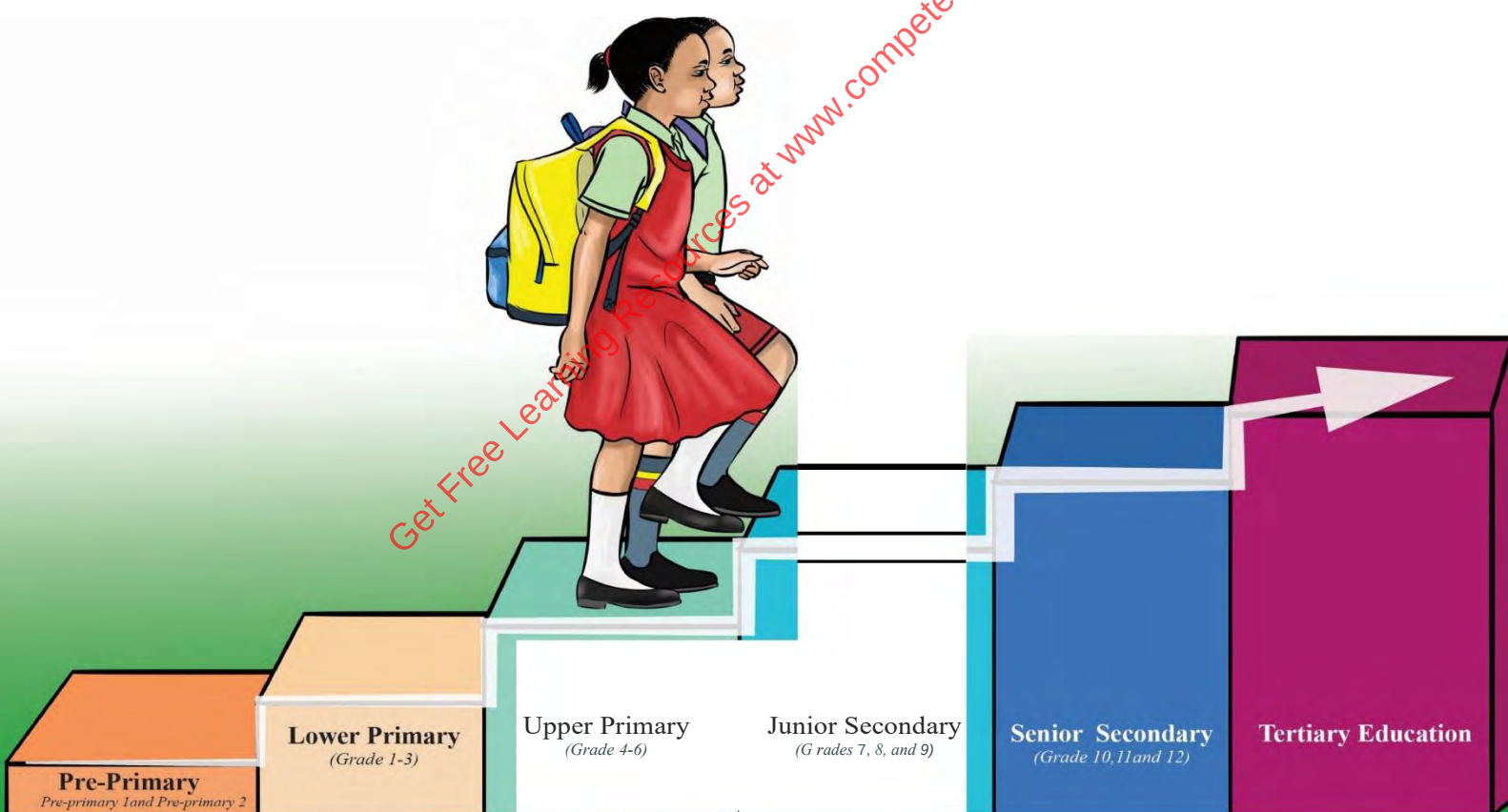




THE KENYA NATIONAL EXAMINATIONS COUNCIL

THE NATIONAL REPORT KENYA PRIMARY SCHOOL EDUCATION ASSESSMENT (KPSEA) 2022



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Published by The Kenya National Examinations Council

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Acknowledgements

The Kenya National Examinations Council administered the 2022 Kenya Primary School Education Assessment (KPSEA) from 28th to 30th November 2022 to establish levels of achievements among Grade 6 learners in English, Mathematics, Kiswahili, Integrated Science; Creative Arts and Social Studies. This National report on the 2022 KPSEA is an analysis of the learners performance. The report is written to guide teachers and education stakeholders on the quality of education accessed at primary school for possible interventions.

The compilation of this report would not have been finalized without the valued contribution of different stakeholders. I would therefore like to recognise the role played by the following in the development of the 2022 KPSEA report: Prof. Angelina Kioko (USIU), Prof. Raphael Nyonje (UoN), Prof. Helen Inyega (UoN), Dr. Peter Changilwa (USIU), Dr. George Mathenge (KU), Anne Musalia (MoE), Conrad Watola (Statistician), Andrew Francis Otieno, Khadija Iman (KNEC), Anne Ngatia (KNEC), Jane Kashu (KNEC), Epha Ngota (KNEC), Kennedy Abuje (KNEC), Edwin Kurgat (KNEC), Musa Kipchirchir (KNEC), Doreen Kawira (KNEC), Patricia Omunyang'oli (KNEC), Emmy Mugailwa (KNEC), Charles Karanja (KNEC), Samwel Ouko (KNEC), Doreen Olunga (KNEC), Franklin Etyang' (KNEC), Bernard Muhalia (KNEC), Genevieve A. K'Opiyo (KNEC), Lucy Rono (KNEC), Asman Amaunda (KNEC), Joseph Nyaga (KNEC), George Gathungu, (KNEC), George Were, (KNEC), Esther Mwarania (KNEC), Hassan Omar (KNEC), Scholastica Mundi (KNEC), Dr. Tobias Owiti (KNEC), Johnstone Korir (TSC), Emily Akiri (TSC) and Amos Kirumba Karori (TSC).

Technical support was provided by: Michael Amisi (Graphic Designer), Stephen Mabwa (Graphic Designer), Josephine Pepela (KNEC), Gladys Mwenja (KNEC), Steve Mwanzia (KNEC), Geoffrey Angote (KNEC) and Joshua Mokaya (KNEC).

I am optimistic that this report will provide useful insights into achievement at the primary school level and steer education quality dialogues among relevant education stakeholders with view of enhancing learning outcomes.

Dr. David Njengere, MBS,
Chief Executive Officer,
Kenya National Examinations Council

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List of Acronyms and Abbreviations

ASA	Arid and Semi Arid
BECF	Basic Education Curriculum Framework
CBA	Competency Based Assessment
CBC	Competency Based Curriculum
CSL	Community Service Learning
CTS	Career and Technology Studies
ICT	Information and Communication Technology
JSS	Junior Secondary School
KISE	Kenya Institute of Special Education
KNEC	Kenya National Examinations Council
KPSEA	Kenya Primary School Education Assessment
KSL	Kenyan Sign Language
KU	Kenyatta University
LSE	Life Skills Education
LSV	Life Skills and Values
MoE	Ministry of Education
MLP	Monitoring Learner Progress
NASMLA	National Assessment System for Monitoring Learner Achievement
PCI	Pertinent and Contemporary Issue
SEACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality
SBA	School Based Assessment
SNE	Special Needs Education
SS	Senior School
STEM	Science, Technology, Engineering and Mathematics
UDL	Universal Design for learning
UoN	University of Nairobi
USIU	United States International University

Definitions of Key Terms

Assistive Technologies	Any device, software, or equipment that helps people work around their challenges. Some examples of assistive technology are text-to- speech and word prediction. Assistive technology includes low-tech tools like pencil grips.
Approaching Expectation	The learner displays the knowledge, skills and attitudes/values assessed some of the time.
Below Expectation	The learner struggles to display the knowledge, skills and attitudes/ values assessed and does so with assistance.
Competencies	Combinations of attitudes, skills and knowledge that learners develop and apply for successful learning, living and working. Competency is described in the curriculum as the ability to apply appropriate attitude, knowledge, and skills to successfully perform a function’.
Curriculum	This is all the organized experiences that schools provide to help children learn and develop. It includes the subjects taught, the content, the school environment and other activities that take place outside of the classroom.
Disability	A physical, sensory, mental, or other impairment including any visual, hearing, learning or physical incapability which impacts adversely on social, economic, or environmental participation (Persons with Disabilities Act No. 14 of 2003).
Discrimination	Any direct or indirect distinction, exclusion, or restriction based on disability which has the purpose or effect of nullifying the recognition, enjoyment, or exercise on an equal basis with other people.
Exceeding Expectation	The learner consistently and with a very high level of accuracy displays the knowledge, skills and attitudes/values assessed.
Impairment	The state or fact of being impaired, especially in a specified faculty.
Inclusion	This refers to changing of attitudes and environments to meet the diverse needs to facilitate participation of persons with special needs and disabilities on equal basis with others in society.
Learner with disability	Refers to a learner registered with the National Council for Persons with Disabilities (NCPWD) as a person with disability and includes those who have long term physical, mental, intellectual, emotional, or sensory impairment. When interacting with various barriers may hinder the person’s full and effective participation in society on an equal basis with others.
Learning gaps	This is a variation between what a learner has learned and what a learner was expected to learn.

Learning areas	Refers to the grouping of related subjects with an aim of integrating students' learning (UNESCO IBE 2011). The new curriculum recognizes learning areas as opposed to traditional subjects, learning in the new curriculum has specified broad strands that will be covered in a learning area such as writing, reading, listening, and speaking in English learning area.
Meeting Expectation	The learner displays the knowledge, skills and attitudes/values assessed, in most cases.
School Based Assessment	These are assessments carried out and marked by teachers and each learner's scores are merged to determine the final grade. It is a system for collecting information on learners' learning status for the purpose of planning improvement programs in the performance of learners.
Pathway	A pathway is an intentional educational structure within a school system for an academic course of study. Age based pathway for learners without disabilities and learners with sensory and physical disabilities who follow the curriculum with adaptations and modifications. Learners with severe disabilities who are not able to follow the regular curriculum follow the Stage based pathway.

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Executive Summary

The Kenya National Examinations Council administered the 2022 Kenya Primary School Education Assessment (KPSEA) from 28th to 30th November 2022 to establish levels of achievement among Grade 6 learners in English, Mathematics, Kiswahili / Kenyan Sign Language, Integrated Science, Creative Arts, and Social Studies.

Learning /Assessment Centres

Nairobi, Kitui and Machakos counties had the highest number of learning/assessment centres at 2,003 (6.15%), 1,516 (4.66%) and 1,202 (3.69%) respectively. Other counties that had equally high numbers of assessment centres were Kakamega, Nakuru, Homabay, Meru at 1,135 (3.49%), 1,132 (3.48%), 1,125 (3.46%) and 1,080 (3.32%) respectively. On the other hand, Lamu, Isiolo, Samburu, Tana River and Marsabit registered lower numbers of public assessment centres at 116 (0.36%), 142 (0.44%), 180 (0.55%), 201 (0.62%) and 213 (0.65%) respectively. It was noticeable that most of the counties with the large number of assessment centres were predominantly urban while those registering lower assessment centres were Arid and Semi-Arid (ASA) counties.

2022 KPSEA learner characteristics

A total of 1,253,577 learners sat for the 2022 KPSEA. Generally, it was observed that more boys (648,613) than girls (604,964) registered for the KPSEA. The proportion of boys who registered for the assessment was higher than that of girls by 3.48%. It was observed that 5 counties with notably high registration for 2022 KPSEA were Nairobi (87,169), Kakamega (65,622), Nakuru (58,053), Bungoma (60,400) and Kiambu (49,155) county. On the other hand, low registration was observed in Marsabit (7,164), Wajir (6,882), Samburu (6,081), Isiolo (4,567) and Lamu (3,857) county.

It was also noted that learners registered for 2022 KPSEA in some counties showed gender parity. For instance, Isiolo county had the lowest disparity between boys and girls in enrollment. Boys were slightly more than girls by only 0.24%. In West Pokot, Nairobi and Kiambu, boys were slightly more than girls by only 0.25%, 0.28% and 1.06%

respectively. Further, counties like Mandera, Garissa, Wajir, and Turkana had a wider gender parity in registration compared to other counties, with more boys than girls registering for the assessment at 19.25%, 11.48%, 9.71% and 6.56% respectively.

On age, it was observed that Nyeri, Muranga, Kiambu, Kirinyaga and Nairobi counties had the highest proportion of learners falling between 11 and 12 years (age appropriate) at 77.67%, 75.45%, 75.23%, 70.50% and 70.01% respectively. On the other hand, Kwale, Kilifi, Garissa, Mandera and Turkana counties had the highest proportion of learners enrolled that were over 12 years old (overage) at 81.79%, 81.20%, 80.39%, 74.63% and 72.01% respectively.

Learner Performance

Largely, the learning outcomes posted by the learners are an indicator of the quality of education being accessed. The national performance of learners was analysed in terms of performance levels and the percentage of learners performing at each level.

It was observed that out of the 14 subjects, eleven (11) subjects: English, Kiswahili, Science and Technology, Agriculture, Home Science, Physical and Health Education, Social Studies, Music, Christian Religious Education (CRE), Islamic Religious Education (IRE) and Hindu Religious Education (HRE), recorded more than half of all learners performing at both exceeding expectation and meeting expectation. For instance, in English 12.47% of the learners performed at exceeding expectation and 47.70% performed at meeting expectation while in Kiswahili, 8.84% of the learners performed at exceeding expectation and 67.29% performed at meeting expectation. Notably, Islamic Religious Education, Christian Religious Education and Agriculture had the highest proportion of learners performing at exceeding expectations at 41.17%, 33.63% and 19.03% respectively.

However, of concern are more than half of the learners performing at approaching expectation and below expectation in Mathematics, Kenyan Sign Language (KSL), Music and Art and Craft at For instance, in Mathematics, 47.17% of the learners performed at approaching expectation while 7.98% of them performed below expectation.

An analysis of the proportion of learners having difficulty in responding to the multiple choice questions/items was done. The facility indices of each item in each subject revealed that, out of the fourteen (14) subjects assessed in KPSEA, Home Science and IRE are the only subjects that did not have any question with a Facility Index of less than 30%. Mathematics had the highest number of questions (16 out of 30 items) with a Facility Index of less than 30% followed by physical Health Education (6 out of 15 items), HRE (6 out of 15 items) and Social Studies (5 out of 15).

Laying foundation for core competencies and values acquisition

Regarding assessment of core competencies, core values, pertinent and contemporary issues in 2022 KPSEA, the questions were embedded in the all subjects. The learners performance on these questions were analysed and observations made on whether the foundations for the development of the core competencies and values was being laid.

Core competencies were assessed across the curriculum using proxy questions. For instance, critical thinking and problem solving was assessed in all subjects, followed by citizenship (9 subjects), creativity (8 subjects), communication and collaboration (7 subjects).

The findings point at the foundations being laid at primary level to acquire these core competencies among learners with a strong indication of majority of the learners approaching expectation when assessed in most of the core competencies. Of concern are the competencies of learning to learn, self-efficacy and digital literacy that were assessed in only six, five and four subjects, respectively. The building blocks for the development of these core competencies need to be elaborately defined to the teachers to enable systematic support for learners as they acquire these core competencies.

The core value of Responsibility was assessed in nine subjects (Mathematics, English, Kiswahili, Science and Technology, Agriculture, Home Science, Physical and Health Education, Social Studies and CRE). This was followed by Respect, Love and Patriotism being assessed in five or four subjects (Respect- English, Music, Art and Craft, CRE and IRE; Love- English, Art and Craft, CRE, HRE; Patriotism- English, Agriculture, Music and HRE). The values that were least assessed were Social Justice (assessed in English only) and Unity (assessed in English and CRE only).

In line with the aspirations of CBC, the Pertinent and Contemporary Issues, Life Skills and Values were assessed in English (7 items), Kiswahili (5 items) and Agriculture (5 items). Assessment of Education for Sustainable Development (ESD) appeared in two subjects only; Science (2 items) and Agriculture (2 items). Learner Support Programmes issues were assessed in Mathematics only (1 item). Other contextual questionnaires would have been useful in collecting data for this aspect. Global citizenship Education was mostly assessed in Music (4 items). The assessment of Health Education featured most in English (5 items) and Science and Technology (5 items). Community Service Learning and Parental engagement competence was assessed in English (3 items) and Agriculture (2 items) only.

In conclusion, there are low content knowledge levels and core competencies acquisition levels among majority of the learners at upper primary based on the high proportions of learners scoring below the mean mark in most of the subjects assessed in KPSEA. The Ministry of Education

stakeholders need to put concerted effort into monitoring the curriculum implementation aspects and learning environments to ensure solid foundations are laid for learners at primary school level for improved learning outcomes in all subjects assessed.

Recommendations

Ministry of Education

The Ministry of Education should steer, coordinate, and monitor to ensure:

- i) Action research is carried out to inform the laying of solid foundations for STEM teaching and learning; specialist teaching of Creative and Performing Arts subjects to inform policy and improve on teaching and learning practices and environments at primary level.
- ii) Quality implementation of the curriculum by monitoring the implementation process in schools to ensure that teaching and assessment strategies that promote acquisition of competencies as stipulated in the Curriculum Designs are adhered to.
- iii) Provision of adequate and human resources to facilitate curriculum implementation in schools.
- iv) Provision of a learner friendly environment for all learners including those with special needs & disabilities.
- v) Improve internet connectivity and ICT infrastructure in schools to support the development of digital skills.
- vi) Use of assessment data and evidence in decision-making about CBC and CBA.
- vii) Updated NEMIS to capture learner data relevant for future decisions on learner transition and placement in different pathways at Junior Secondary, Senior School and future career options.

Teachers Service Commission (TSC)

The role of TSC is pivotal in ensuring that learners have facilitators that can support their learning. To this end TSC should:

- i) Strengthen capacity of TSC Quality Assurance and Standards Officers (QASOs) and Curriculum Support Officers (CSOs) to provide instructional leadership on CBAs at classroom level.
- ii) Through TSC QASOs and CSOs, provide on-going school level and classroom-level technical support to teachers to understand, operationalize and integrate best practices into their formative assessment practices leading to early identification of learning gaps for remediation.
- iii) Collaborate with SAGAs at the sub county and zonal levels to guide and build the capacity of teachers on the use of KPSEA School Specific Reports and other formative assessment feedback reports to improve learning outcomes.
- iv) Use the available School Specific reports to analyse and retool teachers in subject specific strategies to improve on the teaching and assessment of all subjects.
- v) Ensure mentorship, guidance and coaching sessions for teachers in primary schools to aid in teaching concepts of different subjects and core competencies and improve on the learners' performance.
- vi) Explore different ways on how technical subject teachers may be assisted in securing subject-specific professional development to improve teaching and learning.

The Kenya Institute of Curriculum Development should:

- i) Include in the Education Cloud resources on Competency Based Assessment (CBAs) that teachers can access and use in their classroom assessment for improved diagnosis of learning gaps for remediation.
- ii) Strengthen capacity of teachers to understand subject specific descriptors outlined in curriculum designs and to operationalize competency-based assessments in their classrooms. This could be done during periodic teacher professional development programmes and/or even via the Radio/TV (Edu Channel) programs to schools.
- iii) Collaborate with TSC and other SAGAs to guide teachers on the use of KPSEA, other formative assessments, and placement in different pathways at Junior Secondary, Senior School and future career options.
- iv) Review curriculum proposals from different stakeholders. For instance, increase in time allocation for teaching creative subjects like Music and Art, review of the Physical and Health Education curriculum content for upper primary that is reported to be highly pitched for the age and not appropriate for the country contexts, relooking at of some Mathematics content that present real life situations as it has proved to be challenging to learners at Grade 6.

