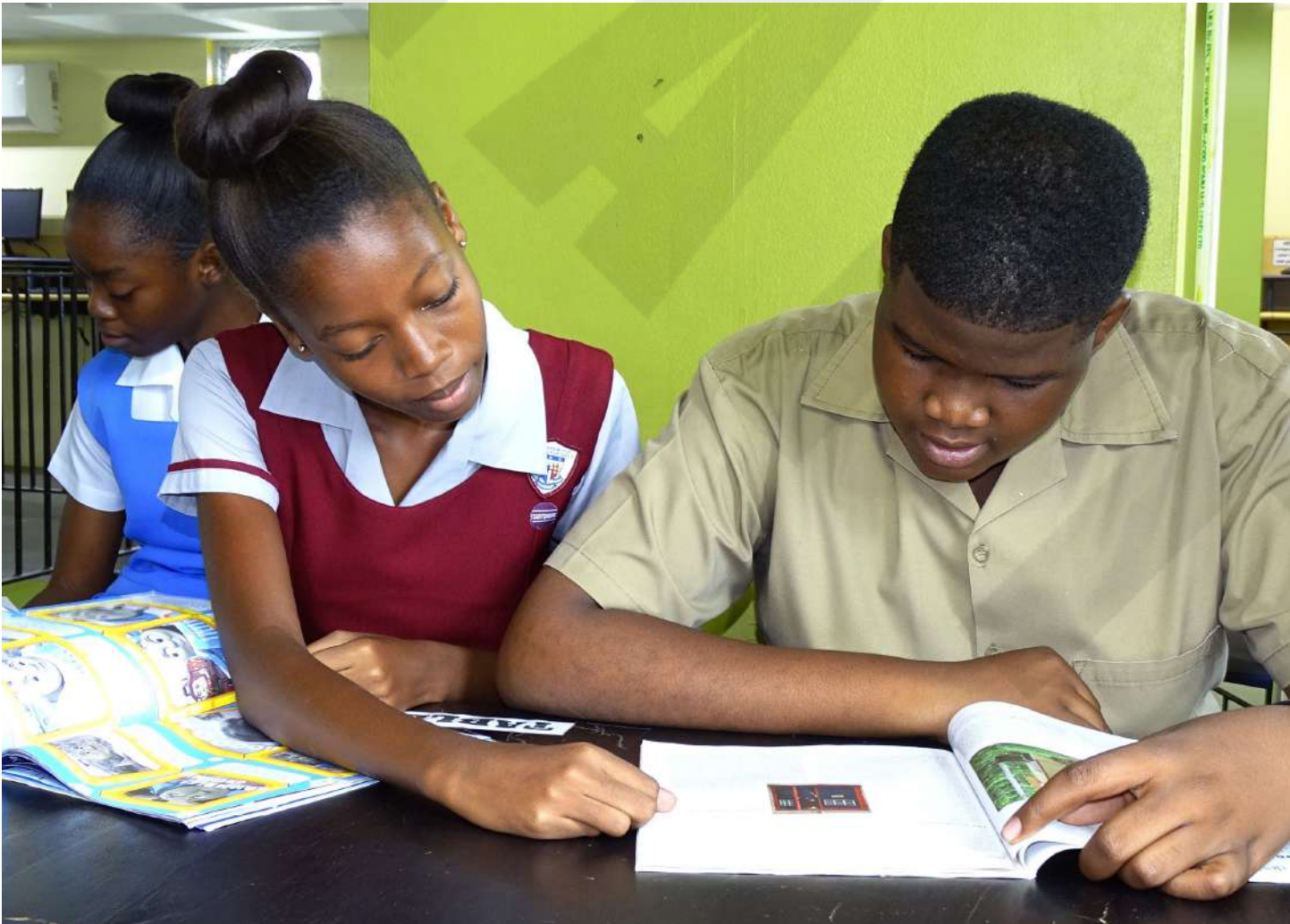
Type of Rubric	Definition	Advantages	Disadvantages
Holistic or Analytic: One or Several Judgments?			
Analytic	• Each criterion (dimension, trait) is evaluated separately.	• Gives diagnostic information to teacher. • Gives formative feedback to students. • Easier to link to instruction than holistic rubrics. • Good for formative assessment; adaptable for summative assessment; if you need an overall score for grading, you can combine the scores.	• Takes more time to score than holistic rubrics. • Takes more time to achieve inter-rater reliability than with holistic rubrics.
Holistic	• All criteria (dimensions, traits) are evaluated simultaneously.	• Scoring is faster than with analytic rubrics. • Requires less time to achieve inter-rater reliability. • Good for summative assessment.	• Single overall score does not communicate information about what to do to improve. • Not good for formative assessment.
Description of Performance: General or Task-Specific Rubrics			
General	• Description of work gives characteristics that apply to a whole family of tasks (e.g., writing, problem solving).	• Can share with students, explicitly linking assessment and instruction. • Reuse same rubrics with several tasks or assignments. • Supports learning by helping students see "good work" as bigger than one task. • Supports student self-evaluation. • Students can help construct general rubrics.	• Lower reliability at first than with task-specific rubrics. • Requires practice to apply well.
Task-Specific	• Description of work refers to the specific content of a particular task (e.g., gives an answer, specifies a conclusion).	• Teachers sometimes say using these makes scoring "easier." • Requires less time to achieve inter-rater reliability.	• Cannot share with students (would give away answers). • Need to write new rubrics for each task. • For open-ended tasks, good answers not listed in rubrics may be evaluated poorly.

Source: From Assessment and Grading in Classrooms (p. 201), by Susan M. Brookhart and Anthony J. Nitko, 2008, Upper Saddle River, NJ: Pearson Education. Copyright 2008 by Pearson Education. Reprinted with permission

Table 9. Types of Rubric

OF NOTE:

All types of rubrics have a place in authentic assessment depending on the following:

- Students (Because there is less detail to analyze in the holistic rubric, younger students may be able to understand it better than the analytic rubric)

- Number of Teachers scoring (Different teachers have different ideas about what constitutes acceptable criteria. The extra detail in the analytic rubric will help multiple teachers emphasize the same criteria)

- Purpose

Use a holistic rubric when:

- You want a quick snapshot of achievement.

- A single dimension is adequate to define quality.

Use an analytic rubric when:

- You want to see relative strengths and weaknesses.

- You want detailed feedback.

- You want to assess complicated skills or performance.

- You want students to self-assess their understanding or performance.

Use a task specific rubric when:

- You want to assess reasoning, skills and products.

- All students are not doing exactly the same task.

Use a general rubric when:

- You want to assess knowledge.

- When consistency of scoring is extremely important

Process

These steps are an adaptation of the guidelines from the University of West Florida Centre for University Teaching, Learning, and Assessment.

1.   Determine the elements or criteria that will be used to evaluate the work. (Performance Criteria/Indicators)
   - List all of the criteria or traits that must be present in the student's work to ensure that it is high in quality.
     OR
   - Describe the major attributes of the work that will contribute to the overall evaluation.
   -
2.   Identify the difference between good work and weaker work. (Performance Levels)

3.   Describe the procedures used for making judgments (or assigning scores). (Descriptors)

   - Write clear descriptions of the types of work that will be assigned to each category or level of achievement. These descriptions will help users apply the rubric consistently over time, increasing the reliability and perceived fairness of the evaluation process. Use:
     - Descriptions of the general characteristics of work assigned to each level of quality.
       OR
     - Specific, concrete examples or tell-tale signs of what to look for at each level of performance.

Portfolios

A portfolio is a purposeful collection of student work that exhibits the student's efforts, progress, and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging achievement and evidence of student reflection (Leon Paulson, 1991). Although portfolios may differ in their appearance, style, or presentation, a true student portfolio must contain three essential characteristics:

1. It must be a collection of work produced by an individual student.

2. The collections must be chosen with a purpose in mind, not simply selected at random.

3. Each piece of work must be accompanied by a reflection sheet on which the student describes the reason for including that piece in his or her portfolio.

Types

The three major types of portfolios are: working portfolios, display portfolios, and assessment portfolios (Danielson and Abrutyn (1997). Although the types are distinct in theory, they tend to overlap in practice. As a result, it is important for educators to be clear about their goals, the reasons they are engaging in a portfolio project, and the intended audience for the portfolios.

Working Portfolios

A working portfolio is so named because it is a project "in the works," containing work in progress as well as finished samples of work. It serves as a *holding tank* for work that may be selected later for a more permanent assessment or display portfolio.
A working portfolio is different from a work folder, which is simply a receptacle for all work, with no purpose to the collection. A working portfolio is an intentional collection of work guided by learning objectives.

Purpose

The major purpose of a working portfolio is to serve as a holding tank for student work. The pieces related to a specific topic are collected here until they move to an assessment portfolio or a display portfolio, or go home with the student. In addition, the working portfolio may be used to diagnose student needs. Here both student and teacher have evidence of the student's strengths and weaknesses in achieving learning objectives. Such information is extremely useful in designing future instruction.

Process

A working portfolio is typically structured around a specific content area or themes; pieces collected relate to the objectives of a particular unit and document student progress toward mastery of those objectives and/or achievement of competencies. Therefore, sufficient work must be collected to provide ample evidence of student achievement. Because diagnosis is a major purpose of the working portfolio, some of the pieces included will show less than complete understanding and will help shape future instruction.

The working portfolio is reviewed as a whole and its pieces evaluated—either periodically or at the end of the learning unit. Some pieces may be shifted to an assessment portfolio to document student acquisition of instructional objectives. Other pieces may be moved to a student's own display (or best works) portfolio or celebration of individual learning. Still other pieces are sent home with the student.

As students move pieces from a working portfolio into either an assessment or display portfolio, they describe the reasons for their choices. In this process of selection and description, students must reflect seriously on their work and what it demonstrates about them as learners. As students and their teachers look through the portfolio, they set short-term objectives for achieving certain curriculum goals. The portfolio thus provides evidence of strengths and weaknesses and serves to define the next steps in learning.

Display, Showcase, or Best Works Portfolios

Probably the most rewarding use of student portfolios is the display of the students' best work, the work that makes them proud. Students, as well as their teachers, become most committed to the process when they experience the joy of exhibiting their best work and interpreting its meaning. The pride and sense of accomplishment that students feel make the effort well worthwhile and contribute to a culture for learning in the classroom.

Purpose

The purpose of a display portfolio is to demonstrate the highest level of achievement attained by the student. Collecting items for this portfolio is a student's way of saying "Here's who I am. Here is what I can do."

A display portfolio may be maintained from year to year, with new pieces added each year, documenting growth over time. And while a best works portfolio may document student efforts with respect to curriculum objectives, it may also include evidence of student activities beyond the classroom (a story written at home, tasks completed for clubs ad societies for example).

Process

Most pieces for a display portfolio are collected in a working portfolio of school projects. Sometimes, however, a student will include a piece of work from outside the classroom, such as a project from Cadet or a poem written at home. Students select the items to be included in a display portfolio. Their choices define them as students and as learners. In making their selections, students illustrate what they believe to be important about their learning, what they value and want to show to others.
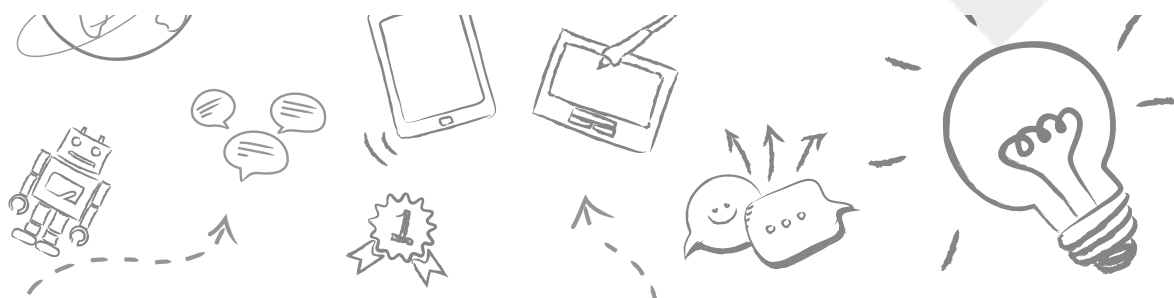
Assessment Portfolios

The primary function of an assessment portfolio is to document what a student has learned. The content of the curriculum, then, will determine what students select for their portfolios. Their reflective comments will focus on the extent to which they believe the portfolio entries demonstrate their mastery of the curriculum objectives. For example, if the curriculum specifies persuasive, narrative, and descriptive writing, an assessment portfolio should include examples of each type of writing. Similarly, if the curriculum calls for mathematical problem solving and mathematical communication, then the assessment portfolio will include entries documenting both problem solving and communication, possibly in the same entry.

Purpose

The primary purpose of an assessment portfolio is to document student learning on specific curriculum outcomes. As such, the items in the portfolio must be designed to elicit the knowledge and skill specified in the outcomes. It is the assessment tasks that bring the curriculum outcomes to life; only by specifying precisely what students must do and *how well they must do it* do these statements of learning have meaning.

Assessment portfolios may be used to demonstrate mastery in any curricular area. They may span any period of time, from one unit to the entire year. And they may be dedicated to one subject or many subjects. For example, a teacher may wish to have evidence that a child has achieved competency. The performance criteria for competency achievement must be established and the type of evidence required. Then the portfolio is compiled and assessed.

Process

There are eight basic steps in developing an assessment portfolio system. Since portfolio entries represent a type of performance, these steps resemble the principles for developing good performance assessments.

1. Determine the curricular objectives to be addressed through the portfolio.
2. Determine the decisions that will be made based on the portfolio assessments.
3. Design assessment tasks for the curricular objectives. Ensure that the task matches instructional intentions and adequately represents the knowledge, skills and attitudes (including the appropriate level of difficulty) students are expected to attain. These considerations will ensure the validity of the assessment tasks.
4. Define the criteria for each assessment task and establish performance standards for each criterion.
5. Determine who will evaluate the portfolio entries.
6. Train teachers to score the assessments. This will ensure the reliability of the assessments.
7. Teach the curriculum, administer assessments, collect them in portfolios, and score assessments.
8. As determined in Step 2 above, make decisions based on the assessments in the portfolios.

04

Innovative Uses of Portfolios

A major contribution of portfolios is that they allow students to document aspects of their learning that do not show up well in traditional assessments. For example, community service.

Community Service

Community service is now required by all secondary- level educational institutions. Since this type of activity is not well suited to traditional assessments such as tests and quizzes, portfolio assessment provides an excellent vehicle for assessing the goals of the community service component. Students can collect examples of service, select the best ones, reflect on their experiences, and determine future goals. The entries in such a portfolio might include research, narrative summaries of activities performed, pictures, videos, projects, and the like. The community, in addition to the school, may be an audience for this portfolio.

OF NOTE:

Benefits of Using Portfolios

Portfolios show the cumulative efforts and learning of a particular student over time.

They offer valuable data about student improvement and competency achievement.

Along with student reflection, portfolios provide valuable information about how each student learns and what is important to him or her in the learning process. When students can describe exactly what is expected of them, they may be more strongly motivated to work to meet these expectations.

A case study is a research strategy involving an up-close, in-depth, and detailed examination of a subject of study (the case), as well as its related contextual conditions (McLeod, 2019). According to Davis & Wilcox (2003), a case study helps in effecting understanding of a complex issue or subject. It can extend experience or add strength to the existing knowledge from previous research. The subject of study can be a person, a group, an event, a phenomenon, a community or a geographical region. The subject of study is referred to as a unit of analysis. A unit of analysis is the 'who' or the 'what' that is being analysed for the study (Trochim, 2006). The real-life nature of case studies brings interest and relevance to the application of abstract concepts and theory into practice.

Case studies can be holistic or embedded. A holistic case is one where the case is the unit of analysis; an embedded one is where there are several units of analysis in the case, (Yin, 2003). For example, a case could be about a school and its response to a new demographic trend, in which case it would be holistic. If within the school, several different classes were studied, then these sub-units, or "mini cases", would be embedded within the overall case. The holistic case study is shaped by a qualitative approach and relies on narrative description. On the other hand, the embedded case study is not limited to qualitative analysis only but presents findings both qualitatively and quantitatively.

Purpose

The general purpose of a case study is to describe an individual situation in detail, identify the key issues of the case, analyse the case using relevant theoretical concepts from the subject or discipline and recommend a course of action for that particular case. McLeod (2019) posits that by engaging in the case, students apply the concepts, techniques and methods of the discipline and improve their ability to apply them. Subsequently, competencies such as communication, research, investigation and exploration, critical thinking, problem-solving, self-management and collaboration are developed as students process and conduct the study.