As facilitators of learning and role models to the learners, teachers are urged to:

- i) Embrace preparation of assessment items that are authentic and assess the content across the cognitive levels.
 - ii) Give learners practice on tackling questions that require application of high order thinking skills to develop abilities in responding to different questions.
 - iii) Nurture reading comprehension skills in learners by involving them in reading a variety of texts to develop analytical reading skills.
 - iv) Ensure that content in the Curriculum design is covered within the stipulated time frame to avoid disadvantaging learners.
 - v) Involve learners in vocabulary building tasks that create opportunities for using expressive and receptive skills in KSL directly or in pictorial representation.
- Provide more opportunities for learners to participate in community service-learning activities that address problems or challenges faced by the community.

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CHAPTER ONE

INTRODUCTION

1.1 General Information on the Kenya National Examinations Council

The Kenya National Examinations Council (KNEC) also referred to as The Council, is a state corporation established in 1980 under an Act of Parliament, namely the Kenya National Examinations Council Act Chapter 225A of (1980). This Act was repealed in 2012 and replaced with the Kenya National Examinations Council Act No. 29 of 2012.

1.1.1 Vision Statement: Transforming lives through quality assessment and credible certification.

1.1.2 Mission Statement: To assess abilities and certify learner achievements in conformity with global standards.

1.2 The Functions of the Council

1.2.1 KNEC core functions

According to Section 10 of the Kenya National Examinations Council Act No. 29 of 2012, the core functions of the Council are to:

- Set and maintain examination standards.
- Conduct public academic, technical and other national examinations within Kenya at basic and tertiary levels.
- Award certificates or diplomas to candidates in such examinations and confirm authenticity of certificates or diplomas issued by the Council upon request by the government, public institutions, learning institutions, employers, and other interested parties.
- Undertake research on educational assessment.
- Advise any public institution on the

development and use of any system of assessment when requested to do so, and in accordance with such terms and conditions as shall be mutually agreed between the Council and the public institution.

- Promote the international recognition of qualifications conferred by the Council.
- Advise the Government on any policy decision that is relevant to or has implications on the functions of the Council or the administration of examinations in Kenya.
- Do anything incidental or conducive to the performance of any of the preceding functions.

1.2.2 Core Values

The KNEC core values are:

- Professionalism:** Our work is rooted in accurate data, critical skills, tested knowledge and collaborative thinking.
- Integrity:** We are trusted to efficiently use our resources to deliver our promise ethically with utmost honesty.
- Team Spirit:** We embrace collaboration and team up with strategic partners in service delivery.
- Innovativeness:** We are committed to creativity and aspire to embrace new ways and ideas of service delivery.
- Accountability:** We embrace reliability and personal responsibility for decisions and actions taken in order to honour our commitments to our customers.

1.3 The parameters of assessment

Assessment refers to the process of gathering evidence on what learners know, understand, and can do in a systematic way to evaluate their learning and to make decisions on the education processes. Four parameters guide the conduct of KPSEA: the purpose of assessment, the mode of assessment, the assessment tools and reporting on the assessment outcomes. Learner progression between Grades in the Age Based pathway is guided by the conduct of formative assessment and the provision of the School Year Report (SYR). KPSEA is a summative assessment that is administered at the end of upper primary. Assessment at upper primary school level is organised as illustrated in figure 1.

UPPER PRIMARY SCHOOL EDUCATION ASSESSMENT

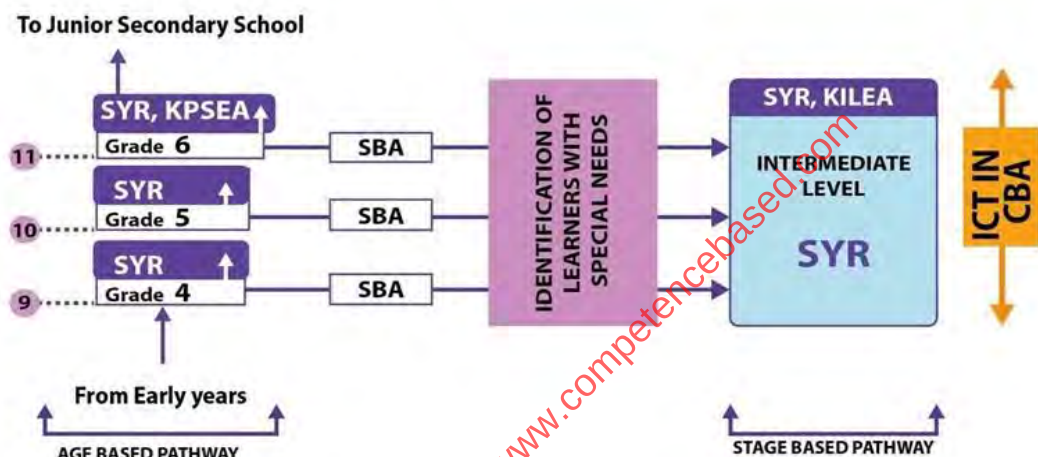


Figure 1. Assessment and reporting at Upper Primary School level

1.3.1 The purpose of KPSEA

The purpose of any assessment varies depending on the level at which the assessment is being offered. KPSEA is administered to find out the level of mastery of competencies among learners in the subjects assessed; to inform on the transition of learners to Junior Secondary School; and to inform education stakeholders on possible policy interventions for upper primary. The specific purpose of assessment at upper primary includes, among others:

- providing feedback on acquisition of competencies to learners, teacher, parents/guardians, and other relevant stakeholders.
- informing policy makers and curriculum developers on areas to target for appropriate intervention.
- helping the teacher /facilitators to improve on instructional strategies and approaches based on learning gaps noted.
- highlighting gaps in the provision of

resources that support implementation of curriculum.

- informing parents/guardians on learners' educational needs for support/intervention.
- encouraging learners to develop self and peer assessment skills.
- informing on the interventions as learners transit from upper primary to Junior Secondary School.
- establish the level of acquisition of the competencies in the subjects assessed and monitor learner progress.

1.3.2 Mode of assessment

The conduct of KPSEA is a process that starts at Grade 4 with classroom assessment conducted by teachers who are guided in the curriculum designs on activities to carry out during instruction to determine the level of achievement of the learning outcomes and remediate effectively. KNEC

reinforces the classroom assessment by providing standardized tools for School Based Assessment (SBA) at Grade 4, 5 and 6 in all the subjects offered at upper primary. Learners were accorded the opportunity to work individually, in groups and with the support of resource persons, parents and teachers depending on the task to exhibit their understanding of concepts taught. The KPSEA Summative assessment was administered at the end of Grade 6 through written tests that had multiple choice tasks.

1.3.3 The assessment tools

The formative and summative assessment of the 2022 KPSEA cohort was conducted using a variety of assessment tools that included: written tests, projects, practical/performance tasks, observation checklists, oral, aural, portfolio assessments, among others. The various assessment tools are used by teachers and educators to gather information about a learner's achievement. The assessment tools used comprised authentic tasks that provided learners with opportunity to demonstrate their knowledge and skills using real life tasks. Some of the tasks in the assessment tools embedded questions that checked on the acquisition and development of the Core Competencies, Core Values, and the PCIs.

To enhance credibility, KNEC employed quality controls through the provision of scoring guides, assessment administration guidelines and monitoring the conduct of SBA and summative assessments.

1.3.4 Reporting on assessment outcomes

The SBA are administered, scored, analysed and resultant reports used to provide feedback to stakeholders. The learners, parents and teachers receive instant feedback when formative assessments such as Classroom Assessments and School Based Assessments are carried out. KNEC has developed an efficient and interactive online portal to support the registration of learners for SBA and summative assessment of KPSEA. Teachers play a crucial role in the conduct of SBA at upper primary and in uploading the learners' assessment

outcomes on the CBA portal. KNEC has ensured that Individual Learner Reports (ILR) are given to each learner to inform them of their performance as they transit to JSS. Schools are provided with School Specific Reports (SSR) that highlight the performance of the candidates in each school in each subject, the learning gaps noted and suggested remedies for effective remediation. These SSRs are useful to both the JSS teachers receiving the same cohort of learners and the upper primary teachers who may need to improve the learning outcomes of learners in their respective schools.

1.4 KPSEA summative assessment

One of the purposes of KPSEA is to establish the level of acquisition of the competencies in the subjects assessed as a process of monitoring learner progress.

The assessment at the end of Grade 6 was conducted as guided by the Competency Based Assessment Framework for the Age based pathway (CBAF) which recommends an assessment at the end of upper primary. In addition, the assessment sought to monitor learning of basic skills and competencies that learners were expected to have acquired as per the specific learning outcomes at that level. The assessment also assists in identifying learning gaps in various subjects and

provide recommendations to relevant stakeholders for necessary interventions.

The 2022 KPSEA Grade 6 report highlights test items in which learners performed dismally and identifies possible reasons for the poor performance. It is hoped that the analysis and discussion of items learners found difficult will be helpful to the teachers of both Grades 6 and 7. The suggested remedies will continue to enrich the learning process and hence improve learning outcomes.

The report is useful to teachers and educators at large in identifying challenges in achievement of learning outcomes for appropriate interventions.

1.5 The Objective of the 2022 KPSEA Grade 6 National Report

The objective of the 2022 KPSEA Grade 6 National report is to give feedback to relevant education stakeholders through the provision of the following:

- 1.5.1** a detailed analysis of learners' performance in each subject assessed.
- 1.5.2** identified learning gaps noted in each subject assessed
- 1.5.3** suggested remedies to teachers, curriculum developers, curriculum implementation material developers on improving teaching strategies and consequently improve learning outcomes.

1.6 Conduct of the 2022 KPSEA

KNEC developed and provided appropriate assessment tools for the following subjects:

- a) English
- b) Kiswahili/ Kenyan Sign Language (KSL)
- c) Mathematics
- d) Integrated Science
- e) Creative Arts & Social Studies

1.7 Time table for 2022 KPSEA.

The 2022 KPSEA was conducted between 28th -30th November 2022

Table 1: Timetable for administering 2022 KPSEA

DAY & DATE	SESSION	ITEM NO.	PAPER	DURATION
FRIDAY 28.11.2022			REHEARSAL DAY	
DAY 1 MONDAY 28.11.2022	8.30am - 9.50am	1.	Mathematics	1 hour 20 minutes
	8.30am - 9.50am	2.	Mathematics (Large print)	1 hour 20 minutes
	8.30am-10.20am	3.	Mathematics (Braille)	1 hour 50 minutes
	10.20am-10.50am		BREAK	30 minutes
	10.50am-11.50am	4.	English	1 hour
	10.50am-11.50am	5.	English (Large print)	1 hour
	10.50am-12.10am	6.	English (Hearing impaired)	1 hour 20 minutes
	10.50am-12.10am	7.	English (Braille)	1 hour 20 minutes

DAY & DATE	SESSION	ITEM NO.	PAPER	DURATION
DAY 2 TUESDAY 29.11.2022	8.30am - 10.10am	8.	Integrated Science	1 hour 40 minutes
	8.30am - 10.10am	9.	Integrated Science (Large print)	1 hour 40 minutes
	8.30am - 10.40am	10.	Integrated Science (Braille)	2 hour 10 minutes
	10.30am - 10.10am		BREAK	30 minutes
	11.10am - 12.10am	11.	Kiswahili	1 hour
	11.10am - 12.10am	12.	Kiswahili (Large print)	1 hour
	11.10am - 12.30am	13.	Kiswahili (Braille)	1 hour 20 minutes
	11.10am - 12.10am	14.	Kiswahili Sign Language	1 hour
DAY 3 WEDNESDAY 30.11.2022	8.30am - 10.10am	15.	Creative Arts & Social studies	1 hour 40 minutes
	8.30am - 10.10am	16.	Creative Arts & Social studies (Large print)	1 hour 40 minutes
	8.30am - 10.40am	17.	Creative Arts & Social studies (Braille)	2 hour 10 minutes

1.8 Competencies assessed

The 2022 KPSEA tests were designed to assess competencies while integrating the seven Core Competencies, Values, and Pertinent and Contemporary Issues as envisaged in the BECF (2019). Proxy Multiple choice questions (MCQ) measuring various core competencies, values, and pertinent and contemporary issues (PCIs) were used in KPSEA.

1.8.1 Core Competencies, Values and Pertinent and Contemporary Issues

The following core competencies were integrated in the summative assessment:

- Communication and Collaboration
- Critical Thinking and Problem Solving
- Imagination and Creativity
- Citizenship
- Digital Literacy
- Learning to Learn
- Self-Efficacy

A detailed description on how the various core competencies, values and pertinent and contemporary issues (PCIs) were assessed and discussed in Chapter three of this report.

1.9 Description of Assessment Tasks

For each of the areas, the appropriate tasks were developed for assessing learners in the various subjects taught at upper primary. Multiple choice questions were used to assess learners.

1.9.1 Scoring of assessment tasks in the Age based pathway

Learners' achievements in the various subjects at Grade 6 were scored using four performance Levels: (i) Exceeding Expectation (Level 4); (ii) Meeting Expectation (Level 3); (iii) Approaching Expectation (Level 2) and (iv) Below Expectation (Level 1). The achievement levels are described in detail as follows:

Exceeding Expectation (Level 4): The learner consistently and with a very high level of accuracy displays the knowledge, skills and attitudes/values assessed.

Meeting Expectation (Level 3): The learner displays the knowledge, skills and attitudes/values assessed, in most cases.

Approaching Expectation (Level 2): The learner displays the knowledge, skills and attitudes/values assessed some of the times.

Below Expectation (Level 1): The learner struggles to display the knowledge, skills and attitudes/values assessed and does so with assistance.

Each performance level had a descriptor which outlined the relative differences between learners' performances at each Level. The descriptors were derived from the general learning outcomes spelt out in the Curriculum designs. Detailed subject specific descriptors were communicated to schools through theCBA portal for effective feedback to learners and parents.

1.9.2 Performance Analysis of 2022 KPSEA

In determining the performance of learners, **Item Analysis** is used. Item analysis involves determining the **Facility Index (F-index)** and **Discrimination Index (D-Index)** of each question in the paper for the chosen sample population of learners. The facility index refers to the relative

measure of **difficulty or ease** of a question based on the percentage of learners obtaining a correct response to a question. The discrimination index on the other hand indicates how successfully a question can sort out the abilities into different categories ranging from the highest achiever to the lowest one. A good question is one that has a **Facility Index** of between **30% and 80%**. Any question therefore with a Facility Index of below 30% is considered to have been found difficult by the learners and one **above 80%** is considered to have been found easy by the learners. This is the criteria used by the **Item Analysis programme** to select questions with the low facility indices in a paper for discussion in this national report.

Sometimes questions that have a **facility index of 30%** are considered for discussion. Learners find a question difficult usually because of inadequate coverage of the syllabus content, which makes the learners unable to tackle the question except by guessing. Learners will also find it difficult to handle questions that require **higher order thinking abilities** for instance those involving **problem solving, evaluation, application**

1.10 The 2022 KPSEA performance reporting strategy

The 2022 KPSEA provides an opportunity to monitor learner progress. Learner progress was measured and reported as demonstrated in figure 2.

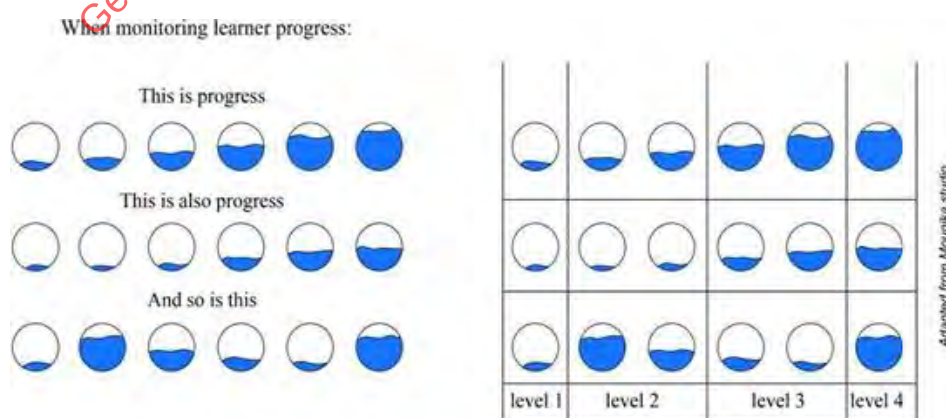


Figure 2: Performance Levels of monitoring learner progress

The learners, parents, teachers, and educators need to understand how to identify a learner's strengths and nurture the potential displayed during learning and assessment.

KNEC has developed subject specific descriptors to guide on what the Grade 6 learners can do based on the analysis of 2022 KPSEA performance.

The reporting on Competency Based Assessments such as the 2022 KPSEA adopted the strategies illustrated by figure 3.

These reporting strategies ensure that learners and parents get the Individual learner reports while the school community stakeholders get detailed School Specific Reports that have relevant school level analysis, learning gaps per subject and suggested remedies for improving teaching and learning processes.

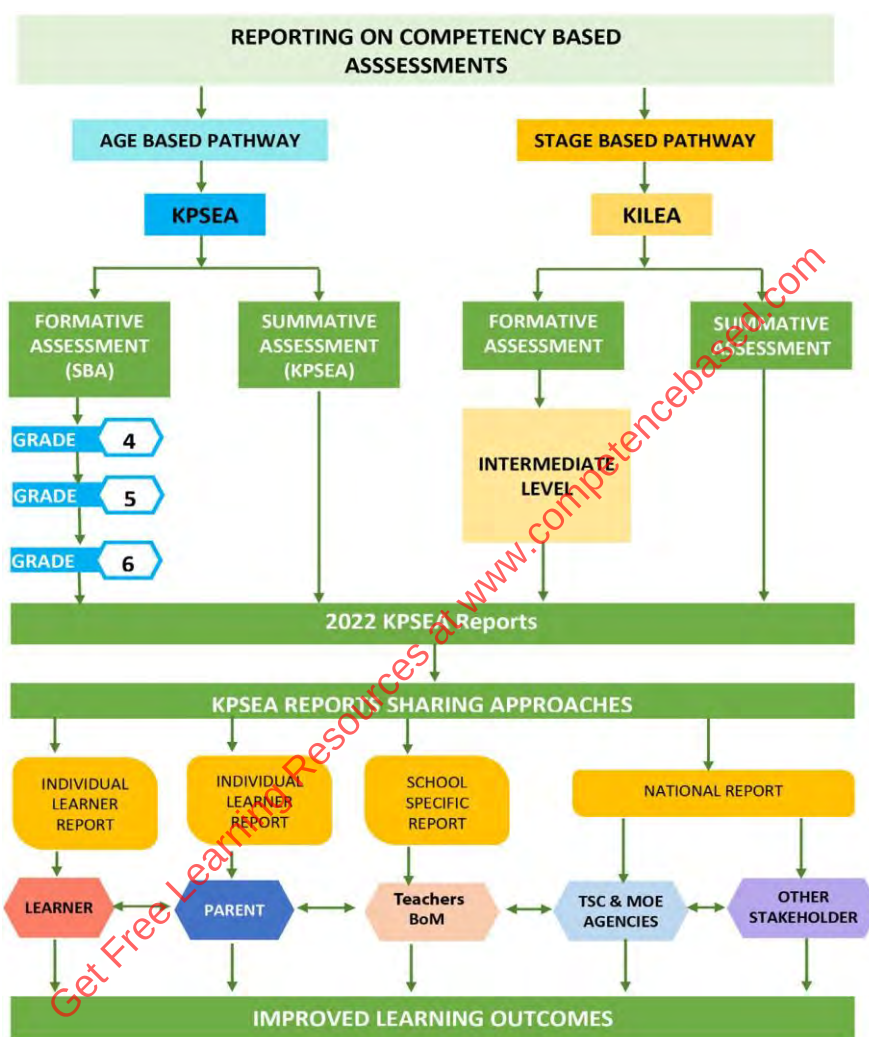


Figure 3. Reporting strategy on Competency Based Assessment

Figure 3 illustrates the various assessments administered for both the Age based and Stage based pathways, reports generated, as well as the stakeholders who benefit or use the feedback. Feedback provides information or critique about prior action or behaviour from an individual that is communicated to another individual or a group to use the information in adjusting and improving their current and future actions. Feedback on learner's performance is an integral component of the CBA. It provides information that forms the basis of curriculum content improvement, enhancement of pedagogies to facilitate effective learning, and identification of relevant learning materials among others (Upali, 2011). It is therefore crucial that feedback is shared with the relevant stakeholders at the appropriate time to allow for timely decision making. For effective reporting of learner's progress, relevant records of a learner's performance should be developed and maintained at every level of assessment.