Types of Case Studies

There are many types of case studies that can be undertaken based on the subject (phenomenon, person, place etc.) being investigated and the kind of questions asked. For the purposes of this manual, four types of case studies will be explained. These are: **explanatory, exploratory descriptive and narrative.**

04

Explanatory Case Study

In an explanatory case study, the objective is to pose competing explanations for the same set of events and to indicate how such explanations may apply to other such situations. According to Yin, (2014), explanatory case studies seek to answer the questions 'HOW" or 'WHY'. The only goal here is to explain a phenomenon, problem or question to the reader. There are no results that have to be interpreted. All that is expected is to select the topic, explore it and give a clear explanation.

For instance, a teacher may want a student to discover the importance of Marcus Garvey as a national hero: why is he a national hero, what exactly did he do for Jamaica, and how has his contribution impacted his/her life.

Exploratory Case Study

An exploratory case study is used to develop pertinent hypotheses and propositions for further investigation. It is defined as research used to investigate a problem which is not clearly defined. Such a study is conducted to have a better understanding of the existing problem, but will not provide conclusive results. An exploratory study tries to find an answer on such questions, as 'WHO' or 'WHAT'. For instance, a researcher conducting an exploratory case study could explore the meanings of emancipation and independence and how these two national days impact the lives of Jamaicans.

In this type of case study also, prior fieldwork and small scale data collection may be conducted before the research questions and hypotheses are proposed. As a prelude, this initial work helps prepare a framework of the study (Zaidah, 2003).

Descriptive Case Study

A descriptive case study is designed to shed light on a particular situation, set of circumstances, and the social relations and processes that are embedded in them (McLeod, 2019). The researcher seeks to describe the social phenomenon as it is lived and or experienced. Such a case study is useful in bringing to light something about which most people are not aware. A descriptive study might then be used to help people make a decision about how to do things in another case that has similar features. This calls for detailed observation of the case and the identification of basic concepts and distinctions which will enable what has been observed to be described accurately. For example, teachers could ask students to describe their experiences on a field trip to Liberty Hall which was the centre of activities for the Kingston Division of the U.N.I.A. under Marcus Garvey's watch.

Narrative Case Study

Narrative case studies present findings in a narrative format including a plot and characters. Such narrative should present memorable, interesting knowledge that brings together layers of understandings about a person, their culture and how they have created change (Yin, 1994). Examples of such study can be the retelling of past events in a community or locality as experienced by elderly persons detailing impact on the cultural identity of said community, or, a biography of a significant community figure.

CASE STUDY PROCESS

⬇

IDENTIFICATION OF A PROBLEM

⬇

DEFINITION OF THE RESEARCH QUESTION

⬇

SELECTION OF THE KIND OF CASE

⬇

PREPARATION FOR DATA COLLECTIONS

⬇

COLLECTION OF DATA

⬇

ANALYSIS OF THE DATA

⬇

REPORT OF THE FINDINGS

Figure 6.   Process for Conducting a Case Study
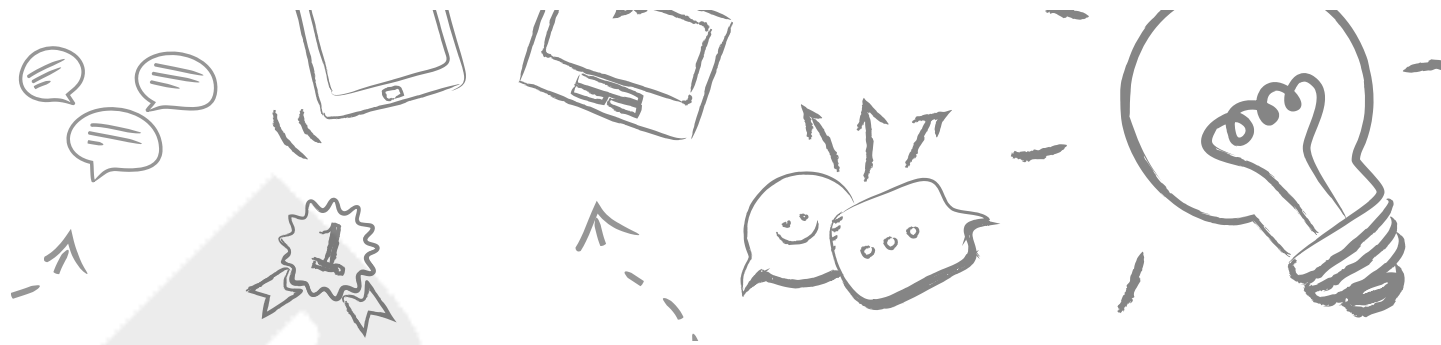
For the student

All case studies follow a similar process. The process involves the identification of a problem, definition of the research question, selection of the kind of case, preparation to collect the data, collection of the data, analysis of the data and report of the findings (Yin, 1994).

1. **Identify a problem.** The problem can come from a general topic, a list of possible topics or it can be a choice based on personal experiences.

2. **Determine the research question and carefully define it.** The research question for case studies generally starts with a "How" or "Why." Doing a preliminary research on a topic or topics can assist in formulating a research question.

3. **Select the kind of case.** Case studies can be divided into two additional categories depending on nature of the case and the objectives of the study. They can be categorized as holistic or embedded (Yin, 2003). Deciding on an embedded case study or a holistic case study will determine the depth of the study.

a. ***Holistic Case Study***
    In this option, the researcher studies the case as a whole or as a unit. The researcher selects a single person, organization or locality and examines every aspect of that case. For example, students may study the history of sugar production in Jamaica. Jamaica would represent a single unit.

b. ***Embedded Case Study***
    In this option, the researcher studies some aspects of more than one cases. Choosing this option means comparisons will likely be made between/among cases. An example of this is students may study the history of sugar production in Jamaica, as well as Guyana and Barbados simultaneously. Each country would represent a unit and so three units would be studied under the same research question.

4.   Prepare to collect the data. The problem can come from a general topic, a list of possible topics or it can be a choice based on personal experiences.

5.   Collect the data in the field. The research question for case studies generally starts with a "How" or "Why." Doing a preliminary research on a topic or topics can assist in formulating a research question.

6.   Analyse the data. Case studies can be divided into two additional categories depending on nature of the case and the objectives of the study. They can be categorized as holistic or embedded (Yin, 2003). Deciding on an embedded case study or a holistic case study will determine the depth of the study.

7.   Prepare the report.   Here, the findings to the research question should be clearly stated. This analysis should include an evaluation of whether or not the research objectives were achieved, and a discussion of the strengths and weaknesses of the research. Recommendations may also be made for further research. Of note, it is important to identify and focus on the audience as the audience will influence how the report is written or presented.

For the teacher

Some learners may not have conducted a case study before or have experience reviewing case studies. The following guidelines can scaffold learners towards the case study research:

• Introduce learners by presenting samples of case studies. Give students ample time to read and think about the case. If the case is long, assign it as homework with a set of questions for students to consider (e.g., What is the nature of the problem the central character is facing? What are some possible courses of action? What are the potential obstacles?)

• Provide background information and data relevant to the case study (e.g., notes, reading material or other resources) provides a series of questions to assist analysis of the case. Break down the steps you want students to take in analysing the case.

• Direct learners to utilize resources to answer questions and prepare for in-class discussion. discusses the purpose and suggested methods for doing a case study assignment

• Articulate expectations clearly - discuss with students the level at which they are expected to perform and the depth of study required.