1.11 Background information on 2022 KPSEA

1.11.1 KPSEA Assessment Centres

Apart from personal factors, studies have established that contextual factors also influence teachers' implementations of formative assessment (Li et.al., 2020; Birenbaum et al., 2015). Learning centres provide context under which formative assessment processes and their possible impact on learners' access to quality education can be understood. Table 2 presents data on the distribution of assessment centres per county.

Table 2: Registration of learners in KPSEA centers by school type per county

County Code	County Name	Private	Public	Total Entry	Centres	% Per County
01	Taita Taveta	894	6900	7794	256	0.79%
02	Kwale	3059	23315	26374	548	1.68%
03	Mombasa	12250	12486	24736	562	1.73%
04	Kilifi	7046	39136	46182	894	2.75%
05	Tana River	669	6503	7172	201	0.62%
06	Lamu	293	3564	3857	116	0.36%
07	Nyandarua	2074	14561	16635	454	1.39%
08	Nyeri	2760	13274	16034	499	1.53%
09	Kirinyaga	2853	9364	12217	327	1.00%
10	Murang'a	3041	21958	24999	636	1.95%
11	Kiambu	15750	33405	49155	1044	3.21%
12	Machakos	6840	29134	35974	1202	3.69%
13	Kitui	2217	34990	37207	1516	4.66%
14	Embu	2058	11831	13889	502	1.54%
15	Meru	7097	33222	40419	1080	3.32%
16	Marsabit	1518	5646	7164	213	0.65%
17	Isiolo	1275	3292	4567	142	0.44%
18	Makueni	1620	27762	29382	1006	3.09%
19	Tharaka Nithi	1107	10629	11736	498	1.53%
20	Nairobi	47344	39825	87169	2003	6.15%
21	Turkana	7732	11454	19186	429	1.32%
22	Samburu	373	5708	6081	180	0.55%
23	Transnzoia	4993	25960	30953	613	1.88%
24	West Pokot	1398	16284	17682	662	2.03%
25	Bomet	4472	23348	27820	904	2.78%
26	Uasin Gishu	7151	22513	29664	811	2.49%
27	Nakuru	11246	46807	58053	1132	3.48%
28	Kericho	5384	21449	26833	793	2.44%
29	Nandi	2826	24859	27685	901	2.77%
30	Laikipia	1722	10927	12649	347	1.07%
31	Kajiado	8734	18940	27674	844	2.59%

County Code	County Name	Private	Public	Total Entry	Centres	% Per County
32	Narok	4076	33097	37173	894	2.75%
33	Baringo	1883	15652	17535	757	2.33%
34	Elgeyo Marakwet	1444	12875	14319	483	1.48%
35	Busia	2446	27823	30269	546	1.68%
36	Bungoma	5353	49804	55157	1031	3.17%
37	Kakamega	4961	60661	65622	1135	3.49%
38	Vihiga	1354	18113	19467	452	1.39%
39	Kisumu	4244	32069	36313	817	2.51%
40	Kisii	6496	32531	39027	1002	3.08%
41	Homa Bay	5145	33405	38550	1125	3.46%
42	Siaya	2097	31557	33654	782	2.40%
43	Nyamira	2535	14935	17470	522	1.60%
44	Migori	5369	32501	37870	898	2.76%
45	Garissa	5324	4057	9381	274	0.84%
46	Wajir	1139	5743	6882	256	0.79%
47	Mandera	1527	6419	7946	266	0.82%
	Total	233,289	1,020,288	1,253,577	32,555	100.00%

From table 2, it can be observed that Nairobi, Kitui and Machakos counties recorded the highest number of assessment centres at 2,003 (6.15%), 1,516 (4.66%) and 1,202 (3.69%) respectively. Other counties that had equally high numbers of assessment centers were Kakamega, Nakuru, Homabay, Meru at 1,135 (3.49%), 1,132 (3.48%), 1,125 (3.46%) and 1,080 (3.32%) respectively. On the other hand, Lamu, Isiolo, Samburu, Tana River and Marsabit registered lower numbers of assessment centres at 116 (0.36%), 142 (0.44%), 180 (0.55%), 201 (0.62%) and 213 (0.65%) respectively. It is noticeable that most of the counties with the large number of assessment centers were predominantly urban while those registering lower assessment centres were Arid and Semi-Arid (ASA) counties.

Table 2 further reveals that majority (1,020,288) of the learners were registered in public assessment centres, representing 81% compared to 233,289 (19%) registered in private assessment centres.

4.11.2 : Registration of learners with disability

The sector policy on education and training of learners and trainees with disabilities recognizes the importance of inclusive education by emphasizing on the need for all learners to learn together in an inclusive environment. The policy aligns the provision of education and training to the Constitution of Kenya 2010, the Basic Education Act (2013), as well as the Sustainable Development Goal No. 4 on Equitable, Inclusive Quality Education and lifelong learning for all. The Ministry of Education (MOE) has taken concrete steps to transform provision of education for learners with special needs and disabilities to inclusive education (MoE, 2018).

The report also presents the distribution of learners with disability that registered for the KPSEA and the findings are captured in table 3.

Table 3: Distribution of learners registered for 2022 KPSEA per disability type

	TYPE OF DISABILITY	FREQUENCY	PERCENT
1	Learners with visual impairment	119	4.8%
2	Learners with hearing impairment	877	35.6%
3	Learners with low vision	536	21.7%
4	Learners with physical disabilities	933	37.8%
	Total	2465	100.0

From table 3, it can be observed that out of 2,465 learners with disabilities that sat for 2022 KPSEA, 933 (37.8%) were learners with physical disabilities followed by 877 (35.6%) who were learners with hearing impairment. Learners with low vision were 536 (21.7%) while 119 (4.8%) were learners with visual impairment.

Regarding enrollment by county, Turkana and Kakamega counties led with an enrolment of 129 (5.23%) learners each. Other Counties that registered higher numbers included Bungoma at 118 (4.79%), Nairobi (110 (4.46%), Nakuru and Kisumu at 101 (4.10%) respectively. Taita Taveta, Lamu, Isiolo, Samburu and Mandela reported lowest registration at 4 (0.16%), 5 (0.20%), 14 (0.57%), 16 (0.65%) and 17 (0.69%) respectively. Counties that registered lowest number of Learners with disabilities. It is observed that

area reported very low numbers of learners with disabilities while those counties in urban centers reported slightly higher numbers. There is need for double effort to ensure all learners despite their county of origin access education equally.

1.11.3 Learners registered for 2022 KPSEA by gender

Factors such as poverty, gender disparity, regional disparities have been found to affect learners' access to education (Limo & Muchimuti., 2022; MoE, 2018). In an effort to understand how these variables affect access to education in Kenya, the total number of learners registered for 2022 KPSEA was analysed per county and gender. Table 4 presents the total number of learners registered for KPSEA in 2022.

counties in ASA

Table 4: Learner's registration for 2022 KPSEA by gender

COUNTY CODE	COUNTY	BOYS	GIRLS	TOTAL
01	Taita Taveta	4,017	3,777	7,794
02	Kwale	13,716	12,658	26,374
03	Mombasa	12,557	12,179	24,736
04	Kilifi	23,416	22,766	46,182
05	Tana River	3,677	3,495	7,172
06	Lamu	2,003	1,854	3,857
07	Nyandarua	8,665	7,970	16,635
08	Nyeri	8,213	7,821	16,034
09	Kirinyaga	6,290	5,927	12,217
10	Murang'a	12,965	12,034	24,999
11	Kiambu	24,838	24,317	49,155
12	Machakos	18,652	17,322	35,974
13	Kitui	19,569	17,638	37,207
14	Embu	7,231	6,658	13,889
15	Meru	21,069	19,350	40,419

COUNTY CODE	COUNTY	BOYS	GIRLS	TOTAL
16	Marsabit	3,622	3,542	7,164
17	Isiolo	2,278	2,289	4,567
18	Makueni	15,585	13,797	29,382
19	Tharaka Nithi	6,197	5,539	11,736
20	Nairobi	43,462	43,707	87,169
21	Turkana	10,222	8,964	19,186
22	Samburu	3,082	2,999	6,081
23	Trans Nzoia	16,063	14,890	30,953
24	West Pokot	8,819	8,863	17,682
25	Bomet	14,635	13,185	27,820
26	Uasin Gishu	15,434	14,230	29,664
27	Nakuru	30,214	27,839	58,053
28	Kericho	14,156	12,677	26,833
29	Nandi	14,627	13,058	27,685
30	Laikipia	6,475	6,174	12,649
31	Kajiado	14,221	13,453	27,674
32	Narok	19,276	17,897	37,173
33	Baringo	9,171	8,364	17,535
34	Elgeyo Marakwet	7,586	6,733	14,319
35	Busia	15,560	14,709	30,269
36	Bungoma	28,718	26,439	55,157
37	Kakamega	34,254	31,368	65,622
38	Vihiga	10,031	9,436	19,467
39	Kisumu	18,657	17,656	36,313
40	Kisii	20,131	18,896	39,027
41	Homa Bay	19,952	18,598	38,550
42	Siaya	17,203	16,451	33,654
43	Nyamira	9,129	8,341	17,470
44	Migori	19,233	18,637	37,870
45	Garissa	5,229	4,152	9,381
46	Wajir	3,775	3,107	6,882
47	Mandera	4,738	3,208	7,946
Total	Total	648,613	604,964	1,253,577

From table 4, a total of 1,253,577 learners sat for KPSEA in 2022. Generally, it can be observed that more boys (648,613) than girls (604,964) registered for the 2022 KPSEA. The proportion of boys who registered for the assessment was higher than that of girls by 3.48%.

It is observed from table 4 that the 5 counties with notably high registration for 2022 KPSEA were Nairobi (87,169), Kakamega (65,622), Nakuru

(58,053), Bungoma (55,157) and Kiambu (49,155) county. On the other hand, low registration was observed in Marsabit (7,164), Wajir (6,882), Samburu (6,081), Isiolo (4,567) and Lamu (3,857) county.

It is also notable that registration for 2022 KPSEA in some counties showed gender parity. For instance, Isiolo county had the lowest disparity between boys and girls in enrolment. Boys were

slightly more than girls by only 0.24%. In West Pokot, Nairobi and Kiambu, boys were slightly more than girls by only 0.25%, 0.28% and 1.06% respectively.

Table 4 further reveals that counties like Mandera, Garissa, Wajir, and Turkana had a wider gender parity in registration compared to other counties, with more boys than girls registering for the assessment at 19.25%, 11.48%, 9.71% and 6.56% respectively.

The implication of the analysis above is that Grade 6 is an important stage for transiting to Junior Secondary. Therefore, it marks an important milestone in the learner's academic pursuit. It is also a stage which gives a clear indicator on access to education.

1.11.4 KPSEA registration by age

According to the National Education Sector Plan (NESSP 2018-2022, the new education system (2-6-3-3) consists of 2 years of pre-primary (for ages 4-5); 3 years of Lower primary and 3 years of upper primary (for ages 6-11); and 3 years of Junior Secondary as well as 3 years of Senior Secondary (for ages 12-17 years).

Studies show that the age of learners has a bearing on learners' achievement (Navarro et.al., 2015; Olalowo., 2020). This section sought to analyze data related to the age of Grade 6 learners at the time they sat for 2022 KPSEA. Learners between 11 and 12 years are regarded as age appropriate, while those less than 11 years and above 12 years as underage and overage respectively. Table 5 presents the number of learners registered.

Table 5: County KPSEA registration per age

COUNTY	BELOW 11 YEARS	11 AND 12 YEARS	ABOVE 12 YEARS
01 Taita Taveta	66 (0.85%)	4298 (55.14%)	3430 (44.01%)
02 Kwale	195 (0.74%)	4607 (17.47%)	21572 (81.79%)
03 Mombasa	374 (1.51%)	12505 (50.55%)	11857 (47.93%)
04 Kilifi	422 (0.91%)	8258 (17.88%)	37502 (81.20%)
05 Tana River	320 (4.46%)	1847 (25.75%)	5005 (69.79%)
06 Lamu	47 (1.22%)	1261 (32.69%)	2549 (66.09%)
07 Nyandarua	356 (2.14%)	11423 (68.67%)	4856 (29.19%)
08 Nyeri	194 (1.21%)	12453 (77.67%)	3387 (21.12%)
09 Kirinyaga	244 (2.00%)	8613 (70.50%)	3360 (27.50%)
10 Murang'a	513 (2.05%)	18862 (75.45%)	5624 (22.50%)
11 Kiambu	806 (1.64%)	36981 (75.23%)	11368 (23.13%)
12 Machakos	846 (2.35%)	23737 (65.98%)	11391 (31.66%)
13 Kitui	1057 (2.84%)	17179 (46.17%)	18971 (50.99%)
14 Embu	419 (3.02%)	9638 (69.39%)	3832 (27.59%)
15 Meru	1058 (2.62%)	20461 (50.62%)	18900 (46.76%)
16 Marsabit	526 (7.34%)	2721 (37.98%)	3917 (54.68%)

17 Isiolo	257 (5.63%)	1689 (36.98%)	2621 (57.39%)
COUNTY	BELOW 11 YEARS	11 AND 12 YEARS	ABOVE 12 YEARS
18 Makueni	726 (2.47%)	18248 (62.11%)	10408 (35.42%)
19 Tharaka Nithi	261 (2.22%)	6728 (57.33%)	4747 (40.45%)
20 Nairobi	1998 (2.29%)	61029 (70.01%)	24142 (27.70%)
21 Turkana	680 (3.54%)	4691 (24.45%)	13815 (72.01%)
22 Samburu	445 (7.32%)	2383 (39.19%)	3253 (53.49%)
23 Trans Nzoia	981 (3.17%)	13974 (45.15%)	15998 (51.68%)
24 West Pokot	1583 (8.95%)	8794 (49.73%)	7305 (41.31%)
25 Bomet	2101(7.55%)	14938 (53.70%)	10781 (38.75%)
26 Uasin Gishu	606 (2.04%)	15804 (53.28%)	13254 (44.68%)
27 Nakuru	1533 (2.64%)	35279 (60.77%)	21241 (36.59%)
28 Kericho	1960 (7.30%)	15388 (57.35%)	9485 (35.35%)
29 Nandi	476 (1.72%)	12262 (44.29%)	14947 (53.99%)
30 Laikipia	189 (1.49%)	7537 (59.59%)	4923 (38.92%)
31 Kajiado	991(3.58%)	14765 (53.35%)	11918 (43.07%)
32 Narok	2679 (7.21%)	15464 (41.60%)	19030 (51.19%)
33 Baringo	1802 (10.28%)	10599 (60.44%)	5134 (29.28%)
34 Elgeyo Marakwet	441 (3.08%)	6992 (48.83%)	6886 (48.09%)
35 Busia	647 (2.14%)	9405 (31.07%)	20217 (66.79%)
36 Bungoma	3196 (5.79%)	24399 (44.24%)	27562 (49.97%)
37 Kakamega	1406 (2.14%)	26150 (39.85%)	38066 (58.01%)
38 Vihiga	299 (1.54%)	8858 (45.50%)	10310 (52.96%)
39 Kisumu	921 (2.54%)	14933 (41.12%)	20459 (56.34%)
40 Kisii	2031 5.20%)	19391(49.69%)	17605 (45.11%)
41 Homa Bay	1803 (4.68%)	14039 (36.42%)	22708 (58.91%)
42 Siaya	804 (2.39%)	11751 (34.92%)	21099 (62.69%)
43 Nyamira	947 (5.42%)	8889 (50.88%)	7634 (43.70%)
44 Migori	2072 (5.47%)	14166 (37.41%)	21632 (57.12%)
45 Garissa	320 (3.41%)	1520 (16.20%)	7541 (80.39%)
46 Wajir	449 (6.52%)	2433 (35.35%)	4000 (58.12%)
47 Mandera	287 (3.61%)	1729 (21.76%)	5930 (74.63%)
Total	42334 (3.38%)	619071 (49.38%)	592172 (47.24%)

Table 5 reveals that Kwale, Kilifi, Garissa, Mandera and Turkana counties had the highest proportion

of enrollment of learners that were over 12 years old (overage at 81.79%, 81.20%, 80.39%, 74.63% and 72.01% respectively).

It can also be observed that Nyeri, Muranga, Kiambu, Kirinyaga and Nairobi counties had the highest proportion of learners falling between 11 and 12 years (age appropriate at 77.67%, 75.45%, 75.23%, 70.50% and 70.01% respectively).

Further, table 5 reveals that Baringo, West Pokot, Bomet, Marsabit and Samburu counties had the lowest proportions of learners falling below the age of 11 years (underage) at 10.28%, 8.95%, 7.55%, 7.34% and 7.32% respectively.

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CHAPTER TWO

LEARNER PERFORMANCE IN THE 2022 KPSEA

2.1 Introduction

This chapter presents an analysis of learners' performance in the 2022 KPSEA. The results are presented in terms of the proportion (%) of learners performing in each of the four performance levels for every subject nationally. The chapter also provides the analysis of items in each subject with a facility index below 30%.

Learners were assessed in fourteen (14) subjects in 2022 KPSEA. They include English, Kiswahili, Kenyan Sign Language, Mathematics, Science and Technology,

Agriculture, Home Science, Physical & Health Education, Social Studies, Art & Craft, Music, Social Studies, CRE, IRE and HRE. All the assessment tasks were presented in the multiple choice question format.

2.2 National performance of learners by performance levels per subject

The national performance of learners was analysed in terms of performance levels. Table 6 presents the findings.

Table 6: National performance in 2022 KPSEA by performance levels per subject

Subject	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
English Language	12.47%	47.70%	35.88%	3.94%
Kiswahili Lugha	8.84%	67.29%	20.56%	3.31%
Kenyan Sign Language	0.19%	32.58%	59.51%	7.72%
Mathematics	4.28%	40.45%	47.29%	7.98%
Science and Technology	14.73%	52.27%	27.11%	5.90%
Agriculture	19.03%	61.92%	15.80%	3.25%
Home Science	15.15%	36.96%	39.98%	7.91%
Physical and Health Education	9.74%	44.37%	36.45%	9.43%
Social Studies	11.30%	58.40%	25.28%	5.02%
Art and Craft	5.87%	38.71%	42.47%	12.95%
Music	9.11%	61.74%	18.87%	10.29%
Christian Religious Education	33.63%	48.52%	15.22%	2.63%
Islamic Religious Education	41.17%	43.89%	12.50%	2.45%
Hindu Religious Education	0.00%	81.82%	18.18%	0.00%

From table 6, it can be observed that out of the 14 subjects, eleven (11) subjects: English, Kiswahili, Science and Technology, Agriculture, Home Science, Physical and Health Education, Social Studies, Music, Christian Religious Education (CRE), Islamic Religious Education (IRE) and Hindu Religious Education (HRE), recorded more than half of all learners performing at both

exceeding expectation and meeting expectation. For instance, in English 12.47% of the learners performed at exceeding expectation and 47.70% performed at meeting expectation while in Kiswahili, 8.84% of the learners performed at exceeding expectation and 67.29% performed at meeting expectation. Notably, Islamic Religious Education, Christian Religious Education and

Agriculture had the highest proportion of learners performing at exceeding expectations at 41.17%, 33.63% and 19.03% respectively.

However, more than half of all learners performing at approaching expectation and below expectation in Mathematics, Kenyan Sign Language (KSL) and Art and Craft are of concern. For instance, in Mathematics, 47.17% of the learners performed at approaching expectation while 7.98% of them performed below expectation.