Advantages of Case Studies

- ensure participation and deliberate application of a broad range of skills
- are comprehensive thus enabling a holistic review of a phenomenon.
- utilise a wide range of data collection tools
- reduce bias allowing room for diversity of perspectives
- increase student proficiency with written and oral communication
- are effective at developing real world professional skills
- appeal to multiple intelligencies and learning styles
- can be used with individuals or small groups
- address topics not otherwise represented in curricular materials
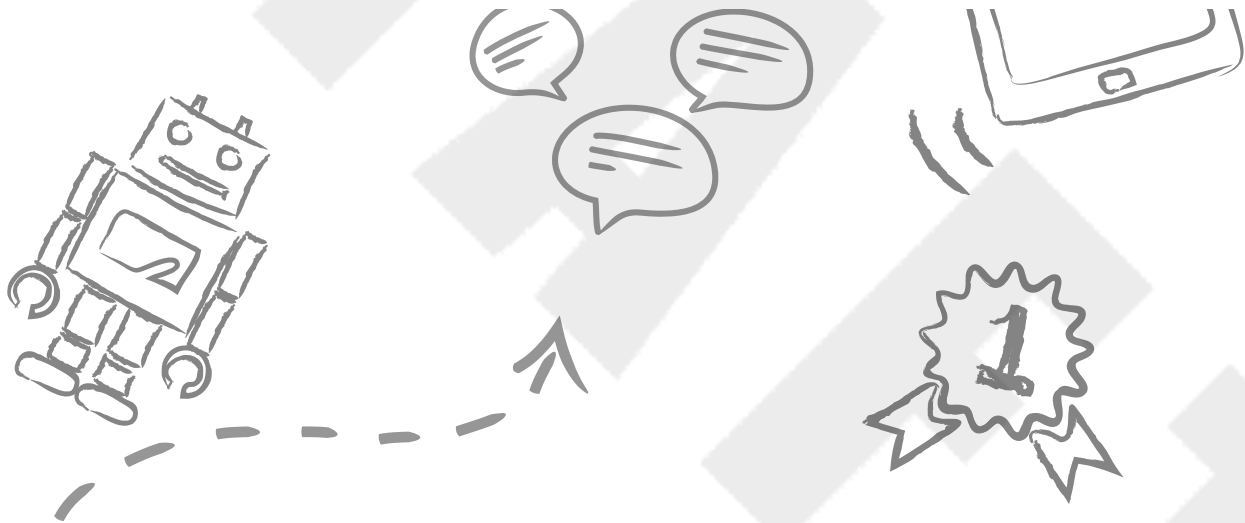
OF NOTE:

- *Case studies are not substitutes for teaching.*

- *Not all cases will have a definite conclusion or solution.*

- *Case studies should not be used arbitrarily but should be carefully selected based on the identified competencies to be developed and their relevance to the course of work or teaching and learning context.*

Project Based Learning (PBL) is an innovative model for teaching and learning. It focuses on the central concepts and principles of a discipline. It involves students in **problem-solving** investigations and meaningful tasks, allows students to work autonomously to construct their own knowledge through **inquiry**, and culminates in a realistic hands-on project. The 4Cs (communication, critical thinking and problem solving, collaboration, and creativity and innovation) are the competencies upon which PBL is built (MOE, Malaysia, 2006)

The basis of PBL lies in the authenticity or real-life application of the research and is considered an alternative to paper-based, rote memorization, teacher-centred classrooms. Projects have a complex but flexible framework within which teaching and learning are seen as interactive processes. Project based learning is holistic in nature and incorporates the principles of providing challenging and complex work, is interdisciplinary and encourages cooperative learning. Figure 6 outlines the four essential characteristics of project based learning.

It is project and task oriented. It provides the opportunity for students to examine the task from different perspectives using a variety of resources and gives autonomy in deciding on the final product.

It requires focused and systematic teaching and learning.
The project-based learning approach creates a "constructivist" learning environment in which students construct their own knowledge. The teacher takes on the role of facilitator rather than leader providing an atmosphere that tolerates error and change.

It lends itself to authentic assessment. Authentic assessment and evaluation allows for documentation of a learner's progress and development. It allows the teacher multiple assessment opportunities and allows the learner to demonstrate his/her capabilities while working independently or with team mates (see Fig 6 for examples). Performance is assessed on an individual basis, and takes into account the quality of the product produced, the depth of content understanding demonstrated, and the contributions made to the ongoing process of project realization.

It is competency based
PBL teaches learners not just content, but also important skills that will enable learners to function in society. These skills include communication and presentation skills, organization and time management skills, research and inquiry skills, self-assessment and reflection skills, collaboration and leadership skills, as well as critical thinking.

- Constructionproducts
- Media & Technology Products
- Presentations
- Written Reports

- Question
- Plan
- Explore
- Monitor
- Assess
- Evaluate
- Creat

Product & Task oriented

Systematic Teaching & Learning

Characteristics of PBL

Competency Based

Authentic Assessment

- Critical Thinking
- Originality, Creativity, Initiative
- Self-Management
- Collaboration
- Problem Solving
- Learning Application

- Rubrics
- Process Oriented
- End Product
- Formative
- Summative

Figure 7.   Project Based Learning at a Glance. (Adapted from the Buck Institute, 2015)

Purpose

The core idea of project-based or inquiry based learning is to use real-world problems to capture students' interest and provoke serious thinking as they acquire and apply new knowledge in a problem-solving context. In Project Based Learning, the project is the vehicle for teaching the important knowledge and skills student need to learn. The project contains and frames curriculum and instruction.

The teacher plays the role of facilitator, working with students to frame worthwhile questions, structuring meaningful tasks, coaching both knowledge development and social skills, and carefully assessing what students have learned from the experience. Typical projects present a problem to solve *(What is the best way to reduce the pollution in the schoolyard?)* or a phenomenon to investigate *(What causes rain?).*

Types of Project Based Learning

There are many types of project based learning. Below are four (4) types that are designed to give students the opportunity to develop knowledge and skills through engaging projects set around challenges and problems they may face in the real world (Boss, Larmer, 2018).

Reading/Writing Projects

Learners read, comprehend and interpret specific prose, plays and poems often around themes. Sometimes books are assigned, while at other times students select their own books. Through reading/writing projects, learners demonstrate comprehension, understanding, and ability to interpret the text. Reading/writing projects often include class discussions around conflicts inherent in the reading and/or writing.

Information-Data Organizing Projects

The goal of information-data organizing projects is for learners to collect, sort and summarize information and data around a topic, question, theme or unit from multiple sources, such as textbooks, fiction, and non-fiction texts. They might synthesize articles and other readings around a topic of interest, analyse surveys and interviews designed to explore key questions or find ways to put information into a variety of formats, including graphs and charts.

Design Projects

Learners invent products and objects, conceptualize technology, or create artwork or models. They might be asked to use scientific principles to design an object that will descend from a specific height at the slowest speed, to design artwork using artistic principles, or to design a house using the latest technological software.

Seventh-grade learners may research and design a dream house, including floor plans, a description of the interior of the houses, materials to be used to build the house. Students also create a model of their homes and a cost analysis for the interior of at least one room in the house. Students also are required to make a presentation summarizing the results of their work.

Problem Solving/Decision Making Projects

Students solve problems and make decisions by being given or creating specific situations and complex problems. Problem situations around topics such as pollution, world events, health care, poverty, and economic issues are interesting and exciting areas of study and provide students with opportunities to learn about current and future complex issues and problems and to use creative problem-solving processes. Complex mathematical problems are another source of problem-solving projects. Decision- making projects through simulations of both historical and present-day decisions are worthwhile projects.

Learners are asked to select a global problem, such as lack of food, water issues, energy problems, or medical issues. They then are asked to problem solve and come up with some models or examples of a potential solution to the problem.

Process

For the student – If your project involves making observations and doing experiments, your project might better fit the Scientific Method.

The Scientific Method:
The Scientific Method is a way to ask and answer scientific questions by making observations and doing experiments.