2.3 Analysis of Items with a Facility Index Less Than 30%

The facility index of a test item is the percentage of the group of learners that chooses the correct response. A facility index below 30% indicates

that many learners encountered difficulties selecting the correct response from the options given for the multiple-choice item. This section presents an analysis of test items that recorded a facility index of less than 30% in the 14 subjects assessed in 2022 KPSEA. In each subject, such items are discussed to identify the learning gaps and suggestions given for possible subject-specific interventions.

2.3.1 English

The English KPSEA assessment had 30 multiple choice items which covered three language skills (listening, speaking, reading) and grammar. Table 7 presents items that recorded a facility index of below 30%.

Table 7: Questions in English with facility index less than 30%

Item No.	Content/skill assessed	Key (Correct response)	Facility index
11.	Inference of meaning from the context/use of contextual clues to get the correct responses in passages.	C	14.58
21.	Use of correct prepositions in sentences.	A	25.07
23.	Use of correct prepositions in sentences.	B	13.20

Item 11

The correct option for **Item 11** was C. It required the learners to infer the response from the contextual clues in the passage. Many learners selected option A (51.82%) as the correct answer probably because it seemed the most obvious reason for returning the money. However, by inference, it was not the cause of the shopkeeper's surprise.

Suggested remedy: Teachers need to train learners to identify and interpret contextual clues in written texts.

Item 21

The correct option for **Item 21** was A. The learners were expected to fill in the blank space with the correct preposition from the choices given after the item. Nearly half of the learners (48.06%) selected option B, "than" instead of "to". It is a common grammatical error to collocate the verb 'prefer' with "than" instead of with 'to'.

Suggested remedy: Teachers need to give learners both oral and written practice on the use of verbs that collocate with specific prepositions.

Item 23

The correct option for **Item 23** was B. The learners were expected to fill in the blank space with the correct preposition from the choices given. A substantial proportion of learners (46.42%) selected option D "through" instead of "on". This is another common grammatical error many speakers make: people commonly use the phrase "talk through the phone" instead of 'talk on the phone'.

Suggested remedy: Teachers need to give learners both oral and written practice on phrases with fixed preposition choices to learn the common collocations in the English language.

2.3.2 Kiswahili Lugha

The Kiswahili KPSEA assessment had 30 objective items which covered three language skills (listening,

speaking, reading) and grammar.

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Table 8 presents items that recorded a facility index of below 30%.

Table 8: Questions in Kiswahili Lugha with facility index less than 30%

Question No.	Content/skill assessed	Key (Correct response)	Facility index
9.	Use of Vocabulary in context- Family related words	B	21.53
15.	Use of Vocabulary in context- Food and Nutrition	D	20.37
19.	Parts of speech- Use of conjunctions	D	26.65

Item 9

The correct response was **B (21.53%)**. The question assessed the use of vocabulary in context. Learners were expected to choose the appropriate vocabulary for the context presented to them. A higher percentage of learners at **32.36%** chose Option **A (binamu)**. This could be because ‘**binamu**’ also expresses family relations and is more common in language usage than the expected response ‘**mpwa**’.

Suggested remedy

There is a need for learners to be guided on the technique of relating the words given with the context provided and prior knowledge, and deliberately focus on vocabulary development.

Item 15

The correct response was **D (20.37%)**. The question assessed the use of vocabulary in context. Option A. (protini) had a higher percentage of learners than the correct response (**wanga**) at 36.96%. This could be because the word ‘**protini**’ was more familiar than the other options presented to the learners.

Suggested remedy: This points to the need for teachers to expose learners to vocabulary from various contexts.

Item 19

The correct response was **D (26.65%)**. The question assessed the use of appropriate conjunctions in context. Majority of the learners (**31.78%**) went for option A (**huku**). The correct response **D (mara)** is not as common a conjunction as ‘**huku**’. This points to learners’ lack of knowledge of appropriate conjunctions.

Suggested remedy:

Learners need to be given oral and written practice on various conjunctions.

2.3.3 Mathematics

The Mathematics KPSEA assessment had 30 objective items which covered five strands: Numbers, Measurements, Geometry, Algebra, and Data handling. **Table 9** presents items that recorded a facility index of below 30%.

Table 9: Questions in Mathematics with facility index less than 30%

Question No.	Content/skill assessed	Key (correct response)	Facility index % (Learners able to respond)
6.	Working out area of combined shapes	B	27.07
8.	Dividing up to a 4-digit number by a 2-digit number in real life situation	A	17.13
9.	Work out perimeter of plane figures in different contexts	B	18.60
10.	Adding and subtracting fractions using LCM in real life situation	A	26.97

11.	Adding and converting decimals to percentages in real situation	D	22.85
15.	Converting tonnes to kilograms in real life situation	B	23.31
17.	Multiplying kilograms by whole numbers in real life situation	C	16.23
18.	Working out profit in real life situation	A	18.89
19.	Interpreting travel timetable in real life situation	C	29.92
20.	Converting time from 12h to 24h clock system in real life situation	A	29.68
21.	Dividing tonnes and kilograms by a whole number in real life situation	D	21.22
23.	Adding and subtracting metres and centimetres in real life situation	D	17.69
23.	Adding and subtracting metres and centimetres in real life situation	D	17.69
25.	Measuring angles on a straight line in different situations	B	24.58
26.	Working out money activities involving change in real life situation	B	24.31
27.	Solving simple equations with one unknown in real life situation	B	22.57
30.	Interpreting data represented through piling in a real-life situation	C	28.66

Of 30 items assessed, 16 of them had a facility index below 30%. These items cut across the five strands assessed. This implies that the majority of the learners had difficulties in interpreting and responding to most of the tasks which were contextual. This could relate to the inability of many learners to interpret the language used in the context. Studies that have looked at the language abilities of learners as an impeding factor in mathematics performance reveal that learners demonstrate lower performance on word problems than calculation tasks (Wei, et al., 2013), which may be due to the additional language demands associated with word-problem solving (Powell, et al., 2019). This indicates that when presented with real life (authentic) contexts that assess higher order thinking skills, learners are not able to critically analyse the contexts and apply the mathematical operations learnt in the new situations presented.

Suggested remedy: Teachers could change the mode of classroom assessment and adopt approaches that relate tasks to real life situations to develop higher order thinking skills among learners. In addition to focusing on mathematical language, teachers could pay closer attention to giving learners adequate practical tasks that would demand of the learners to use mathematical operations learnt in solving the sums. School administrators to monitor curriculum interpretation in terms of coverage, use of learning resources and types of classroom assessments given to learners progressively. This will ensure the acquisition of competencies as stipulated in Mathematics Grade 6 curriculum designs.

2.3.4 Science and Technology

The Science and Technology KPSEA assessment had 15 objective items which covered six strands: Living things, Environment, Matter, Force and Energy, Health Education and Earth and Space.

Table 10 presents items that recorded a facility index of below 30%.

Table 10: Questions in Science and Technology with facility index less than 30%

Question No.	Content/skill assessed	Key (Correct response)	Facility index %
1.	Specifying the importance of flowering plants.	B	14.00
8.	Identifying change of state when liquids are warmed.	D	23.98

Item 1

In this item, learners were expected to specify the importance of flowering plants. Most learners (45.8%) picked the option of ‘beautifying the environment and producing fruits’ as one of the importance of flowering plants. These learners did not consider that even non-flowering plants are used to beautify the environment. Learners’ ought to have identified nectar production as one of the importance of flowering plants. This question also assessed the learner’s ability to analyse and evaluate information already learnt.

Suggested remedy: Teachers could take learners for nature-walks in their locality to observe and study the importance of flowering plants. Learners may also plant seeds and observe the characteristics of flowering plants as they grow. Teachers’ capacity in assessment could be enhanced to ensure that they give learners practice in tasks that assess higher order thinking skills during classroom assessment.

option that explains why when a sanitiser applied on hands dries faster than water. Most learners (35.17%) picked on the option stating that the sanitiser was absorbed by the skin. This implies that the learners were unable to link the drying of hands to the change of state of liquids.

Suggested remedy: Teachers to guide learners through practical application on change of state of matter in everyday life in their locality. In addition, they could guide learners in performing simple experiments exhibiting change of state of matter for better conceptualisation. For instance, applying methylated spirit on the hand and observing it dry up.

2.3.5 Agriculture

The Agriculture KPSEA assessment had ten objective items which covered two strands: Conserving our Environment and Gardening practices. Table 11 presents items that recorded a facility index of below 30%.

Item 8

In item 8, learners were expected to choose the

Table 11: Questions in Agriculture with facility index less than 30%

Question No.	Content/skill assessed	Key	Facility index % (Learners able to respond)
17.	Care for young climbing fruit plants	B	26.76
23.	Preparation of different types of seedbeds that conserve soil moisture	B	29.27

Item 17

This item required learners to identify a way in which a young fruit plant can be protected from damage by animals. The key (option **B** – constructing a shade) was selected by 26.74% of the learners. A large proportion (31.10%) of the learners selected option **C** (Trapping the animals). This response pattern could imply that some learners misinterpreted the meaning of shade. In the care of young climbing fruit plants, shade is constructed around the plant to protect it against damage by animals. There could also be a confusion with the general control measures for small wild animals where trapping is applied.

Suggested remedy: Specific caring practices undertaken to protect young plants should be focused on.

Item 23

The item required learners to explain how shallow pits conserve water. The key (option **B** – collects surface run-off) was selected by 29.27% of the learners. A slightly larger proportion (29.86%) of the learners selected option **A** (Reduces evaporation). In the water conservation using seedbeds, shallow pits are prepared to collect surface run-offs.

Suggested remedy

Teachers should emphasize the importance or reasons behind the practical activities undertaken in Agriculture.

2.3.6 Home Science

The Home Science KPSEA assessment had 10 objective items which covered 5 strands: Healthy Living, Consumer Education, Foods and Nutrition, Clothing, Laundry work.

In Home Science there were no items with a facility index below 30%. In all the ten test items, the correct responses (options) were chosen by the highest proportion of learners. This implies that most of the learners could interpret and respond to most of the tasks appropriately. This indicates that most learners have achieved the knowledge, skills and values assessed in this subject area.

2.3.7 Physical Health and Education

The Physical Health and Education KPSEA assessment had 15 objective items which covered six strands: Athletics, First aid in sports, Health and physical fitness, Ball games, Gymnastics and Outdoor recreational activities. **Table 12** presents items that recorded a facility index of below 30%

Table 12: Questions in Physical and Health Education with facility index less than 30%

Item number	Content/skill assessed	Key (correct response)	Facility index % (Learners able to respond)
38.	First Aid/Management of a strain- reasons for applying bandage on a strain	B	20.00
40.	Health and Physical fitness/ Development of physical fitness	B	29.22
42.	Gymnastics/Designing appropriate gymnastic sequences	C	15.06
43.	Health and physical fitness/Performing flexibility test	A	27.94
44.	Health and physical Fitness /Activities that develop muscular endurance	B	11.74
50.	Ball games/ Reasons for using shoulder pass in a game of Netball	C	26.23

Item 38

The item required learners to identify reasons for applying a bandage on a strained thigh. The correct response is (B -To reduce swelling), an option that was chosen by 20.00% of learners. 32.42% of the learners chose option (A -To stop bleeding) that was incorrect. Bleeding is not a characteristic of muscle strain. Having most learners choosing this option implies that learners have possibly not been exposed to strain as a sports injury as is expected in the curriculum design.

Suggested remedy: Teachers need to expose learners to the characteristic and management strategies of sports injuries. This can be reinforced by engaging learners in practical lessons and drills of first aid to enable them to conceptualise the process.

Item 40

Learners were required to choose an activity that nurtured the development of physical fitness. The correct response (B-Swimming regularly with friends) was chosen by 29.22% of learners. The majority of learners (31.58%) chose option C (Eating a balanced diet at all times.) The majority of learners opted for the incorrect option possibly due to a lack of understanding of the concept of physical fitness and the activities that develop it.

Suggested remedy: Teachers need to focus more on presenting learning experiences related to the physical fitness concept and how it can be developed and maintained. This can be effectively done by engaging learners in physical exercises, discussions, demonstrations, and use of videos among other relevant strategies.

Item No. 42

Learners were required to choose appropriate gymnastic sequences. The Key to this question is (D - Astride Vault to Forward roll) an option that was chosen by 15.06% of learners. The most popular response which was (C- Cartwheel to Headstand) was chosen by 30.06% of the learners. Cartwheel to Headstand cannot make an effective gymnastic sequence since one requires a different body orientation to start a headstand from cartwheel performance. Having 30.06% of learners choose the incorrect option could be a

pointer to a lack of understanding of gymnastic sequences and how activities can be combined into an efficient gymnastic sequence. This implies that teachers and learners may be lacking relevant teaching and learning resources that could aid in the conceptualisation of aspects related to gymnastics. Thus, learners could not pick out the correct sequence as was expected.

Suggested remedy: Teachers could engage learners in designing and performing gymnastics sequences in order for learners to internalise the concept and build the skills practically.

Item 43

Learners were required to choose the equipment that is used to perform flexibility testing. The correct response to the question is (A - Sit and reach box), an option that was chosen by 27.94% of learners. The most popular and wrong response (B- Tape measure) was chosen by 29.37% of learners. The failure of most learners to choose the correct option may be a pointer to learners' lack of knowledge or lack of awareness of how flexibility testing is performed.

Suggested remedy: Teachers are advised to engage learners in experiences that will equip them with knowledge of components of physical fitness, how to measure an individual's acquisition of these components, and the technical language in the discipline.

Item 44

Learners were expected to identify the component of physical fitness used in a marathon race. The correct response to this question is (C- Endurance), an option that was chosen by only 11.74% of learners. The majority of the learners (56.55%) chose option (B-Speed). These learners possibly lacked an understanding of the importance of the various components of physical fitness.

Suggested remedy: It is necessary that teachers expose learners to these components, and their usefulness in the performance of various sports related activities.

Item 50

Learners were required to choose the appropriate reason why a netball player used a Shoulder pass to pass a ball to a team-mate during a game. The correct option is (D When the team-mate was far), an option that was chosen by 26.23% of learners. The popular incorrect option (A - When the team-mate was close) was chosen by 29.92% of learners. This is an indication that learners do not know how shoulder pass among other passes applies in a game of netball.

Suggested remedy: Teachers are therefore advised to engage learners in the game of netball among others to practise various passes and use them appropriately in a game situation.

General observation on PHE teaching and learning

- i) Learners' performance in all the items assessing the strand on health and physical fitness was dismal and of great concern. Teachers need to expose learners to the concepts of health and physical fitness and engage

them in relevant learning experiences including more practical activities that augment the conceptualisation of these key concepts.

- ii) Analysis of data on learners' performance in School based assessment at grade 4, 5 and 6 together with KPSEA performance analysis indicates that Physical and Health Education curriculum content for upper primary could be highly pitched for the age and contexts of learning in schools and requires a review of the scope and sequencing that is appropriate for the country contexts.

2.3.8 Art and Craft

The Art and Craft KPSEA assessment had 10 objective items which covered four strands: Picture Making, Design, Mixed Media and Technology, Indigenous Kenyan Crafts, Presentation and Exhibition. **Table 13** presents items that recorded a facility index of below 30%.

Table 13: Questions in Art and Craft with facility index less than 30%

Question No.	Content/skill assessed	Key (correct Option)	Facility index
2.	Viewpoints in Photography	D	25.10
5.	Block printing	B	17.80
10.	Indigenous Kenyan Craft-Pottery coil technique.	B	17.80

Item 2

The item assessed learners on "view points" in Photography. The correct response was (D - Normal eye view) which was chosen by 25.10% of the learners. The majority (43.44%) of the learners chose the incorrect option (B - birds eye view). This could have been occasioned by learners' error of associating the word 'bird' in 'ladybird' as an indicator of the correct response. This shows a lack of understanding of the technical term 'point of views' in photography.

Suggested remedy: More practical sessions in photography will enable learners to master skills such as good angles, direction or stance while taking a photograph, and knowledge of the technical terms applicable in photography.

Item 5

The item assessed learners on "block printing". The correct response was C which was chosen by 9.88% of the learners. The majority (38.97%) chose option B. This shows learners' inability to point out the direction of the motif provided after

printing; implying a lack of practical learning experiences availed for the conceptualisation of this skill.

Suggested remedy: Teachers should expose learners to more and simple practical approaches in block printing to enable them to understand the processes and their implications in printing.

Item 10

This item assessed learners competency in “Making a pot using coiling technique”. The correct response was (B - Form base, scratch edges, roll out coils and add coils) chosen by 17.80% of the learners. The incorrect response chosen by the majority (28.77%) was option A.

This points to learners’ inability to sequentially outline the steps used in making vessels using coil technique. It further implies that learners may not carry out practical pottery activities using clay.

Suggested remedy: Teachers could expose learners to hand building techniques applicable in pottery making.

2.3.9 Music

The Music KPSEA assessment had 10 objective items which covered four strands:

Performing, Creating and Listening and Responding. **Table 14** presents items that recorded a facility index of below 30%.

Table 14: Questions in Music with facility index less than 30%

Item No.	Content/skill assessed	Key (correct Response)	Facility index % (Learners able to respond)
14.	Knowledge of methods used to tune traditional drums in readiness for performance.	C	23.48

The subject had only one item recording a facility index below 30%. The item required the learners to identify one of the ways of tuning traditional drums provided that was not suitable. The correct response was option C-Tightening pegs, since traditional drums do not have tuning pegs. The majority of the learners (29.37%) chose option B (Rubbing the membrane). This points to lack of exposure of learners to drums and the different methods of tuning drums used by different communities in Kenya.

Suggested remedy: Teachers should expose learners to live traditional instruments, pictures

and video recordings and exhaustively demonstrate different methods of tuning the instruments.

2.3.10 Social Studies

The Social Studies KPSEA assessment had 15 objective items which covered four strands:

Natural and built environment; people, population and social organisation; resources and economic activities; political systems and governance. **Table 15** presents items that recorded a facility index of below 30%.

Table 15: Questions in Social Studies with facility index of less than 30%

Question No.	Content/skill assessed	Key (correct response)	Facility index % (Learners able to respond)
23.	Choosing the correct diagram of an ox bow lake.	C	28.38
24.	Identifying the type of vegetation from described characteristics.	D	20.38

26.	Identifying a created messages on how to care for plants within the school which is not correct.	C	28.62
28.	Matching minerals with areas that they are mined.	C	27.36
35.	Identifying duties of a judge.	A	28.99

Out of the 15 items assessed, 5 of them had facility indices below 30%. Three of these items (23, 24 and 26) are from the strand Natural and built environment. The choice of incorrect responses in the strand of Natural and built environment could be related to learners' inability to: identify physical features, characteristics of vegetation and make correct judgement in caring for plants.

Item 23

Learners were required to identify an "ox bow lake" from the diagrams provided. The correct response (C) was chosen by 28.38 % of the learners. Option B, an incorrect option was chosen by 30.24% of the learners. This points to learners not being conversant with the physical feature and hence could have guessed the responses.

Suggested remedy: Teachers should put more focus on the strand natural and built environment during learning and assessment since from this analysis learners have not acquired the desired competencies in the strand.

Item 24

In this item, learners were provided with a description of a vegetation type and asked to choose the option that names the vegetation described. The correct response (D- Equatorial) was chosen by only 20.38% of the learners, and 32.02% of the learners chose the incorrect response (C- Mangrove). This is an indication that many learners have not mastered characteristics of vegetation, hence they picked any vegetation with tall trees.

Suggested remedy: Teachers should strengthen the presentation of these concepts using pictures and charts illustrating the different types of vegetation.

Item 26

Learners were presented with phone messages on caring for plants in the school compound. One of the messages was not helpful in caring for plants within the school compound. The item required the learners to identify the message that was not useful. The correct response C - (Do not water the grass frequently) was chosen by the majority 28.62% of learners though it performed below 30%. It seems most of the learners were not able to make a correct judgement since the question tested a high order thinking skill.

Suggested remedy: There is a need for teachers to adopt best approaches in teaching and learning that relate to real life situations to enable learners to develop higher order thinking skills.

2.3.11 Christian Religious Education

The KPSEA Christian Religious Education (CRE) assessment had 15 objective items which covered five strands: Creation, The Bible, The life of Jesus, The Church and Christian living. **Table 16** presents items that recorded a facility index of below 30%.

Table 16: Questions in CRE with facility index less than 30%

Question No.	Content/skill assessed	Key	Facility index (Learners able to respond)
44.	Identifying the instructions John the Baptist gave to people in preparation for the coming of the Messiah.	D	18.65
50.	Identifying the appropriate ways to use social media.	A	28.50

Item 44

In this item, learners were expected to identify one instruction that John the Baptist gave to the people as a way of preparing for the coming of the messiah from the options given. The correct response, (D-share your food with others) was chosen by only 18.65% of the learners. The majority (47.95%) chose option A (keep the sabbath day holy). Their choice could have been influenced by the fact that this sounded more religious compared to the correct response. This indication that they are not familiar with the teaching of John the Baptist.

Suggested remedy: Teachers need to provide learners with opportunities to consistently read the Bible and discuss Bible stories when learning the Life of Jesus Christ.

Item 50

In this item, learners were expected to identify one inappropriate way of using social media by a Christian. Learners who chose the correct response (A-Posting indecent pictures) were 28.50% compared to the 39.36% who selected option D (Posting Christian messages). This could indicate that these learners did not read the question keenly to note the word 'inappropriate'.

Suggested remedy: Teachers need to pay attention to the training of learners on how to answer multiple questions, and emphasise the importance of reading questions clearly before making a choice.

2.3.12 Islamic Religious Education

The Islamic Religious Education KPSEA assessment had 15 objective items which covered seven strands: Quran, Hadith, Pillars of Iman, Devotional acts, Akhlas, Muamalat and History of Islam.

The performance in Islamic Religious Education was slightly above average. There was no question with a Facility Index of less than 30%. This indicates that many learners had attained the expected competencies in the subject. It also implies that the items were well balanced in terms of the cognitive skills assessed in the paper.

2.3.13 Hindu Religious Education

The Hindu Religious Education KPSEA assessment had 15 objective items which covered eight strands: Creation, Scriptures, Worship, Principles of dhama, Sadachar, Utsar, Yoga and Enlighten beings. Table 17 presents items that recorded a facility index of below 30%.

Table 17: Questions in HRE with facility index less than 30%

Item.	Content/skill assessed	Key	Facility index % (Learners able to respond)
38.	Explaining the difference between Guru Hargobind Sahibji and Guru Gobind Singh ji and their relation from Sikhism in HRE.	C	15.38

39.	Explaining the contributions of Mallinath and Anand from Jainism	B	8.33
41.	Identifying the correct title given to Shri Ram in Ramayan from Sanatan/Vedic faith in HRE.	D	25.00
43.	Identifying items having imprints of a particular flower while visiting Buddhist temples from Buddhism in HRE.	A	25.00
44.	Identifying values from Panca Silla a Scripture from Buddhism in HRE.	D	16.67
48.	Explaining the impact of practising Yoga asanas in daily life	C	25.00

Of the 15 items assessed, six had a facility index below 30%. Two items were from the strand Enlighten beings, two from Scriptures, and Yoga and Worship had one each. The choice of incorrect responses in the strand Enlighten beings could be due to: lack of basic knowledge in Sikhism by the learners from other Hindu faiths and little comprehension of Jainism attributed to few qualified teachers who are practising the faith.

In the strand Scriptures (**item 41** and **44**) most learners choosing the wrong response could be related to not being exposed to the scripture Ramayan from Sanatan/Vedic faith and Scriptures from Buddhism.

The strand Worship (**item 43**) also had most of the learners choosing the wrong response due to inability to identify key features found in the temple. On the other hand, in the strand *Yoga* (**item 48**) learners had difficulty evaluating the

importance of practising *Yoga* as a daily life skill. This indicated that learners are not exposed to the practical aspects of the Hindu curriculum designs.

Suggested remedy: Teachers should adopt teaching approaches that can assist learners to understand basic concepts and scriptures in all the four faiths of Hindu. There also need to allow learners to use practical approaches. For instance, visiting Buddhist Temple and the places of worship from other faiths and practising Yoga daily.

2.3.14 Kenyan Sign Language

The Kenyan Sign Language KPSEA had 30 multiple choice items which covered the receptive and expressive skills as envisaged in the curriculum design. Table 18 presents items that recorded a facility index of below 30%.

Table 18: Questions in Kenyan Sign Language with facility index less than 30%

Question No.	Content/skill assessed	Key (correct response)	Facility index % (Learners able to respond correctly)
3.	Picture comprehension by relating common items and the symbolism associated to their use.	B	23.79
4.	Observing the picture for specific details and making predictions based on the context.	A	27.59
9.	Summary skills on aspects in the picture arrangement given and relating them to acquired vocabulary.	D	21.93

Question No.	Content/skill assessed	Key (correct response)	Facility index % (Learners able to respond correctly)
11.	Use KSL structures to give directions related information.	D	22.93
13.	Studying the picture for specific information for drawing critical /correct conclusions.	B	20.52
14.	Using specific information for drawing critical / correct conclusions. Proper use of vocabulary in sentences.	D	29.66
16.	Using specific information for drawing critical / correct conclusions.	D	20.69
18.	KSL Sentence construction.	D	23.10
20.	Reading for specific information.	D	16.23
21.	Reading for specific information.	D	26.55
23.	Correct use of KSL tenses.	B	27.24
27.	Parameters of a sign.	D	20.55
29.	Parameters of a sign.	D	20.55

Out of the 30 items assessed, 13 items gave learners difficulty in getting the correct responses thus they had a facility index below 30%. Items 3,4 and 9 are drawn from the picture comprehension section. Performance on these items indicates lack of practice in using pictures to enhance the receptive skills of the learners that require the use of analytical skills to come up with correct responses.

Suggested remedy: The teaching and learning of KSL should be contextual. Picture contexts can be used to enhance receptive and expressive signing skills while simultaneously ensuring learners use their analytical skills to express correct responses.

Learners had difficulty in choosing the correct KSL sentence structures as observed in items 11, 13, 14, 16 and 18. This points to lack of teaching and learning of various KSL sentence structures that could be occasioned by lack of appropriate teaching and learning resources at the school level.

Suggested remedy: Teachers could expose learners to various reading comprehension strategies as illustrated in figure 4.

Items 20 and 21 were based on an authentic text (a learner's personal school timetable). Learners were expected to pick specific information from the learners timetable as required. The performance on these tasks indicates that teaching KSL language structures is not often based on authentic texts in the learner's immediate environment. Limited vocabulary could be a contributory factor to the poor performance observed.

Suggested remedy: The teaching of language structures should embrace the use of authentic texts that are age appropriate and easy to relate to by the learner.

Reading Comprehension Strategies

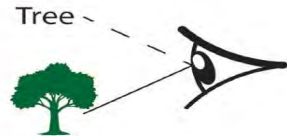
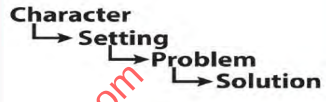
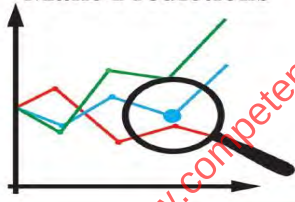
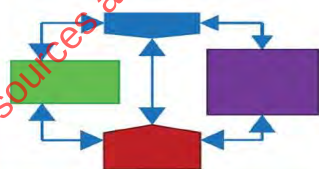
Re-read the Text  practice makes perfect	Use Word Attack Strategies 	Use Context Clues  This is an apple
Infer Meaning 	Visualize 	Summarize the Story 
Locate Key Words 	Make Predictions 	Activate Prior Knowledge 
Think Aloud 	Use Graphic Organizers 	Evaluate Understanding 

Figure 4: Reading comprehension strategies

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CHAPTER THREE

ASSESSMENT OF CORE COMPETENCIES, CORE VALUES, PERTINENT AND CONTEMPORARY ISSUES

3.1 Introduction

Competency Based Assessment measures the capability of a learner to apply a set of related knowledge, skills, attitudes, values and motives required for performing tasks or dealing with complex real-world problems. With a global shift towards quality in education and the development of skills in young people, the Ministry of Education (MoE) initiated reforms from a knowledge-based curriculum to a Competency Based Curriculum (CBC) in 2014. This was intended to address issues of access, quality, relevance, and equity as identified by the Constitution of Kenya, 2010 and Kenya Vision 2030 (RoK, 2020). These reforms have expanded the curriculum to include Core Competencies, Core Values, and Pertinent and Contemporary Issues (PCIs).

The Core Competencies are; critical thinking and problem solving, communication and collaboration, creativity and imagination, citizenship, digital literacy, learning to learn and self-efficacy. The Core Values are love, responsibility, respect, unity, peace, patriotism, social justice and integrity. The PCIs are categorized into six broad areas namely, global citizenship, health education, life skills and values education, Education for Sustainable Development, Learner Support Programmes, Community Service Learning and Parental Engagement.

Competence-based assessment can be achieved through different types of assessment methods such as observation, conversation, group work, project-based learning, situated learning, objective tests and essays. Assessment tools used include written tests, cognitive scales, rubrics, portfolio, reports, questionnaires and situations (Duong, 2016). Based on the intended criteria, these tools are used by assessors or learners (self or peer assessment) in making judgments on whether the competence has been achieved.

This chapter discusses the assessment of these

core competencies, core values and PCIs as anchored in the Basic Education Curriculum Framework, BECF (KICD, 2017). The reporting on the assessment of core competencies, core values and PCIs begins with the summative assessment. This is followed by reporting on the summative assessment. A summary of the chapter and recommendations is then presented.

3.2 Summative Assessment

Assessment of the core competencies, core values and PCIs adopted best practices for measuring mastery of competencies as described by McClarty and Gaertner (2015) which require an explicit link between the skills measured by the assessments and the defined competencies, a demonstration that learner behaviours or thought processes in the test reflect the competencies, and the empirical relationship between assessment scores and future outcomes such as attainment of a more advanced competency.

Although Multiple Choice Questions (MCQs) are not the best tool for assessing learners' development of competencies, they can provide implicit evidence of these competencies in the learners. Well-formulated MCQs assess cognitive, affective, and psychomotor domains, ensure objective assessment (Gajjar, Sanju, et al., 2014). This assessment therefore identified those test items in various subjects that provided proxy evidence that learners had to demonstrate the competences in arriving at an answer to the MCQs. The test items that were used in reporting this assessment were carefully selected from those that subject experts had identified in the analysis tables for the core competencies, core values and PCIs. The analysis tables show test items per subject that implicitly assessed the applicable core competencies, core values or PCIs. In cases where several test items in a subject tested a core competency, core value or PCI, one to three test items were cited as examples.

CORE COMPETENCIES

Competency is the ability to apply appropriate knowledge and skills to successfully perform a task. It requires learners to demonstrate what they can do; this could be through making something, speaking, writing, or performing among others. The seven core competencies and how they were assessed are subsequently described.

3.2.2.1 Communication and Collaboration

Communication is the process of transferring information from a sender to a recipient, whether verbally or nonverbally. Collaboration is the process of two or more people working together to realize shared goals. Collaborative learning is, therefore, designed to help learners learn from each other. The skills of communication assessed were listening, speaking, reading, and writing.

In assessing listening skills, the teacher/assessor looked out for the learner's ability to; recall, ask questions for clarity, retell, tell purpose of communication, record important information, maintain eye contact, maintain appropriate body language (show interest by nodding or by smiling at appropriate times) or posture, listen without interrupting and pay attention to the person who is speaking. As relates to speaking skills, the teacher/assessor looked out for the learner's ability to; speak clearly to a known person, speak clearly to individuals and small groups of known people, speak clearly to small groups of unknown people, use appropriate tone, facial expressions

and gestures, present points in a logical order, consider what the listeners already know, use appropriate language, speaks engagingly using facts, take turns in conversation, passionate/ enthusiastic, engage the audience, has clarity of speech and exude confidence. In Art and Craft, item 3 "The following are ways to critique each other's artwork in class. Which one is not?" assessed learners' skills in critiquing using the appropriate language.

Reading skills were assessed by the teacher/assessor looking out for the learner's ability to; summarize texts, visualize/create pictures in the mind, infer information, answer questions, and predict information. As regards writing skills, the teacher/assessor looked out for the learner's ability to; write clearly, spell words correctly, ensure fluency in sentences, use appropriate vocabulary, and present organized work. The competency of collaboration was assessed by the teacher/assessor looking out for the learner's ability to; behave appropriately when working with others, positively work with others, recognize and value others' ideas, contribute to group decision making, understand and respect diversity, support others, take responsibility to complete tasks, and be punctual and reliable.

The analysis of the proxy items on communication and collaboration based on the summative assessment is shown in table 19 and figure 5

Table 19: Performance on the Proxy Questions for Communication and Collaboration

SUBJECT	Performance on the Proxy Questions					
Mathematics	Question Number(s)	10				
	% of learners scoring correct	26.97%				
English	Question Number(s)	1	2	3	4	5
	% of learners scoring correct	57.09%	63.26%	56.38%	70.72%	80.40%
Kiswahili	Question Number(s)	1	3	4	5	
	% of learners scoring correct	76.65%	31.37%	60.44%	51.66%	
Home Science	Question Number(s)	29	31			
	% of learners scoring correct	40.07%	35.63%			
	Question Number(s)	3	4			
Art & Craft	% of learners scoring correct	51.86%	39.09%			
Performance Levels	Exceeding Expectation	Meeting Expectation		Approaching Expectation	Below Expectation	
Quartiles	76-100	51-75		26-50	0-25	
Frequency	2	7		5	0	

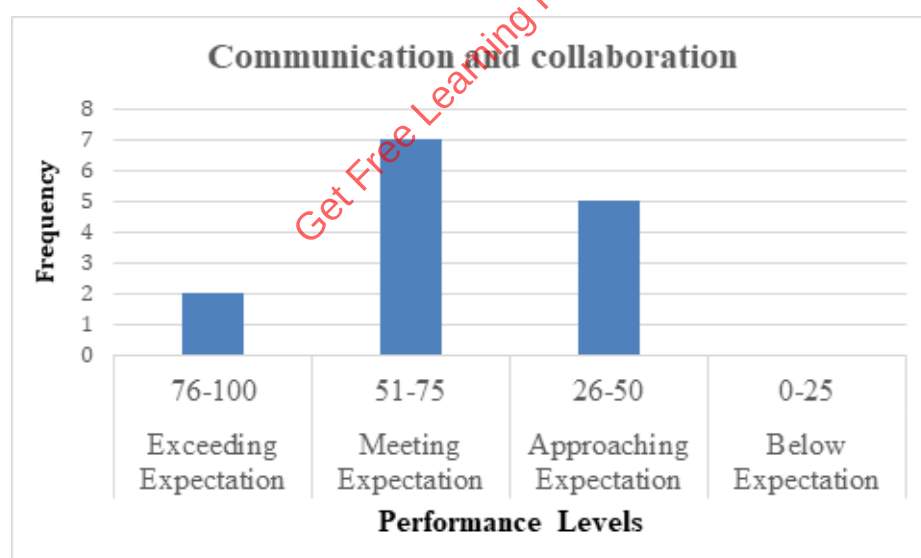


Figure 5. Communication and collaboration

From figure 5, the learners' performance on the items that assessed communication and collaboration shows that the learners performed at level 3 (meeting expectation) on most of the items. This indicates that the learners have acquired the ability to convey information and ideas effectively and work together in groups with others.

3.2.2.2 Self-efficacy

Self-efficacy is a person's belief about his or her capabilities to perform tasks or assignments that can change and transform his or her life.

In assessing the competency of self-efficacy, the teacher/assessor looked out for the learner's ability to; keep trying and stay positive when something goes wrong, keep trying when something goes wrong and think about what happened to help improve, keep trying when something goes wrong and help cheer others up, encourage others

to keep trying too, look for opportunities in difficult situations, tell when others feel positive or negative and know when feeling positive or negative. Self-efficacy was assessed in Music, item 19 "Study the rhythm below:...Which of the sentences below **cannot** be fitted to the rhythm above?" which required learners to keep trying in order to select the correct rhythm.

The analysis of the proxy items on self-efficacy based on the summative assessment is shown in table 20 and figure 6.

Table 20: Performance on the proxy questions in self efficacy

Subject	Performance on the Proxy Questions	
Mathematics	Question Number(s)	13
	% of learners scoring correct	32.08%
Music	Question Number(s)	19
	% of learners scoring correct	40.69%
IRE	Question Number(s)	39
	% of learners scoring correct	75.1%
HRE	Question Number(s)	48
	% of learners scoring correct	25%

Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
Quartiles	76-100	51-75	26-50	0-25
Frequency	0	2	2	1

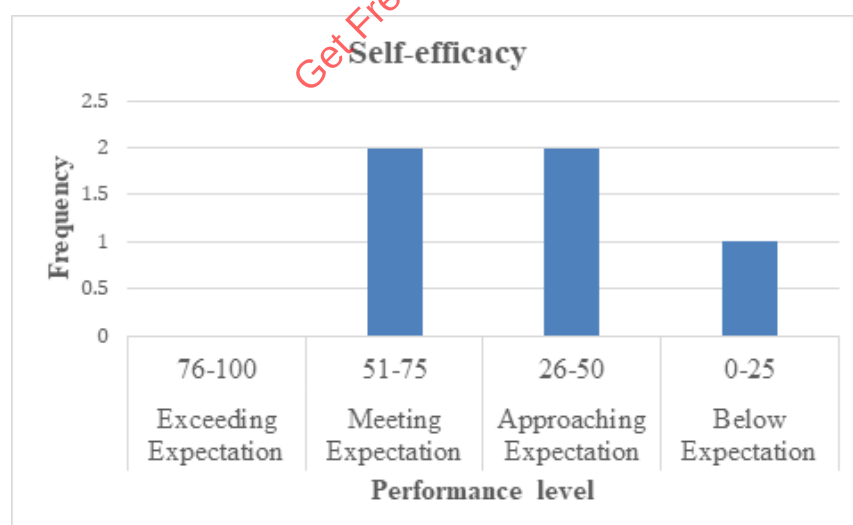


Figure 6. Self-efficacy

As shown in figure 6, performance of learners on the items that assessed self-efficacy shows that the learners performed at level 3 and 2 (meeting expectation and approaching expectation) on most of

the items. This is an indication some learners are still progressing towards the acquisition of self- belief in their capacity to demonstrate behaviours necessary to effectively perform assigned tasks.

3.2.2.3 Critical Thinking and Problem Solving

Critical thinking refers to the “ability to think in a way that is clear, reasoned, reflective, informed by evidence, and aimed at deciding what to believe or do” (WASC, 2013, p.47). This is done by defining the problem, gathering information, sorting, organizing, classifying and analyzing materials and data. Problem-solving is the ability to identify and describe problems, generate possible solutions, evaluate and implement the best solution. This definition is aligned to Polya’ (1957) four basic principles of problem solving namely, understand the problem, devise a plan (translate), carry out the plan (solve) and look back (check and interpret).

This competency was assessed by the teacher/ assessor looking out for the learner’s ability to; complete tasks by following instructions, find

help if needed to complete a task, explain the problem to someone for advice if needed, find the information required to complete a task, explore different possible solutions to a problem, explore the pros and cons of the possible solutions,

identify when there is no simple solution to the problem and explores complex problems by building understanding through research. In Physical and Health Education, item 39, “*Four athletes consumed different types of drinks before the race. Who among the four consumed the most appropriate drink for hydration?*” required learners to explore different possible solutions to a problem; in this instance the role of water intake during games and sports. In Agriculture, item 17 “*How can the learners protect young climbing fruit plants from damage by animals?*” required the learners to find the information required to complete a task on how to care for young climbing fruit plants.