The diagram below outlines the steps in the scientific method (Science Buddies, 2002-2019).
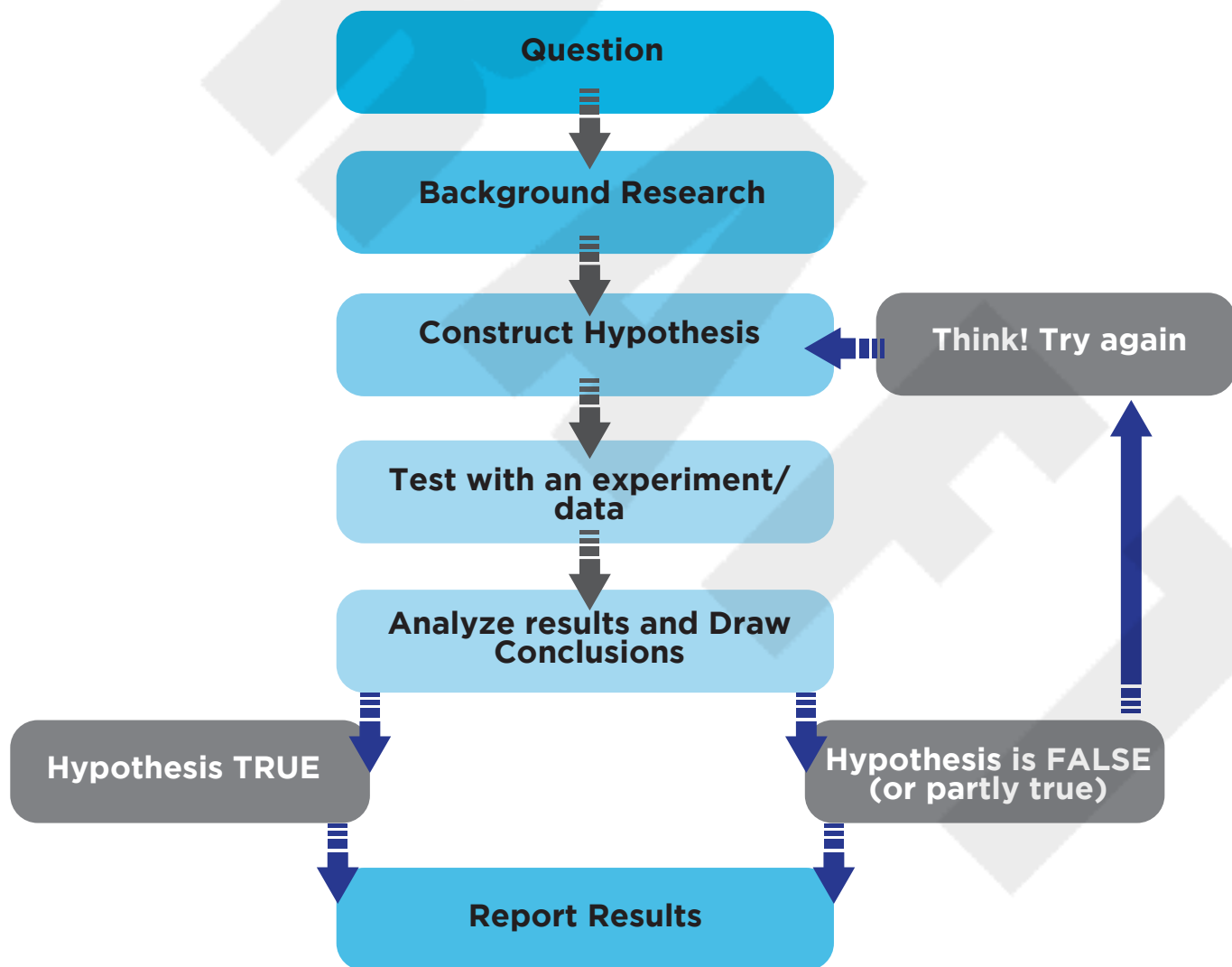

Figure 8.   The Scientific Method

Steps of the Scientific Method

Ask a Question

The scientific method starts when you ask a question about something that you observe: How, What, When, Who, Which, Why, or Where?

Do Background Research

Rather than starting from scratch in putting together a plan for answering your question, you want to be a savvy scientist using library and Internet research to help you find the best way to do things and ensure that you don't repeat mistakes from the past.

Construct a Hypothesis

A hypothesis is an educated guess about how things work. It is an attempt to answer your question with an explanation that can be tested. A good hypothesis allows you to then make a prediction:
"If _____ [I do this] _____, then _____ [this] _____ will happen."

Test Your Hypothesis by Doing an Experiment

Your experiment tests whether your prediction is accurate and thus your hypothesis is supported or not. It is important for your experiment to be a fair test. You conduct a fair test by making sure that you change only one factor at a time while keeping all other conditions the same. It would be prudent to repeat your experiments several times to make sure that the first results weren't just an accident.

Analyse Your Data and Draw a Conclusion

Once your experiment is complete, you collect your measurements and analyse them to see if they support your hypothesis or not.

Scientists often find that their predictions were not accurate and their hypothesis was not supported, and in such cases they will communicate the results of their experiment and then go back and construct a new hypothesis and prediction based on the information they learned during their experiment. This starts much of the process of the scientific method over again. Even if they find that their hypothesis was supported, they may want to test it again in a new way.

Communicate Your Results

To complete your science fair project, you will communicate your results to others in a final report and/or display them on a board. Professional scientists do almost exactly the same thing by publishing their final report in a scientific journal or by presenting their results on a poster or during a talk at a scientific meeting. In a science fair, judges are interested in your findings regardless of whether or not they support your original hypothesis.

If your project involves creating or inventing something new, your project might better fit the steps of the Engineering Design Process.

Engineering Design

The Engineering Design Process is the set of steps that a designer takes to go from identifying a problem or need, to creating and developing a solution that solves the problem or meets the need. Engineers create new things such as products, websites, environments and experiences.

The diagram below outlines the steps in the engineering design process (Science Buddies, 2002-2019).

Define the Problem

Do background research

Specify requirements

Brainstorm, Evaluate and Choose Solution

Develop and Prototype Solution

Test Solution

Based on results and data, make design changes, prototype, test again, and review new data.

Solution meets Requirements

Solution meets Requirements Partially or not at all
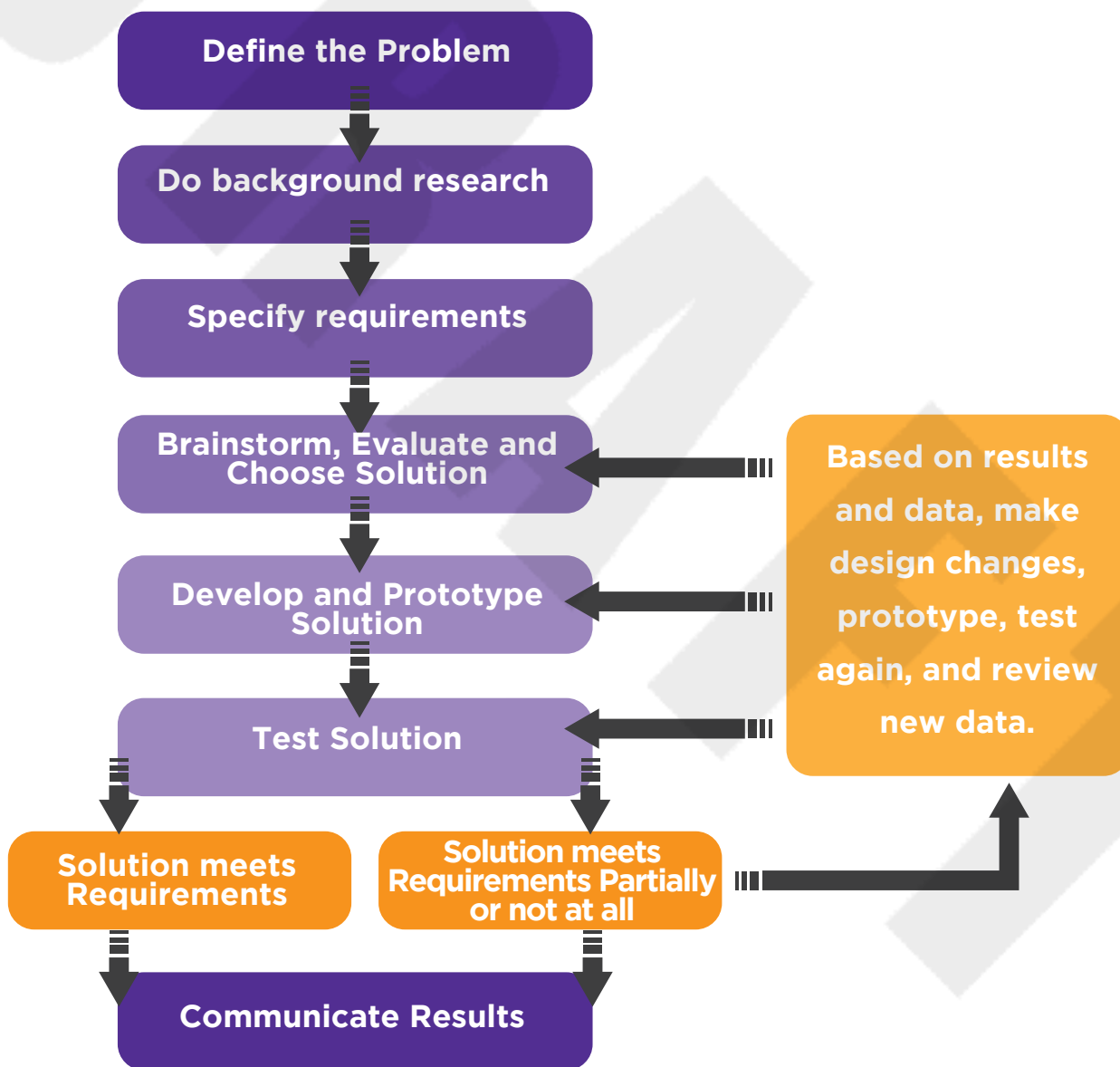
Communicate Results

Figure 9. The Engineering Design Process

The engineering design process starts when you ask the following questions about problems that you observe:

- What is the problem or need?
- Who has the problem or need?
- Why is it important to solve?