The analysis of the proxy items on critical thinking and problem solving based on the summative assessment is shown in tables 21 and figure 7.

Table 21. Performance on the proxy questions in critical thinking and problem solving

Subject	Performance on the Proxy Questions								
Mathematics	Question Number(s)	6	8	27					
	% of learners scoring correct	22.07%	17.13%	22.57%					
English	Question Number(s)	8	9	12	13	14			
	% of learners scoring correct	30.14%	48.65%	55.94%	55.94%	59.92%			
Kiswahili	Question Number(s)	10	11	12					
	% of learners scoring correct	70.82%	72.52	72.66					
Science & Technology	Question Number(s)	1	3	4	7	8	9	10	12
	% of learners scoring correct	14.00	31.31%	49.36	54.66	23.98	34.14	35.22	41.85

Agriculture	% of learners scoring correct	17	21	23	25				
	Question Number(s)	26.74	41.46%	29.27	70.96				
Home Science	% of learners scoring correct	30	31	32					
	Question Number(s)	42.77%	35.63%	43.18%					
Physical & Health Education	% of learners scoring correct	38	39	40	50				
	Question Number(s)	20.00%	47.02%	29.22%	26.23%				
Social Studies	% of learners scoring correct	24	29	34					
	Question Number(s)	20.38%	34.77%	52.58%					
Music	% of learners scoring correct	15	17	19	20				
	Question Number(s)	30.92	50.95%	40.69	45.24				
Art & Craft	% of learners scoring correct	1	3						
	% of learners scoring correct	36.21	51.86%						
CRE	Question Number(s)	48							
	% of learners scoring correct	33.51%							
IRE	Question Number(s)	46	48						
	% of learners scoring correct	49.17%	52.15%						
HRE	Question Number(s)	36							
	% of learners scoring correct	83.33%							

Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
Quartiles	76-100	51-75	26-50	0-25
Frequency	1	12	23	7

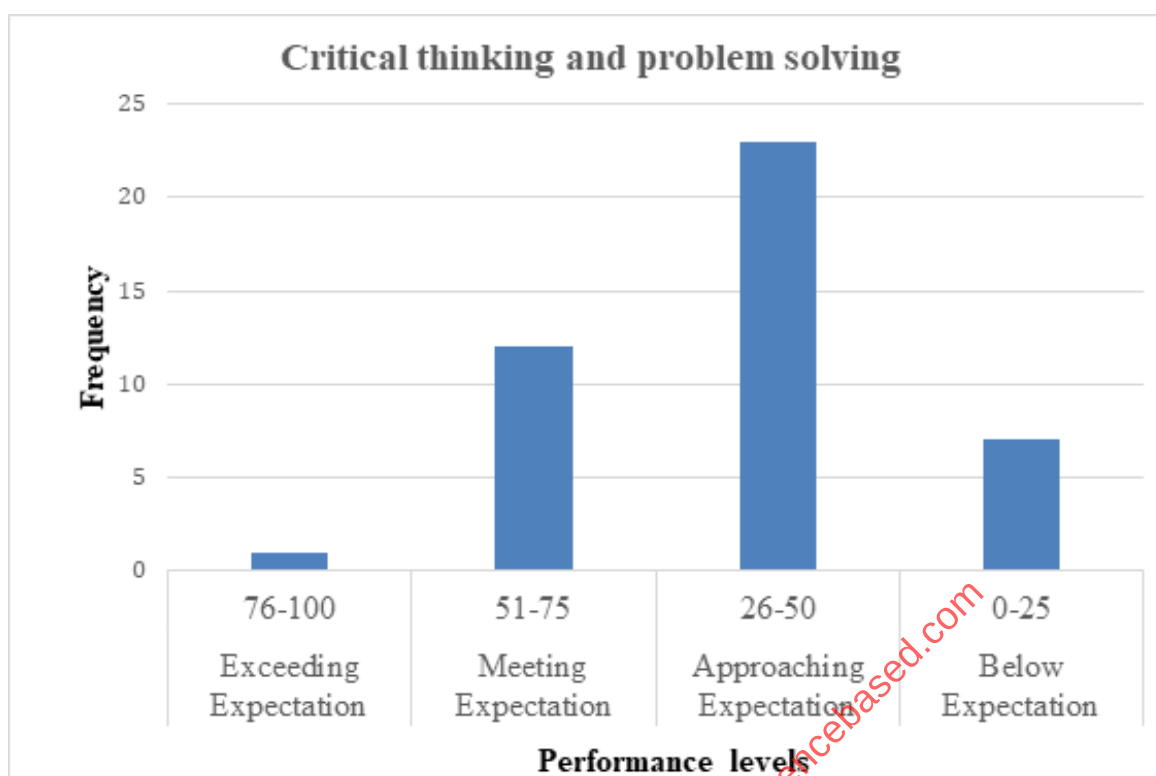


Figure 7. Critical thinking and problem solving

From figure 7, the learners performance on the items that assessed critical thinking and problem-solving shows that the learners performed at level 3 (meeting expectation) and 2 (approaching expectation) respectively on most of the items. This is an indication that the learners require support towards identifying problems, prioritizing alternatives solutions, in order to use existing knowledge, facts and observations to address issues and challenges encountered.

3.2.2.4 Creativity and Imagination

Imagination is the ability to form a mental picture of something that one has not seen or experienced while creativity is the ability to come up with new ways of solving problems or doing things. A common way to assess creativity is by measuring the learner's ability to perform a standardized task such as producing a story, a drawing, a musical composition, etc., based on predetermined criteria. This type of standardized task involves the ability of putting together several ideas; synthesizing

them, to achieve a unique, original production (Barbot, Besancon & Lubart, 2011).

In assessing the competency of creativity and imagination, the teacher/assessor looked out for the learner's ability to; imagine different situations, imagine and can say what is imagined, bring imaginations to life in different ways, generate ideas when given clear instructions, generate ideas to improve something, combine different concepts to generate ideas, uses creativity in work related contexts, use creativity in the wider life. For instance, in Mathematics, item 30 "*Mwakio had 18 cubes with the same shape and size. He made a stack using all the cubes. Which of the following represents the correct stack that he made?*" required learners to use creativity in work related contexts in interpreting data represented through piling in a real-life situation.

The analysis of the proxy items on creativity and imagination based on the summative assessment is shown in table 23 and figure 7.

Table 22. Performance on the proxy questions on creativity and imagination

SUBJECT		Performance on the Proxy Questions		
Mathematics		Question Number(s)	30	
		% of learners scoring correct	28.66%	
English		Question Number(s)	27	
		% of learners scoring correct	34.95%	
Agriculture		Question Number(s)	23	
		% of learners scoring correct	29.27%	
Home Science		Question Number(s)	35	
		% of learners scoring correct	31.14%	
Physical & Health Education		Question Number(s)	42	
		% of learners scoring correct	15.06%	
Social Studies		Question Number(s)	26	
		% of learners scoring correct	28.62%	
Art & Craft		Question Number(s)	6	
		% of learners scoring correct	31.41%	
CRE		Question Number(s)	36	
		% of learners scoring correct	58.66%	
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
Quartiles	76-100	51-75	26-50	0-25
Frequency	0	1	6	1

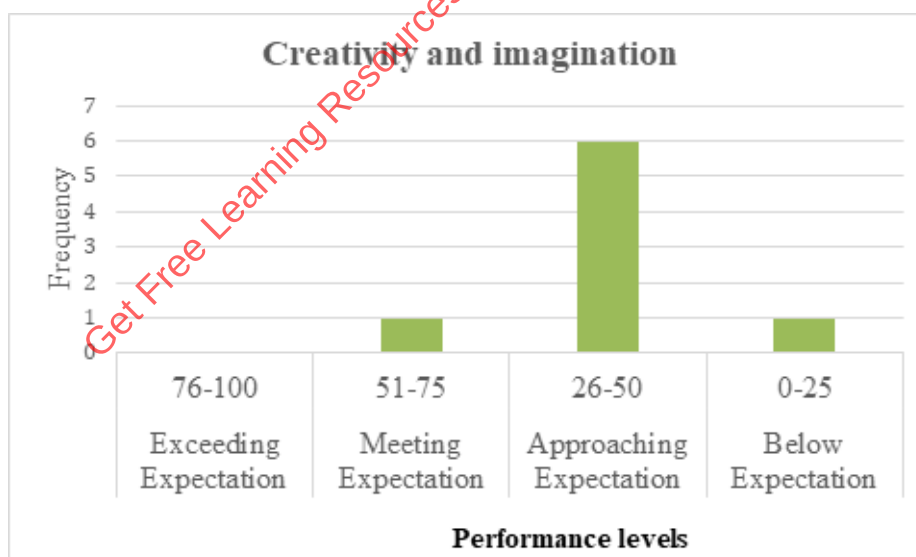


Figure 8. Creativity and imagination

As shown on figure 8, the learners performance on proxy items that assessed creativity and imagination shows that the learners performed at level 2 (approaching expectation). This implies that learners require the provision of more opportunities to nurture their creative skills.

3.2.2.5 Citizenship

Citizenship as a competency implies respectfully and positively coexisting and impacting others and actively addressing community, national and/ or global issues. A learner with the competency of citizenship can: recognise his or her own feelings about something (events, places, people, issues, among others), explain own feelings about something, recognise others' feelings about something, fairly divide up tasks with others, manage time and resources to complete tasks, manage group discussions to reach decisions, manage disagreements to reach shared solutions, recognise own strengths and weaknesses.

The challenge for Citizenship assessment is to focus not just on knowledge, but also on how well that knowledge is understood, applied, debated and put into action outside the classroom (Carroll, Child & Darlington, 2015). In analyzing four education systems across five countries (England, Wales, USA; Australia and Singapore), the authors established that internal models of assessment were largely favoured when teaching Citizenship while external assessment was used to determine progress and standards of education nationally in order for learners to progress to further education. Models of assessment that were found to be best suited to assessing citizenship include both

internal assessments (research projects, report writing, community service, simulations of democratic procedures, debates, speeches, posters) and external assessments (MCQs, short answers, extended responses, hypothetical situations, personal case studies) usually undertaken by examination bodies.

Citizenship was anchored in items tested in English, Agriculture, and Science and Technology learning areas. For instance, in English, item 24 “Our teachers know what is best for us so we obey them” implicitly assessed the learner’s ability to recognise others’ feelings about something. In Agriculture, item 22 “The type of seedbed shown in the picture to grow maize is a...” and item 23 “How does the seedbed in the picture help to conserve water?” tested learners on identification and preparation of seedbeds for water conservation. In Science and Technology, item 4 “In a certain family the water used for washing clothes is then used to clean the house. Water taps are also turned off when not in use. Which one of the following is true about the family? It conserves water by...” tested learners’ knowledge on managing time and resources to complete tasks.

The analysis of the proxy items on Citizenship based on the summative assessment is as shown in table 23 and figure 11.

Table 23. Performance on the proxy questions on citizenship

Subject		Performance on the Proxy Questions					
English	Question Number(s)	12	25				
	% of learners scoring correct	25.00%	59.61%				
Science & Technology	Question Number(s)	2	4	5	6	9	14
	% of learners scoring correct	49.43%	49.43%	75.81%	63.29%	34.14%	41.25%
Agriculture	Question Number(s)	16	19	20	24		
	% of learners scoring correct	77.22%	73.41%	61.49%	55.84%		

Social Studies	Question Number(s)	22	35				
	% of learners scoring correct	33.83%	28.99%				
Music	Question Number(s)	11	13	18			
	% of learners scoring correct	62.06%	53.51%	39.18%			
CRE	Question Number(s)	46					
	% of learners scoring correct	48.52%					
HRE	Question Number(s)	47					
	% of learners scoring correct	41.67%					
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation			
Quartiles	76-100	51-75	26-50	0-25			
Frequency	2	7	9	1			

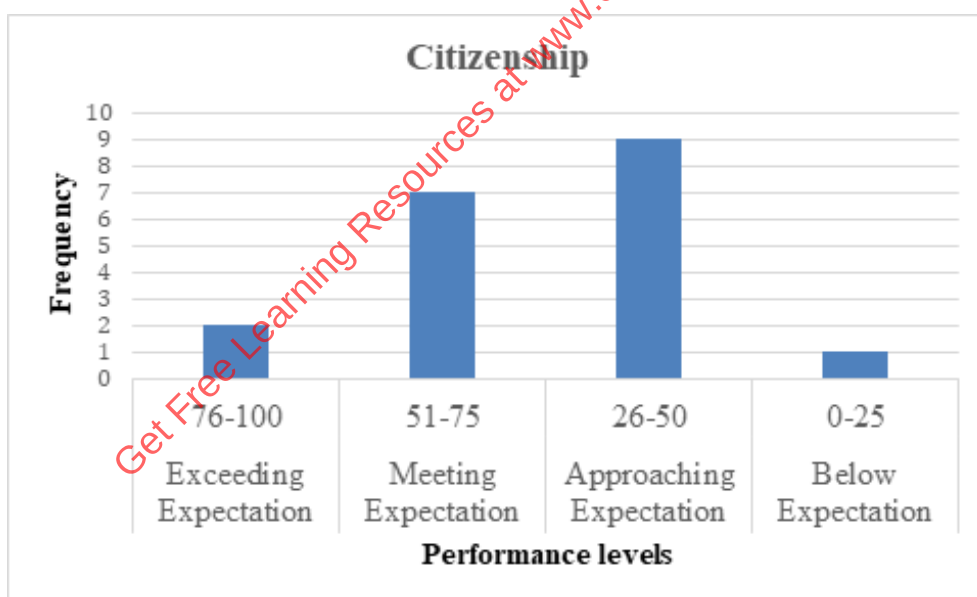


Figure 9. Citizenship

As shown in figure 9, the performance of learners on proxy items that assessed Citizenship shows that most learners performed at level 3 (meeting expectation) and level 2 (approaching expectation) an indication that they are making significant progress towards acquiring skills in positively impacting on others, and optimally managing time and resources to complete tasks.

3.2.2.6 Digital Literacy

Digital literacy can be described as having the knowledge, skills and behaviours which are necessary to effectively and safely use a wide range of digital content and devices. Such devices include mobile phones, smartphones, tablets, laptops and desktops among others.

In a review of 22 existing instruments used for the assessment of digital competence in line with DigComp framework in various European countries, Carretero, Vuorikari and Punie (2017) grouped these instruments into three major categories based on the data collection approach: performance assessment, knowledge-based assessment- and self-assessment. These approaches can be strengthened by combining them and conducting secondary data-gathering (e.g. by providing an e-portfolio that contains creative works, and other documentary evidence). (Laanpere, 2018)

Digital literacy assessment required the teacher/ assessor to look out for the learner's ability

to; operate digital devices; communicate and collaborate using digital devices; use the internet; play digital games; observe safety when using digital devices; take photographs and record videos; and create patterns and drawings with digital devices. In Christian Religious Education, item 50 "Which one of the following ways is an inappropriate use of social media by a Christian?" tested learners' competency in using digital devices, using the internet and observing safety when using digital devices.

The analysis of the proxy items on Citizenship based on the summative assessment is as shown in table 24 and figure 10.

Table 24. Performance on the proxy questions on digital literacy

Subject		Performance on the Proxy Questions		
Art & Craft	Question Number(s)	2		
	% of learners scoring correct	25.00%		
CRE	Question Number(s)	50		
	% of learners scoring correct	28.50%		
IRE	Question Number(s)	46		
	% of learners scoring correct	49.17%		
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
Quartiles	76-100	51-75	26-50	0-25
Frequency	0	0	3	0

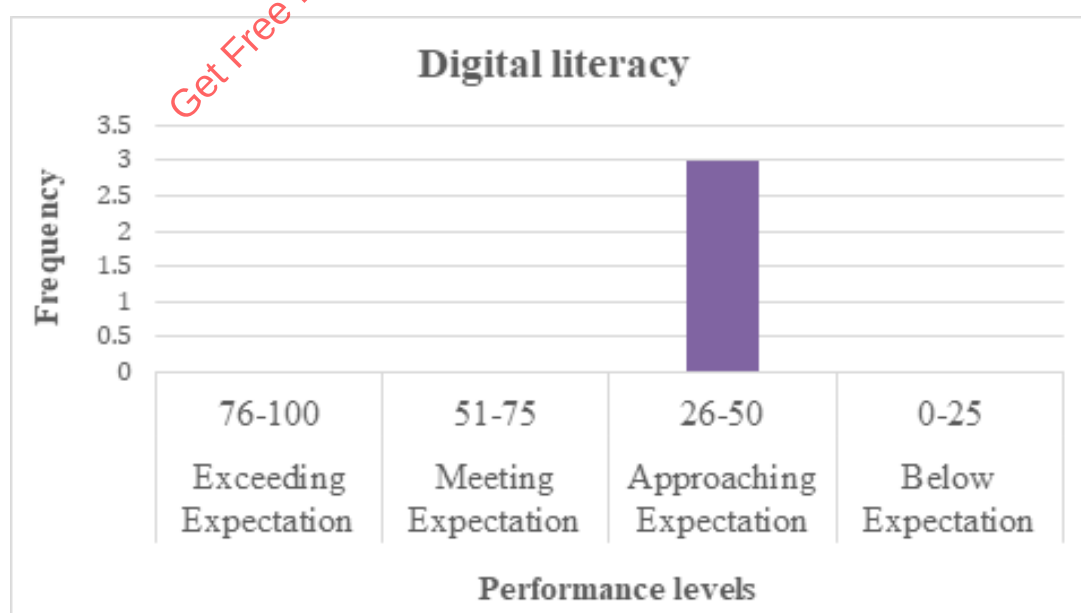


Figure 10. Digital literacy

From figure 10, the learners performance on the proxy items that assessed digital literacy shows that the learners performed at level 2 (approaching expectation) on all the items. This implies that learners require more opportunities and support on responsible use of digital devices and internet connectivity.

3.2.2.7 Learning to Learn

Learning to learn is the ability to pursue and persist in learning, to organize one's own learning by effectively managing of time and information, individually and in groups. Some of the activities learners perform under this competency are displayed in figure 11.

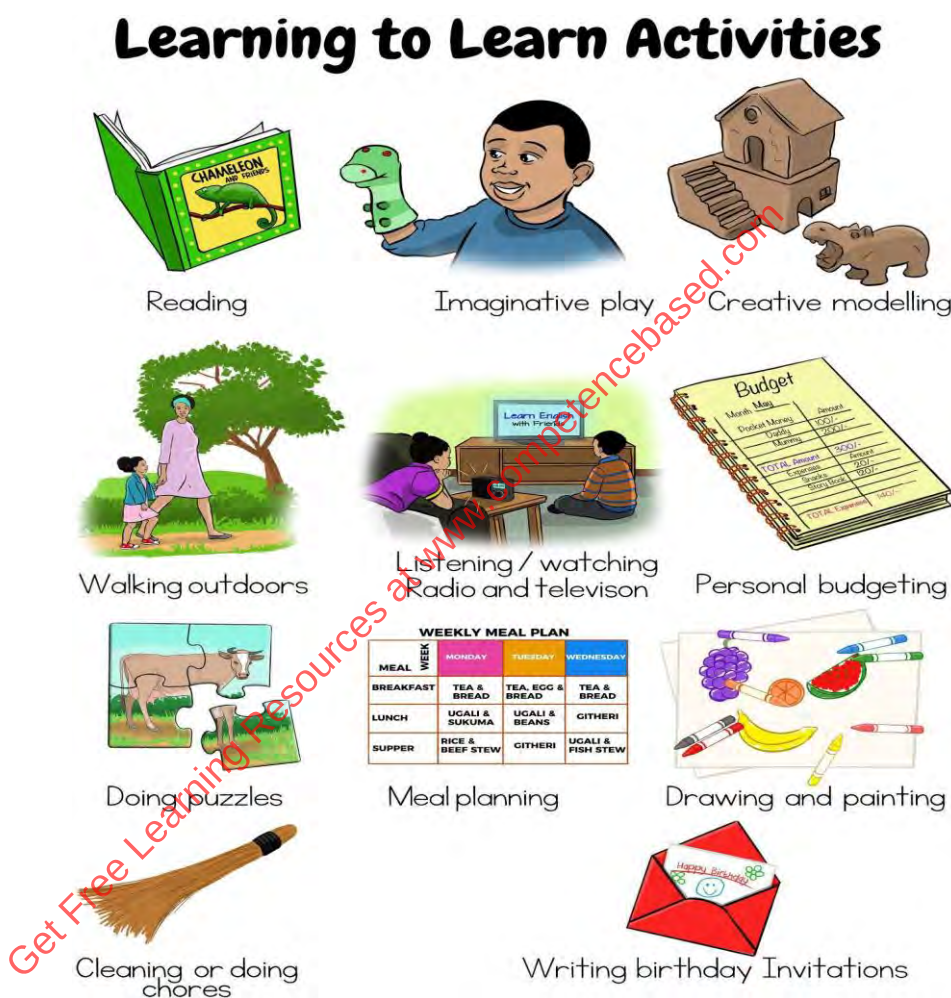


Figure 11: Learning to learn activities

The analysis of assessments in selected sub-Saharan countries (Chad, Côte de d'Ivoire, Democratic Republic of Congo, Gambia, Kenya, Lesotho, Mali, Senegal & Zambia) established that the assessments were not designed explicitly to capture 21st century skills that were also assessed in this report such as learning to learn, life skills and collaboration (Kim & Care, 2020).

For assessing this competency, the teacher/assessor looked out for the learner's ability to; handle new challenges positively, set his or her own goals, set

goals informed by expected requirements, order and prioritize tasks to achieve the set goals, know when something is too difficult, know what doing well looks like, work with care and attention to details, takes pride in his or her own work when succeeding. In Hindu Religious Education, item 50 "Grade six learners participated in a Hindu Religious Education prototype exhibition. Which of the following is the **best** way to use the prototypes after the exhibition?" required learners to handle new challenges positively, thus implicitly assessing this competency.

The analysis of the proxy items on learning to learn based on the summative assessment is as shown in table 25 and figure 12.

Table 25. Performance on the proxy questions on learning to learn

Subject	Performance on the Proxy Questions				
Agriculture	Question Number(s)	18			
	% of learners scoring correct	48.56%			
Social Studies	Question Number(s)	23			
	% of learners scoring correct	28.38%			
Music	Question Number(s)	14	16	17	19
	% of learners scoring correct	23.48%	55.21%	50.95%	40.69%
Art & Craft	Question Number(s)	1	5	7	10
	% of learners scoring correct	36.21%	9.88%	49.30%	17.80%
HRE	Question Number(s)	50			
	% of learners scoring correct	58.33%			

Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
Quartiles	76-100	51-75	26-50	0-25
Frequency	0	2	6	3

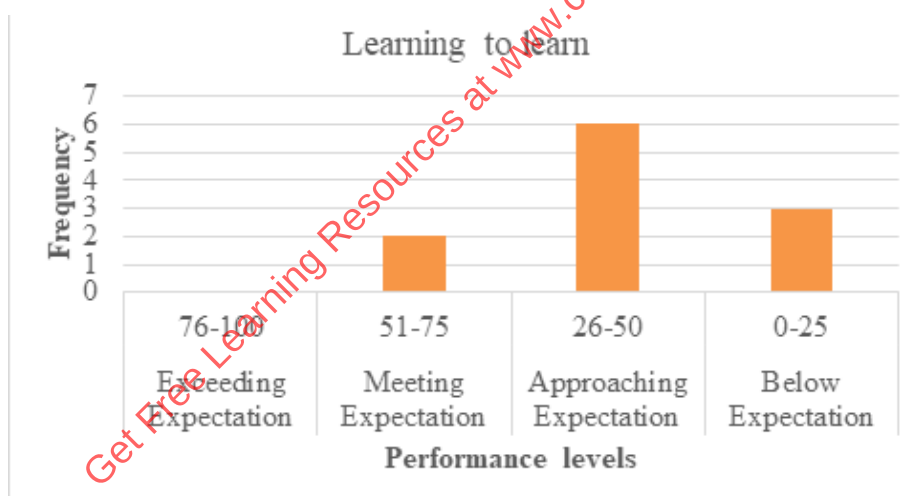


Figure 12. Learning to learn

From figure 12 the performance of learners on the proxy items that assessed learning to learn shows that the learners performed at level 2 (approaching expectation) on most of these items. This suggests that learners require assistance on how to reflect and improve on the performance demonstrated.

Values are standards that guide an individual on how to respond or behave in each circumstance. They influence how one feels, acts and makes choices in life. The following describes the eight core values and how they were assessed.

3.2.3 Assessment of Core Values



3.2.3.1 Integrity

This refers to the ability to know, defend and do what is right. It entails doing the right thing even when you can do the wrong thing. In assessing integrity, the teacher/assessor looked out for a

learner's ability to; avoid conflict of interest, utilise resources sparingly, be committed to duty, display honesty, avoid breaches of confidentiality and security, act on identified corrupt deals, have self-discipline, apply laid down procedures when doing things and display transparency, fairness and accountability. This core value was tested in Christian Religious Education, item 39 "Do not

accuse anyone falsely" (Exodus 20:16). A lesson Christians learn from this commandment given by God is that they should..." as it required learners to display honesty.

The analysis of the proxy items on the core value of Integrity based on the summative assessment is shown in table 26 and figure 13.

Table 26. Performance on the proxy questions on Integrity

Subject	Performance on the Proxy Questions			
English	Question Numbers	12		
	% of Learners scoring correctly	55.94%		
Art & Craft	Question Numbers	9		
	% of Learners scoring correctly	30.91%		
CRE	Question Numbers	39		
	% of Learners scoring correctly	44.91%		
HRE	Question Numbers	42		
	% of Learners scoring correctly	41.67%		
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
Quartiles	76-100	51-75	26-50	1-25
Frequency	0	1	4	0

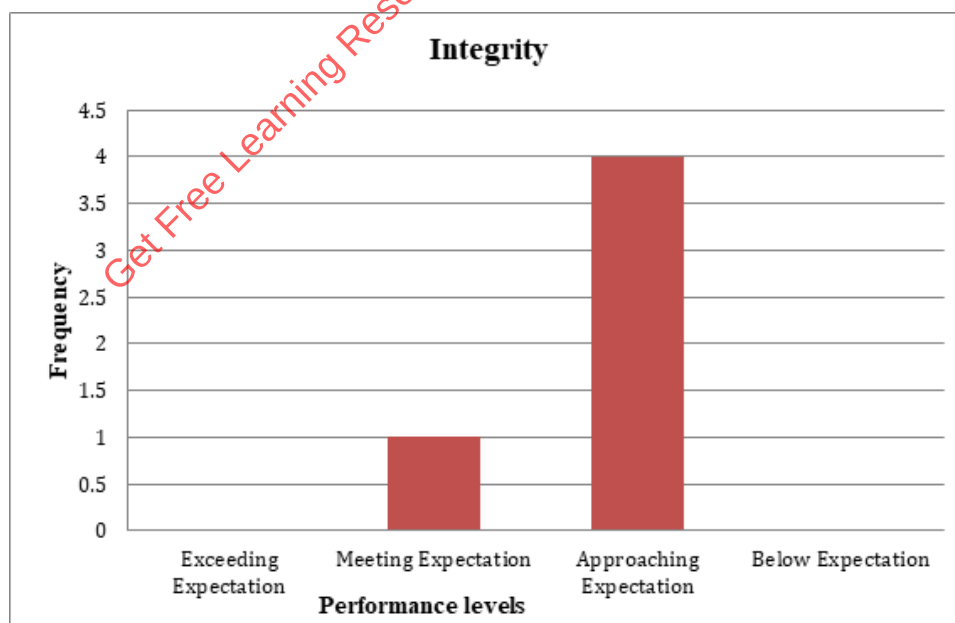


Figure 13. Integrity

From figure 13, it can be deduced that the majority of the learners performed at level 2 approaching expectation on most of the proxy items on integrity. This may portray that learners still require more support to demonstrate the value of honesty and ethics.

3.2.3.2 Love

This refers to the mutual expression of respect, trust, honesty, integrity and emotional attachment. In assessing this value, the teacher/assessor looked out for the learner's ability to; portray a caring attitude, avoid inflicting pain on others, put the interest of others before their own interest, keep promises, respect others, display trustworthiness, forgive others when wronged, and resolve

conflicts. For instance, in Kiswahili, item 24 “*Kimeto alimsaidia Kamaa kuchora picha. Kamaa alikuwa ameumia mkono. Kwa hivyo. Kimeto...*” the action of Kimeto assisting Kamaa when he hurt his arm portrays a caring attitude which is a component of love.

The analysis of the proxy items on the core value of love based on the summative assessment is as shown in table 27 and figure 14.

Table 27. Performance on the proxy questions on love

Subject	Performance on the Proxy Questions					
English	Question Number(s)	1	2	3	4	5
	% of Learners scoring correctly	57.09%	63.26%	56.38%	70.72%	80.40%
Music	Question Numbers	11				
	% of Learners scoring correctly	62.06%				
CRE	Question Numbers	44	47			
	% of Learners scoring correctly	18.65%	61.76%			
IRE	Question Numbers	40	41	43	50	
	% of Learners scoring correctly	60.36%	61.19%	75.92%	37.34%	
Performance Levels		Exceeding Expectation	Meeting Expectation	Approaching Expectation		Below Expectation
Quartiles		76-100	51-75	26-50		I-25
Frequency		2	8	1		1

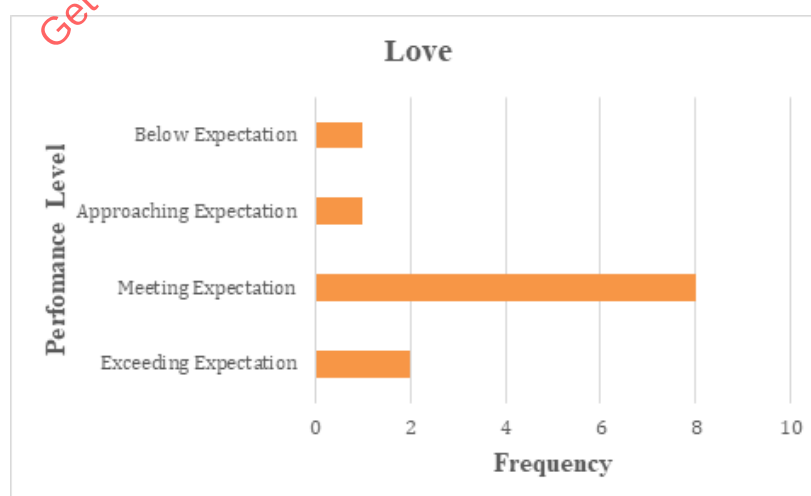


Figure 14. Love

From figure 14, learners performed at level 3 (meeting expectation) in most items that assessed the value of love an indication that the

learners portray a caring attitude, avoid hurting others, can forgive and resolve conflicts

3.2.3.3 Responsibility

Responsibility is the state of being answerable, or accountable for something within one's power, control, or management. Research shows that core values in education such as love of nature, cleanliness, sensitivity to natural heritage, respect for different thoughts and responsibility are better assessed by learners through participation in project activities. This is because project makes a positive contribution in terms of environmental attitudes and environmental value gains (Çalışkan, Yıldırım & Demirhan, 2021) and environmental issues are intertwined with individual and social beliefs, attitudes, and values (Laçın-Şimşek, 2004).

In assessing the value of responsibility, the teacher/assessor looked out for a learners ability to respect other people's property, keep promise and honour commitments, offer leadership and guidance to others, not blame others, accept the consequences, care for own property and those of others, engage in assigned roles and duties; observe safety precautions, be dependable, and proactively solve problems. For instance, in Physical and Health Education, item 37 *"A group of learners preserved food appropriately when going out for an excursion. Why was the food preserved?"* points to observation of safety precautions which is an indicator of responsibility as a core value.

The analysis of the proxy items on the core value of responsibility based on the summative assessment is shown in table 28 and figure 15.

Table 28. Performance on the proxy questions on responsibility

Subject	Performance on the Proxy Questions					
English	Question number(s)	11	17	18	19	25
	% of Learners scoring correctly	14.58%	42.42%	48.88%	45.07%	59.61%
Science and Technology	Question number(s)	4	13			
	% of Learners scoring correctly	49.36%	41.45%			
Agriculture	Question number(s)	17				
	% of Learners scoring correctly	26.74%				
Home science	Question number(s)	30	31	32		
	% of Learners scoring correctly	42.77%	35.63%	43.18%		
Physical & Health Education	Question number(s)	37	45	47		
	% of Learners scoring correctly	48.94%	49.12%	45.90%		
Social Studies	Question number(s)	22	26			
	% of Learners scoring correctly	33.83%	28.62%			
CRE	Question number(s)	48	49			
	% of Learners scoring correctly	33.51%	56.65%			
Performance Levels	Exceeding Expectation	Meeting Expectation		Approaching Expectation		Below Expectation
Quartiles	76-100	51-75		26-50		I-25
Frequency	0	1		15		1

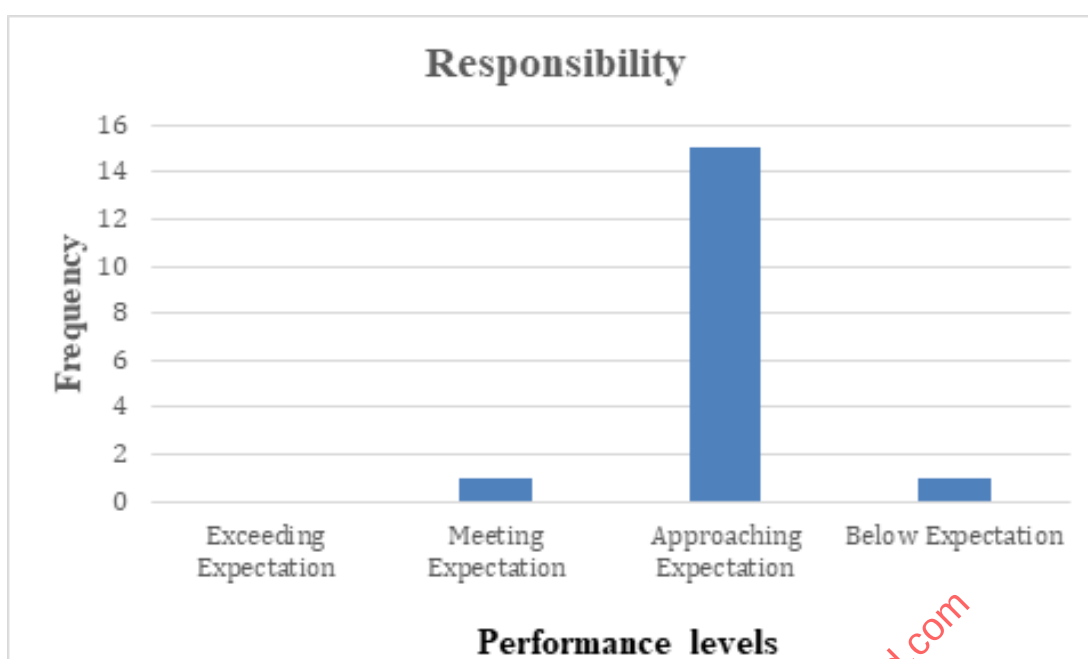


Figure 15. Performance on Proxy Questions on Responsibility

From figure 15, majority of the learners performed at level 2 (approaching expectation) in most of the items in most of the items that assessed the value of responsibility. This is an indication that learners are still developing values on being reliable, having self-confidence and readiness to take on challenges.

3.2.3.4 Respect

This is having positive regard towards self and others without prejudice. In assessing this value, the teacher/assessor looked out for a learner's ability to; understand and appreciate others,

display humility, be patient, accommodate diverse opinions, be open minded and value human dignity. For example, in Art and Craft, item 3 "The following are ways to critique each other's artwork in class. Which one is not?" required learners to understand and appreciate others, display humility, accommodate diverse opinions and be open minded, indicators of the core value of respect.

The analysis of the proxy items on the core value of respect based on the summative assessment is shown in table 29 and figure 16.

Table 29. Performance on the proxy questions on respect

Subject		Performance on the Proxy Questions				
English	Question Numbers	3				
	% of Learners scoring correctly	56.38%				
Kiswahili	Question Numbers	1	3	4	5	
	% of Learners scoring correctly	76.65%	31.37%	60.44%	51.66%	
Art & Craft	Question Numbers	3	4	9		
	% of Learners scoring correctly	51.86%	39.09%	30.91%		

Subject		Performance on the Proxy Questions				
CRE	Question Numbers	38				
	% of Learners scoring correctly	43.79%				
IRE	Question Numbers	40	47			
	% of Learners scoring correctly	60.36%	71.79%			
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation		
Quartiles	76-100	51-75	26-50	1-25		
Frequency	0	4	3	0		

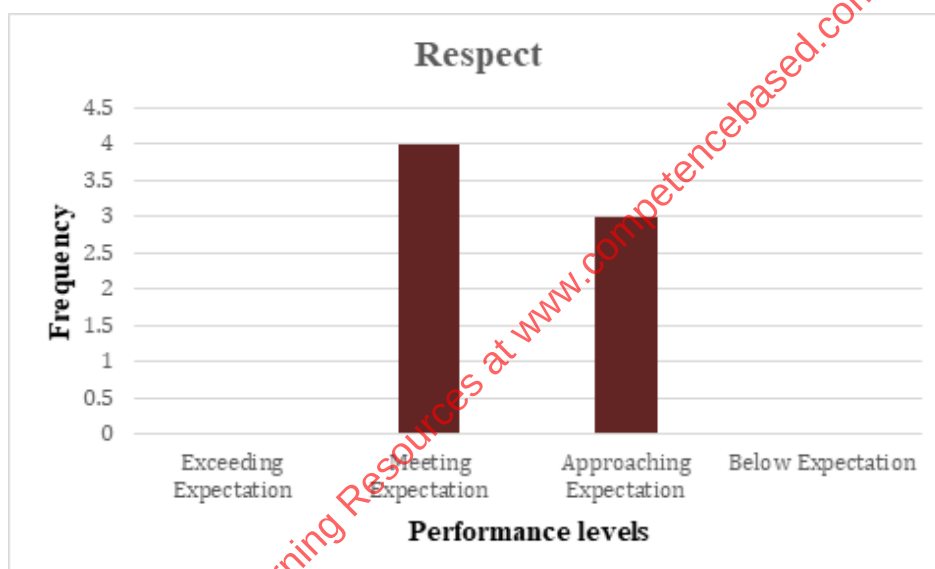


Figure 16. Respect

figure 16 shows that learners performed at level 3 (meeting expectation) and 2 (approaching expectation) on most of the items that assessed the value of respect. This implies that learners are making progress towards being open minded and towards accommodation of diversity. An indication that learners are more open minded and know the virtue of accommodating diverse opinions.

3.2.3.5 Unity

Unity is the ability to live together harmoniously regardless of social, cultural, racial, religious, economic and political differences. It is the recognition of the importance of working with other people towards a common goal. In

assessing unity, the teacher/assessor looked out for a learner's ability to; collaborate with others, respect other people's opinions, share available resources amicably, strive to achieve common goals, appreciate the efforts of others, and take turns in activities and conversation. For instance, in CRE, item 10 "A Grade Six class is composed of learners from different ethnic groups. In which way can they promote unity among themselves?" was anchored on the value of unity.

The analysis of the proxy items on the core value of unity based on the summative assessment is shown in table 30 and figure 17.