Do Background Research

The background research helps you to learn from the experiences of others. This can help you find out about existing solutions to similar problems, and avoid mistakes that were made in the past.

Specify Requirements

Design requirements state the important characteristics that your solution must meet to succeed. One of the best ways to identify the design requirements for your solution is to analyse the concrete example of a similar, existing product, noting each of its key features.

Brainstorm Solutions

There are always many good possibilities for solving design problems. If you focus on just one before looking at the alternatives, you may be overlooking a better solution. Good designers try to generate as many possible solutions as they can.

Develop the Solution

Development involves the refinement and improvement of a solution, and it continues throughout the design process.

Build a Prototype
A prototype is an operating version of a solution. Often it is made with different materials than the final version, and generally it is not as polished. Building prototypes is a key step in the development of a final solution, allowing the designer to test how the solution will work.

Test and Redesign
During the Engineering Design Process, designers frequently jump back and forth between steps. This is called iteration. Iteration allows for the obtaining of closer approximations to the solution of a problem or achieving the desired product.

Communicate Results
To complete your project, communicate your results to others in a final report and/or display them on a board. Professional engineers always do the same, thoroughly documenting their solutions so that they can be manufactured and supported.

For the Teacher

Teachers can scaffold learners by doing the following:

- **Choose skills to be worked on instead of specific topics.**
  The goals of education focus on helping learners to build the skills that they will need for their future. These skills involve being able to collaborate, communicate, infer meaning, organize information, solve problems, think critically, and self-manage.

- **Give learners guidelines that allows for individuality.**
  Instead of making a list of specific questions with specific answers, lead students towards more open-ended answers to encourage critical thinking, creativity and problem solving.

- **Encourage learners to take on different roles while collaborating.**
  Collaboration in the real world involves being able to work together on each part of a task, while learning to compromise and solve problems as they arise. Encourage learners to switch roles as needed, based on the strengths of their team, or on the skills each student needs to develop.

- **Allow learners creative choice when it comes to the final result/product.**
  When learners take ownership of the method of presentation, they are given the opportunity to be creative and innovative in their presentations. These could take the form of EBooks, articles, videos, or other media that can be incorporated into a class website or blog.

- **Grade projects based on the targeted concepts and skills.**
  Create grading rubrics or charts that will help to focus on the specific skills or competencies that are evident in each project. This will ensure that learners are graded on their level of development when compared to curricular goals, and not based on comparisons with each other.
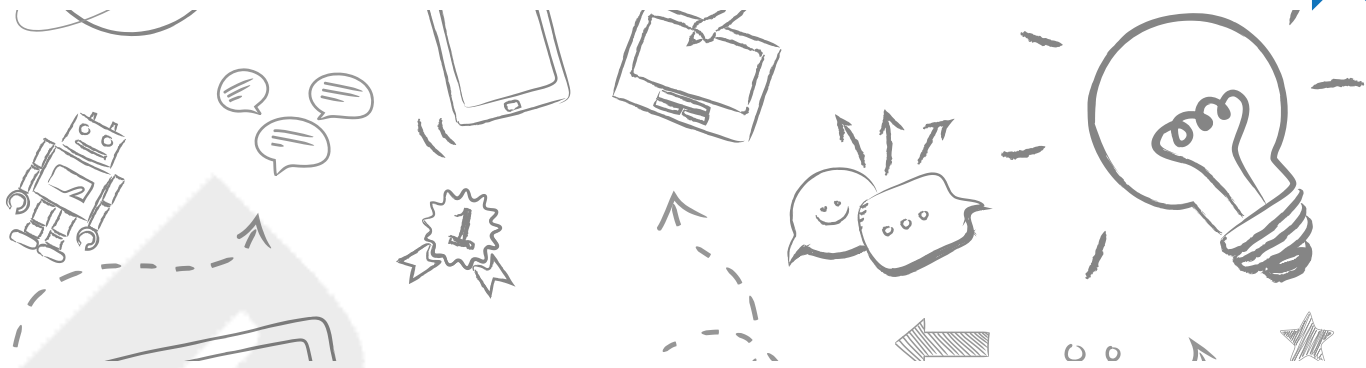
Advantages of Project Based Learning

- Prepares learners for academic, personal and career success
- inspires learners to obtain a deeper knowledge of the subjects they're studying.
- Enables learners to develop confidence and self-direction as they move through both team-based and independent work.
- Provides the opportunity for learners to hone their organizational and research skills, and develop better communication with peers and adults.
- Involves learners in sustained effort over time
- fosters learners' decision making skills
- Provides opportunities for students to produce observable evidence that they have mastered rigorous curricular standards as they apply their learning and solve the problem at hand.

OF NOTE:

Project based learning :

- is anchored in curriculum and is multidisciplinary.

- has a clear real-world connection

- focuses on the process

- assesses both process and product

- places the learners in charge and teacher as facilitator

Journals

A journal is a written record of one's thoughts, experiences, and observations. Journal writing is a flexible instructional tool, useful across the entire curriculum. Writing or drawing in a journal helps learners to process ideas, formulate questions, and retain information. Journals make learning visible by providing a safe, accessible space for students to share thoughts, feelings, and uncertainties (Kelly, 2019).

Purpose

Journals are used for students to reflect upon their thinking, and connect information that they know, with what they learned. It is meant to collect ideas and observations on any number of things and is an excellent form of self-expression. Journals are instrumental tools for helping learners develop the ability to critically examine their surroundings from multiple perspectives and make informed judgments about what they see and hear. Journals are also assessment tools: they can be used to better understand what learners know, what they are struggling to understand, and how their thinking has changed over time. Furthermore, journals help nurture classroom community and offer a way to build relationships with learners through reading and commenting on their entries (Facing History and Ourselves, n.d.).

Types of Journals

There are many types of journals that can be used as instructional tools in the classroom. For the purpose of this manual three types of journals have been selected that can add value to the teaching and learning process. These are the **reflective** journal, the **three-part** journal and the **learning log**.

Reflective Journal

A reflective journal is a personal record of student's learning experiences. It is a space where a learner can record and reflect upon his/her observations and responses to situations, which can then be used to explore and analyse ways of thinking. Reflective learning is more the state of mind with which a student approaches content than it is the resolution or conclusions that the student draws from having learned something (Pavlovich, 2007). Thus, the ability to think deeply about the material and draw connections to what one already knows is the key to reflective learning.

Purpose

The act of reflecting on thoughts, ideas, feelings, and their own learning encourages the development of metacognitive skills by helping learners to self-evaluate and sort what they know from what they don't know. The process of examining one's own thoughts and feelings is particularly helpful for learners who are learning new concepts or beginning to grapple with complex issues that go beyond right and wrong answers (Reflective Journals & Learning Logs, 2006). Helping student's link course material with their experiences through reflection improves learning by increasing students' comprehension of subject material and their ability to apply those concepts in a wide variety of settings.

Five types of reflection exist and it is important that the learner is aware of which one they are engaging in. There is **technical** reflection, reflection **in/on action, deliberate** reflection, **personal** reflection and **critical** reflection (Pavlovich, 2007).

Types of Reflection	Purpose/When to Use
Technical	Focuses on performance improvement
Reflection in/on action	Focuses on learning as it is happening and how it relates to past experiences
Deliberative	Focuses on reviewing multiple perspectives on a topic/situation to determine the best solution
Personal	Aids in self-evaluation and goal setting
Critical	Allows students to question their learning in order to bring about change

Table 10.   Types of Reflection

For the Student

Whatever type of reflection the learner may be engaged in however, there is a process that is undertaken whether consciously or unconsciously. This process is the **reflection cycle**. As the name suggests, it is non-linear, ongoing and recursive (See Figure 9: The Reflection Cycle).

The Reflection Cycle

Reflecting is a cyclical process, where recording one's thoughts (reflecting) "**leads to improvement and/or insight**" (Johnson, 2007).

- Describe the situation
- What happened?
- State reactions?
- State feelings?

- What sense can you make of the situation?
- Can you integrate theory into the experience?

Record: what? Reflect: think

Analyse: explain/gain insight

Reflection Cycle

New action: what will you do now?

Conclusion: what decision can you make?

- What are you going to do differently?
- What steps will you now take?

- What decisions can you make?
- What can you infer?

Figure 10.   Reflection Cycle, Adapted from (Johnson, 2007)

For the teacher

- Assist learners' understanding of the purpose and benefits of reflective journals at the very beginning.
- Consider the type of reflective journal that fits the subject area and provide guidance if learners are inexperienced with such journals.
- Make sure clear expectations and assessment criteria are given to the learners. (E.g. What can learners put in their journals? What is the definition of 'reflection'? What is the approximate length for each journal entry?).
- Decide on the regularity of journal entry (e.g. weekly, monthly).
- Provide timely and constructive feedback.

Three-part Journal

Learners are asked to divide each page of their journal into thirds, and write weekly entries during the term. In the top section, learners write insight they gain from the lesson or the experience. In the middle section learners write about how this new information or experience fits into what they know. In the last section, learners write how the new knowledge relates or can be applied to their personal or professional lives (Bringle, 1996).

Sample Three-Part Journal
Part 1:   **What new information did you learn? What did you observe?**
Part 2:   **What did you know already? How does this new information fit into what you knew before? What connections can you make between theory and practice?**
Part: 3   **How can you use this new information in your own life?**

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Purpose

Brindle and Hatcher, (1999) posit that three-part journals can be used to promote critical reflection to enhance learning. The purpose of this type of journal is to assist student learning rather than to demonstrate learning. The journal is designed for content area study in any subject area where students make entries appropriate to task, purpose and audience. The teacher would be able to correct any misconceptions that students may have and get insight into how students perceive the material or the subject. Below is a sample of a three-part journal as it relates to Mathematics.

Sample Three-part Journal for Mathematics – Geometry (Gr. 7)	
Part 1:	**What new information did you learn? What did you observe?**
	I learned that you can find the surface area of a sphere by using the equation $S = 4\pi r^2$. I also learned about a sphere's volume. I like learning about spheres because a lot of things in our lives are spheres, like oranges, balls and globes.
Part 2:	**What did you know already? How does this new information fit into what you knew before? What connections can you make between theory and practice?**
	I already knew the area of a circle. It makes sense that the volume of a sphere is bigger than the area of a circle since the circle is two-dimensional and the sphere is three.
Part: 3	**How can you use this new information in your own life?**
	I love to play basketball and sometimes when we go on family vacations I like to take my basketball with me. However, my mom says it cannot fit into my suitcase and it takes up too much space. I can now tell her that I can deflate the ball and it will fit as the surface area is considerably less that the volume of the sphere and I can also fold it in half.

Process

For the student

1. Focus and pay attention to the lesson
2. During or after the lesson take time to reflect on any area that you already knew and any new information you learned
3. Record this in your three-part journal in the appropriate spaces.
4. Take time to critically assess and analyse this information to see what connections you can make and say how you can use this information. Record this in sections two and three.
5. You may research any area you are not clear on and add this information to the journal
6. Remember to ask your teacher to clear up any misunderstandings or misconceptions you may have.

For the teacher

- Explain the different sections of the journal to ensure understanding
- Model how to complete the journal
- Provide sentence stems/prompts to help learners express their thoughts
- Challenge above-level learners to research the concepts and share in the journal
- Allow below-level learners to complete the section they are most comfortable with first to build confidence
- Make a decision on whether or not journals will be assessed/graded and how. Inform learners beforehand

Learning Logs

Learning logs are journals used for subject area learning. Learning logs have natural connection with expository writing, but they can also stimulate expressive writing. Learning logs are used to record notes, respond to teacher-generated questions and requests, and pose or answer self-generated questions (Cramer, 2004).

Purpose

Learning logs are useful because they promote metacognition. They are also useful tools for teachers because they can reveal learners' perceptions or misperceptions of the information, as well as reveal how they are reacting to the way the material is being taught. Topics given for writing normally appear in the form of prompts that typically fall into one of two categories. These are process entries and/or reaction entries (Learning Logs n.d.).

Process Entries:

Process entries help students reflect on what they have learned. A good prompt might read,

What did I understand about the work we did in class today? or

What points did I find confusing? Questions such as these encourage learners to really think about how they learn.

Reaction entries:

Reaction entries attempt to measure what students have learned. Prompts for this form of writing might read - *Summarize the last chapter from the textbook, or Compare and contrast two characters from the story we read.*

As a method of assessment, learning logs give teachers a way to see where learners are struggling. Regular review can reveal what strategies are working and which ones are not. Having such knowledge sheds light on which content needs review and enables the teacher to adjust his or her instruction. If the log is treated as a dialogue journal, then deliberate responses to entries can motivate learners to take ownership of their learning and develop self-management skills.

Process

For the student

Learning logs work best when you write in them regularly—every day or every other day. Once you get into a routine, you will more easily remember, understand, and apply the new concepts you are learning about in your classes. Follow these tips to get started:

1. Reserve a space for your learning logs, perhaps in a notebook, a special folder on your computer, or a personal blog.
2. Keep a learning log for any subject, but especially for one that challenges you.
3. Write quickly and freely. Take a few minutes to write each entry.
4. Start with what happened in class or in a reading. At first, all you need to do is restate something you found interesting or puzzling. Then you can begin to reflect on it.
5. Question the things you have learned. Test new ideas to see how well you understand them. Think about what strategies helped you learn and what questions you still need answered (Keeping a Learning Log n.d.).

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Sample Learning Log

Content Area Learning Log – Science

Name: _____ Date: _____

Entry 1

Experience:	Response:
What activity/experience are you reflecting on?	I have been reflecting on oil spills and how this really damages the environment
Reflect and learn:	**Response:**
What happened? **What did you learn?** **What knowledge did you draw on?** **What part did you find confusing?**	I learned about the different ways to clean up an oil spill - decomposition, dispersion and physical removal. I have learnt about different types of pollution but I find photo-chemical oxidation a bit confusing
Act:	**Response:**
How will you put your learning into practice? **Would you do anything differently next time?**	I can conduct further research and develop fliers or engage in a campaign as part of my community service activity to educate the community on the dangers of oil spills on the environment.

Table 11.   Sample Learning Log

For the teacher

- Provide a set of guiding questions or prompts that students can select from and respond to.
- Limit the number of options from which students may choose so as not to overwhelm them.
- Mix the level of questions given to allow for deep thinking and analysis.

APPENDIX 1 - GLOSSARY

Communication
The ability to transmit and/or receive information by speaking, writing, listening or through the use of body language, with or without the use of available technologies, to people in a variety of different situations.

Exploration/ Research/ Investigation
The ability to carry out enquires into the nature materials, activities and sources in order to establish facts, reach new conclusions and state the value of these new findings or conclusions.

Critical thinking
The ability to depart from traditional ways of thinking, resulting in the generation of original and innovative ideas that enable the learner to respond adaptively to life situations.

Problem-solving
The ability to analyse and apply past experiences and learning in a range of new situations, to provide creative solutions to problems.

Learning application
The ability to acquire and assimilate information and utilize what is learned in a range of new situations.

Self- management
The ability to work on one's own, especially undertaking new ventures with confidence, and ensuring that solutions are practical and applicable.

Creativity, originality and initiative
Takes unexpected or novel approaches to tasks and assignments that result in positive outcomes in work and presentations.

Collaboration/Cooperative team membership
The ability to voluntarily contribute or receive positive work inputs in a team setting, in order to achieve a goal .with or without providing leadership to the group.

Digital literacy/citizenship
Be familiar with and able to use a variety of media and virtual tools conforming to ethical standards.

Leadership
The ability to exercise guidance, management and direction in settings both in school and in the wider community when opportunities present themselves.

Entrepreneurial skills
The ability to identify and pursue aspects of projects or activities which might lead to future work/business opportunities or study related to one's own interests or aptitudes.

Environmental awareness
The disposition to act in a manner that recognises and/or promotes the preservation and/or restoration of the natural environment, thereby contributing to the control of pollution, and protection of plants and animal diversity.

Terms of Reference
Terms of reference describe the purpose, structure, provisions and conditions under which a project, committee, meeting, negotiation, or any similar undertaking will be carried out to accomplish a shared goal.

APPENDIX 2

TEACHER'S COMPETENCY SUMMARY SHEET FOR LEARNER RECORDS

Grade: .... 　Year: ....

Teacher's Signature..
....

To select competencies: The learner and teacher agree on pieces of work for which competencies will be documented. Appropriate competencies are ticked to indicate evidence is available to document its application in the relevant term in a grade in a school year.

Learner Name	Subject Name/Activity	Term	C 1	C 2	ERI	CT	PS	LA	SM	COI	CTM	DLC	L	ES	EA

Key to Abbreviations

C1: Communication 1 Speaking & Listening
C2: Reading & Writing
ERI: Exploration/Research/Investigation
CT: Critical Thinking

PS: Problem-Solving
LA: Learning Application
SM: Self-Management
COI: Creativity/Originality/Initiative

CTM: Cooperative Team Membership
DL: Digital Literacy/Citizenship
L: Leadership
ES: Entrepreneurial Skills

EA: Environmental Awareness

APPENDIX 3

NATIONAL SCHOOL LEAVING CERTIFICATE IMPLEMENTATION PLAN

Name of Institution
_____

School Code: _____   **Region:** _____

Address: _____

_____   **Email Address:** _____

Telephone: _____

Name of Principal: _____

Members of the NSLC Committee

School Population

Grade Levels	Enrolment
Grade 7	
Grade 8	
Grade 9	
Grade 10	
Grade 11	
Grade 12	
Grade 13	

NATIONAL SCHOOL LEAVING CERTIFICATE IMPLEMENTATION PLAN

Academic Year:

Major Goal(s):

Objectives(s):

Specific Activity/Action	Resources	Lead Responsibility	Timeline			Progress Notes/Status
			Term 1	**Term 2**	**Term 3**	

Name of Principal _____

Date: _____

Signature: _____

School's Stamp

Date submitted to the NSLC Office: _____

Feedback provided: _____

Received by: _____

Date: _____

APPENDIX 4
SCHOOL'S INTERIM EVALUATION REPORT

To be used at the end of each academic year

Principal's full name:	School:	
School Code:	Academic Year:	Members of the NSLC Committee:

Review Objectives:

Interim Review Stage

Strengths:

_____

_____

Areas for Improvement:

_____

_____

Actions to be Taken

_____

_____

Name of Principal: _____   **Signature:** _____

Date: _____

APPENDIX 5
SCHOOL'S ANNUAL NSLC EVALUATION REPORT

To be used at the end of each academic year

Principal's full name:	School:		
School Code	**Academic Year**	**Members of the NSLC Committee**	

Review Objectives:

Review Stage

Actual Results	Evaluation	Further Recommendation/ Actions to be Taken	Timeline

Name of Principal _____   Signature: _____

Date: _____   School's Stamp

Date submitted to the NSLC Office: _____   Received by:_____

Feedback provided: _____

APPENDIX 6   NSLC Community Service Time Card

Institution/Site: _____

Telephone & Address: _____

Name of Student: _____

Name of School: _____

Telephone: _____ Grade: _____

Date (MM/DD/YY)	TIME			# Hours	Activity/ Task	Supervisor's Signature
		AM	PM			
	In					
	Out					
	In					
	Out					
	In					
	Out					
	In					
	Out					
	In					
	Out					

Name & Position: _____

Signature of Approval: _____

APPENDIX 7

NOTICE OF COMPLETION OF COMMUNITY SERVICE

Name of School: _____

Grade: _____   **Date:** _____

This is to certify that _____
(Name of Student)

has completed_____**hours** of Community Service at
_____.
(Name of site/institution)

Site Supervisor: _____

Signature: _____

Student's Signature: _____

NSLC Community Service Coordinator

_____

Signature/Stamp: _____

APPENDIX 8

NATIONAL SCHOOL LEAVING CERTIFICATE

Steering Committee Members

Capt. Kasan Troupe	Chief Education Officer (Acting), Educational Services Division
Mrs Winnie Berry	Deputy Chief Education Officer, Curriculum & Support Services
Mrs. Viviene Johnson	Senior Director, Planning Division, MoEYI
Mrs. Terry-Ann Thomas-Gayle	Deputy Chief Education Officer (Acting), Examinations and Assessment Administration Services, MoEYI
Mrs. Dasmine Kennedy	Assistant Chief Education Officer, Educational Planning Unit, MoEYI
Mrs. Sonia Dobson Walters	Assistant Chief Education Officer, Programme Monitoring and Evaluation Unit, MoEYI
Dr. Sharon Anderson-Morgan	Assistant Chief Education Officer, Special Education Unit, MoEYI
Dr. Clover Hamilton-Flowers	Assistant Chief Education Officer, Curriculum Unit, MoEYI
Dr. Nadine Leachman	Regional Director, Region 5, MoEYI
Mr. Marlon Morgan	Senior Technical Coordinator, Office of the Permanent Secretary, MoEYI
Mr. Denworth Finnikin	Director, Technical Vocational Education and Training, MoEYI
Mr. Everette Riley	Senior Education Officer, Schools Operation, MoEYI
Mrs. Allecia Lindsay	Senior Education Officer (Acting), Curriculum & Support Services, MoEYI
Mrs. Olivine Evans	Senior Education Officer, Schools Operations, MoEYI
Mrs. Yashieka Blackwood-Grant	Senior Education Officer, Schools Operations, MoEYI
Ms. Sharon Hunt	Registrar, Independent Schools Unit, MoEYI
Mrs. Dionne Sampson-Gaynor	Education Officer, National School Leaving Certificate, MoEYI
Mrs. Elaine Foster-Allen	Chair of Education Commission, Parliamentary Opposition
Ms. Pauline Osbourne	Course Production Supervisor, University of the West Indies
Mr. Howard Isaacs	Deputy Dean, Teachers Colleges of Jamaica
Mr. Hector Stephenson	Executive Director, Overseas Examinations Commission

Dr. Donna Powell Wilson	President, Council of Community Colleges of Jamaica
Dr. Margaret Chin	Assistant Secretary General, Jamaica Teachers' Association
Mr. Fabian Morris	President, National Student Council of Jamaica
Mr. Ottis Brown	President, Association of Principals and Vice- Principals
Mr. David Wan	President, Jamaica Employers' Federation
Mr. Lennon Richards	President, National Parent Teacher Association of Jamaica

Members of NSLC Working Groups

Mrs. Michelle Kerr	Senior Functional Officer, Core Curriculum Unit
Mr. Dwight Hoilett	Education Officer, Schools Operations
Mr. Okemo Duckie	Education Officer, Technical & Vocation Unit
Mrs. Coleen Clarke- Russell	Functional Officer, Core Curriculum Unit
Mrs. Tania Marsh-Harris	Senior Education Officer (Acting), Schools Operations
Mrs. Shereen Davy-Stubbs	Education Officer, Technical & Vocation Unit
Mrs. Daynea Facey	Programme Manager, Education System Transformation Programme
Mrs. Christa Ferguson-Rainford	Education Officer, Core Curriculum Unit
Mrs. Fiona Morris-Webb	Senior Functional Officer (Acting), Curriculum and Support Services
Mrs. Marjoriana Clarke	National Project Officer, PISA
Mrs. Charlene Robinson	Education Officer, Core Curriculum Unit
Mr. Tyrone Anderson	Director, Management Information System Unit
Mrs. Rhonette Pitter	Manager, National Student Registration System
Mrs. Tracey Ann Morris McLean	Public Relations Assistant, Education System Transformation Programme
Ms. Carrone Rhoden	Administrative Assistant, National School Leaving Certificate Unit
Ms. Nadine Simms	Assistant Chief Education Officer, Media Services Unit
Mrs. Olivette Lue-Nicholson	Education Officer, Media Services Unit

APPENDIX 9

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