Table 30. Performance on the proxy on unity

Subject		Performance on the Proxy Questions				
English	Question Numbers	1	2	3	4	6
	% of Learners Scoring	57.09%	63.26%	56.38%	70.72%	68.52%
CRE	Question Numbers	46				
	% of Learners Scoring	48.53%				
Performance Levels	Exceeding Expectation	Meeting Expectation		Approaching Expectation	Below Expectation	
Quartiles	76-100	51-75		26-50	1-25	
Frequency	0	5		1	0	

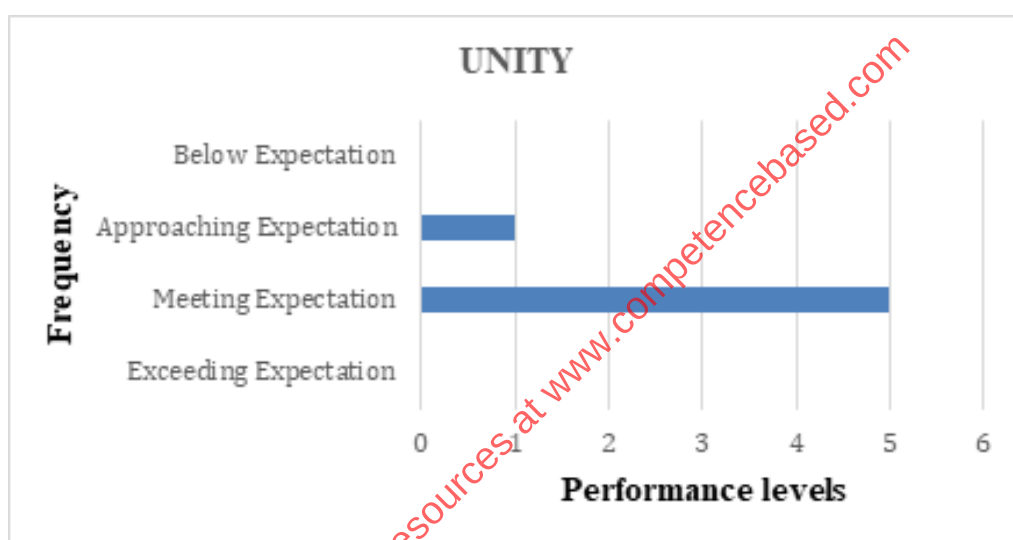


Figure 17. Unity

From figure 17, the learners performed at level 3 (meeting expectation) on most of the proxy items that assessed the value of unity. This indicates that most of the learners can live and work harmoniously with others towards a common goal.

3.2.3.6 Peace

Peace is a state of tranquility and harmony with oneself and other people. The value of peace enables an individual to remain calm always regardless of the circumstances around them; and resolves differences amicably. In assessing the value of peace, the teacher/assessor looked out for

a learner's ability to; resolve differences amicably, respect diversity, avoid /resolve conflicts, respect self and others; avoid hurting others, display tolerance and follow laid down procedures when carrying out activities. For example in Hindu Religious Education, item 40 "*During the war of Mahabharat, Arjun was not ready to fight his own cousins. Lord Krishna explained to him that the soul cannot be killed. By explaining this he showed Arjun the...*" captured issues of resolving differences amicably, avoiding hurting others and display of tolerance.

The analysis of the proxy items on the core value of peace based on the summative assessment is shown in tables table 31 and figure 18.

Table 31. Performance on the proxy questions on peace

Subject	Performance on the Proxy Questions			
Social Studies	Question number(s)	33		
	% of Learners scoring correctly	73.26%		
IRE	Question number(s)	40		
	% of Learners scoring correctly	60.36%		
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
Quartiles	76-100	51-75	26-50	1-25
Frequency	0	2	0	0

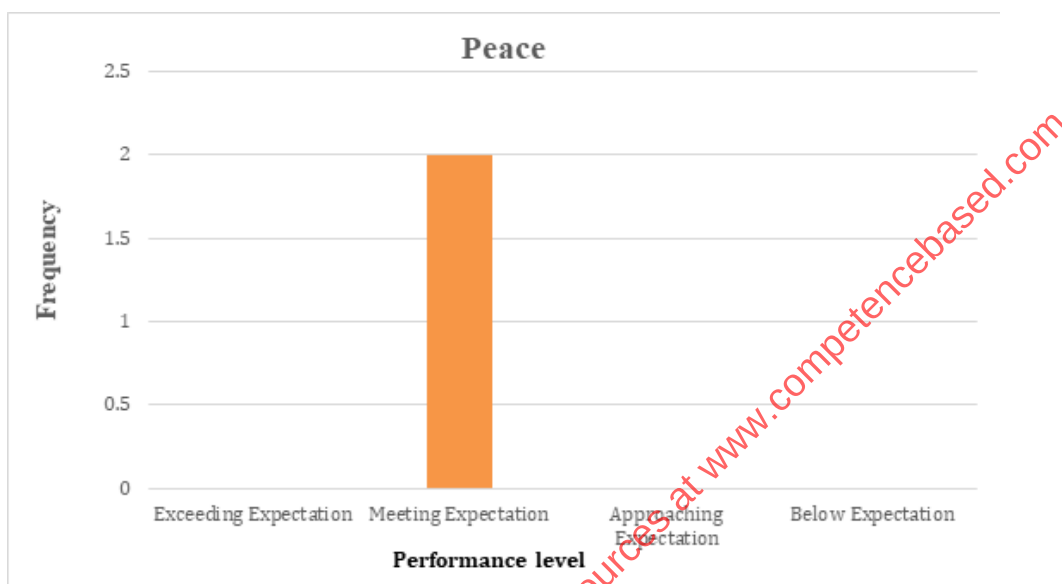


Figure 18. Performance on the Proxy Questions on Peace

From figure 18, learners performed at level 3 (meeting expectation) on the two proxy items that assessed the value of peace. This may indicate that learners can demonstrate tolerance, follow procedures in carrying out tasks, resolve conflict amicably and respect diversity.

3.2.3.7 Patriotism

Refers to loyalty, love and devotion for one's country or nation. A patriotic individual is proud of their country, readily and competently performs their duties as a citizen. In assessing the value of

patriotism, the teacher/assessor looked out for a learner's ability to; be aware of his or her own responsibilities in the society, is conscious of his/her social and moral duties, respect fellow citizens, be aware of own culture, exhibit honesty, serve the community, love own country, be ready to defend the country and obey laws and regulations. For example, in Music, item 11 "*Which type of song is sung to show love for one's country?*" tested patriotism.

The analysis of the proxy items on the core value of patriotism based on the summative assessment is as shown in table 32 and figure 19.

Table 32. Performance on the proxy questions on patriotism

Subject	Performance on the Proxy Questions					
Music	Question number(s)	11	13	18	20	
	% of Learners scoring correctly	62.06%	53.51%	39.18%	45.24%	
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation		
Quartiles	76-100	51-75	26-50	1-25		
Frequency	0	2	2	0		

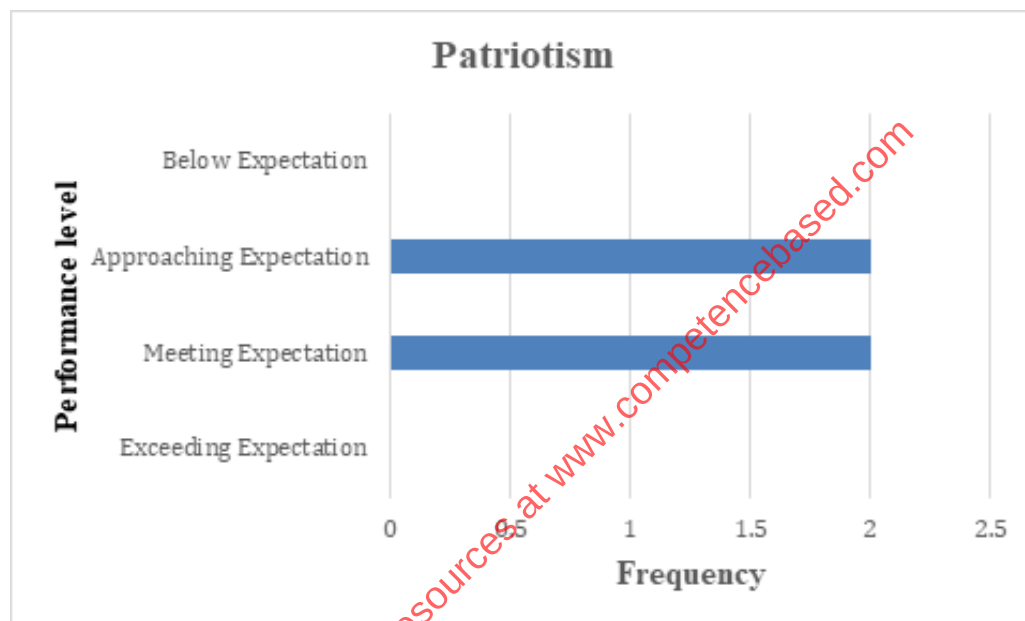


Figure 19. Patriotism

Figure 19, learners performed at level 3 (meeting expectation) and 2 (approaching expectation) on the items that assessed the value of patriotism meaning that they can demonstrate awareness of their own responsibility in society, are conscious of their social and moral duties, exhibit honesty service to the community and love their country.

3.2.3.8 Social justice

This value refers to fair treatment of each other and promotion of equity. It is about creating a society that is based on the principles of respect for human dignity, equity, solidarity and elimination of inequalities. In assessing the value of social justice, the teacher/assessor looked out for a learner's ability to; be democratic, advocate for privileges without favour, advocate for harmonious relationships in the society, share resources

equitably, and foster fairness and justice among peers and other members of the community. For Instance, in English, the passage excerpt "...One day, Mokowi arrived at the palace and said he too wanted to tell a story. Mokowi was the man who usually roamed the market without a shirt. 'What story can Mokowi tell?', the King's assistants asked. Why should we listen to Mokowi's story? Surely, a crazy man like him has no business here in the King's palace. The King, however, gave him a chance. Mokowi began his story..." and item 14 "Why did the King's assistants wonder whether Mokowi could tell a story?" brings out aspects of democracy, advocating for harmonious relationships in the society and fostering fairness and justice among peers and other members of the community.

The proxy items used in the summative assessment did not have items on social justice.

3.2.4 Assessment of Pertinent and Contemporary Issues

Pertinent and Contemporary Issues (PCIs) are problems currently affecting people or places and are unresolved. In assessing the Pertinent and Contemporary Issues, the teacher/assessor looked out for a learner's ability to; identify current issues/problems facing their community, protect themselves against the issues affecting the community, prevent/ control spread of the problem. The following is a description of the six broad areas of pertinent and contemporary issues and how they were assessed.

3.2.4.1 Global Citizenship

Global Citizenship Education (GCE) focuses on developing curious, open- and internationally minded children who are aware that we are all interconnected, have the value that we are all equal, and teach children to treat people with respect (Werven, Coelen. Jansen & Hofman, 2021). The pertinent and contemporary issues under Global Citizenship include peace education, integrity,

ethnic and racial relations, social cohesion, patriotism and good governance, human rights and responsibilities, child's rights, childcare and

protection, and gender issues in education among others.

The proxy items used in the summative assessment did not have items on global Citizenship.

3.2.4.2 Health Education

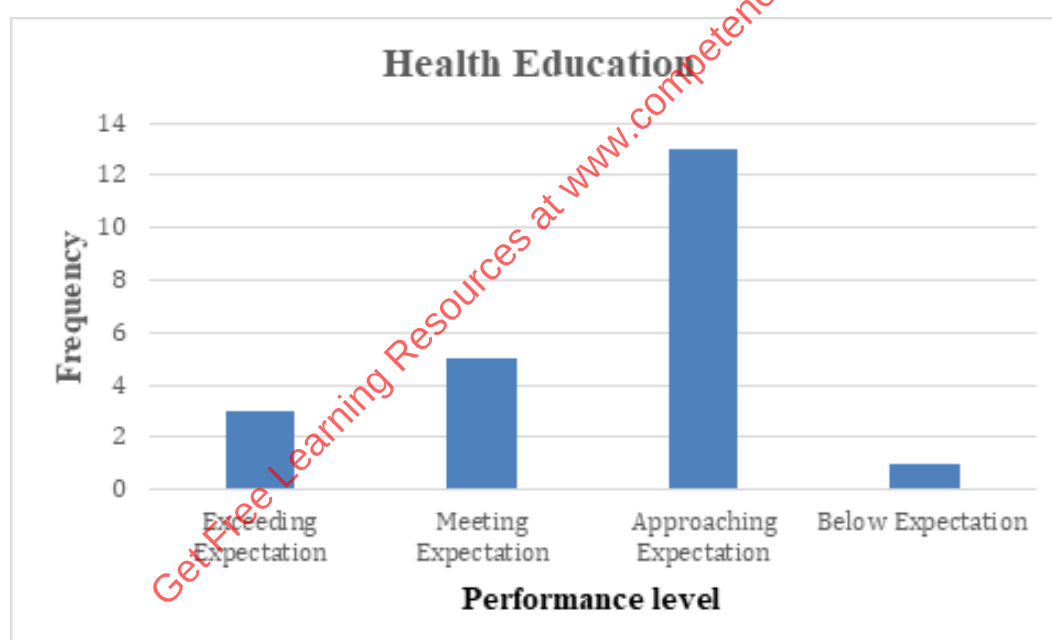
The pertinent and contemporary issues under Health Education are COVID-19, HIV and AIDS, alcohol and drug abuse and prevention, lifestyle diseases, personal hygiene and preventive health, common communicable and chronic diseases. In Home Science, item 27 *"Kwamboka is feeling unwell. She is showing the following symptoms: Fever, pain in the joints, headache and vomiting. Which of the following diseases is she suffering from?"* required learners to identify current health issues/problems facing their community.

The analysis of the proxy items on Health Education based on the summative assessment is shown in table 33 and figure 20.

Table 33. Performance on the proxy questions on health education

Subject	Performance on the Proxy Questions					
English	Question Numbers	6	8	9	18	19
	% of Learners Scoring Correctly	68.52%	30.14%	48.65%	48.88%	45.07%
Kiswahili	Question Numbers	13	14			
	% of Learners Scoring Correctly	75.45%	50.22%			
Science and Technology	Question Numbers	2	5	6	13	14
	% of Learners Scoring Correctly	49.43%	75.81%	63.29%	41.45%	41.25%
Agriculture	Question Number	20				
	% of Learners Scoring Correctly	61.49%				
Home Science	Question Numbers	27	32			
	% of Learners Scoring Correctly	57.25%	44.89%			

Subject	Performance on the Proxy Questions					
Physical Health and Education	Question Numbers	39	40	45	46	
	% of Learners Scoring Correctly	47.02%	29.22%	49.12%	41.51%	
Music	Question Number	15				
	% of Learners Scoring Correctly	30.92%				
IRE	Question Number	39				
	% of Learners Scoring Correctly	75.10%				
HRE	Question Number	48				
	% of Learners Scoring Correctly	25.00%				
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation		
Quartiles	76-100	51-75	26-50	0-25		
Frequency	3	5	13	1		



Figures 20. Health education

From figure 20, shows that, in Health Education, most learners performed at level 2 (approaching expectation). This indicates that the learners require support in identifying health issues that affect them and preventive measures to address them.

3.2.4.3 Life Skills and Values Education

The pertinent and contemporary issues under Life skills and values education include life skills, moral education and human sexuality, etiquette

among others. In Science and Technology, item 4 “In a certain family the water used for washing clothes is then used to clean the house. Water taps are also turned off when not in use. Which one of the following is true about the family? It conserves water by...” required the learner to identify current issues/problems facing their community.

The analysis of the proxy items on Life Skills and Values Education based on the summative assessment is shown in table 35 and figure 19.

Table 34. Performance on the proxy questions on life skills and values education

Subject		Performance on the Proxy Questions						
English	Question Numbers	1	2	3	4	5	11	12
	% of Learners Scoring Correctly	55.08%	59.64%	52.68%	67.26%	77.08%	14.54%	17.42%
Kiswahili	Question Numbers	1	3	4	5			
	% of Learners Scoring Correctly	76.65%	31.37%	60.44%	51.66%			
Science and Technology	Question Numbers	4						
	% of Learners Scoring Correctly	49.36%						
Agriculture	Question Numbers	19	20	21	22	23		
	% of Learners Scoring Correctly	73.41%	61.49%	41.46%	52.62%	29.27%		
Physical and Health Education	Question Numbers	37	47					
	% of Learners Scoring Correctly	48.94%	45.90%					
Social Studies	Question Numbers	30	33	34				
	% of Learners Scoring Correctly	68.13%	73.26%	52.58%				
Art & Craft	Question Numbers	9						
	% of Learners Scoring Correctly	30.91%						
CRE	Question Numbers	38	39	48				
	% of Learners Scoring Correctly	43.79%	44.91%	33.51%				
IRE	Question Numbers	39						
	% of Learners Scoring Correctly	75.10%						
Performance Levels	Exceeding Expectation	Meeting Expectation		Approaching Expectation		Below Expectation		
Quartiles	76-100	51-75		26-50		0-25		
Frequency	3	12		10		2		

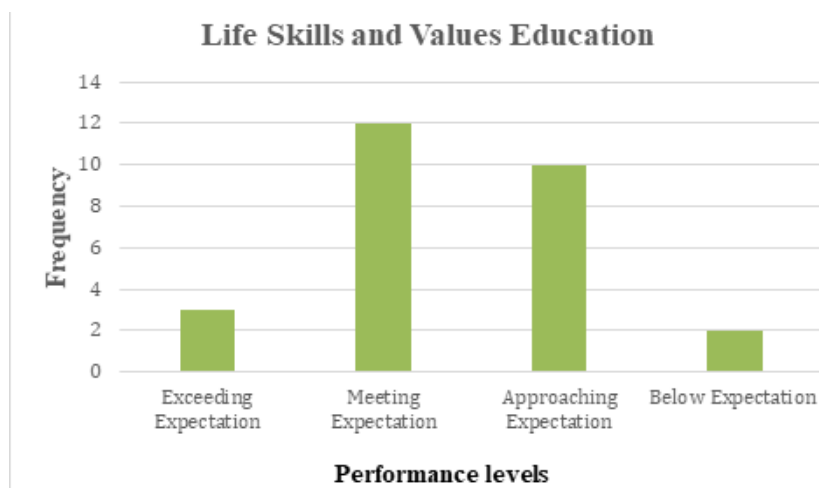


Figure 21. Life skills and values education

From figure 23, the learners performed at level 3 (meeting expectation) on most of the items that assessed life skills and values education. This suggests that most of the learners demonstrate awareness of moral issues, human sexuality, etiquette among other values.

3.2.4.4 Education for Sustainable Development (ESD)

On Education for Sustainable Development the pertinent and contemporary issues include environmental education, disaster risk reduction, safety and security education (small arms, human trafficking), financial literacy, poverty eradication, countering terrorism, extreme violence and radicalization, gender issues and animal welfare.

In Mathematics, item 11 “A farmer divided his shamba into four portions. He planted cabbages on 0.25 of the shamba, tomatoes on 0.125 and onions on 0.45. He planted maize on the remaining portion. What percentage of the shamba was used for planting maize?” dealt with food production hence was anchored on Education for Sustainable Development (ESD). Also, in Social Studies, item 26 “Grade six learners were asked to write short messages to help in caring for plants within the school compound. Three of the messages will help to care for the plants except,” the learner was expected to identify the messages that will help to care for the plants.

The analysis of the proxy items on Education for Sustainable Development based on the summative assessment is shown in table 35 and

figure 22.

Table 35. Performance on the proxy questions on education for sustainable development

Subject	Performance on the Proxy Questions			
Mathematics	Question Number	11		
	% of Learners Scoring Correctly	22.85%		
Science & Technology	Question Number	1		
	% of Learners Scoring Correctly	14.00%		
Agriculture	Question Number	22	23	
	% of Learners Scoring Correctly	52.60%	29.30%	
Social Studies	Question Number	26		
	% of Learners Scoring Correctly	28.62%		
Art & Craft	Question Number	1		
	% of Learners Scoring Correctly	36.21%		
HRE	Question Number	49		
	% of Learners Scoring Correctly	91.67		
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
Quartiles	76-100	51-75	26-50	0-25
Frequency	1	1	3	2

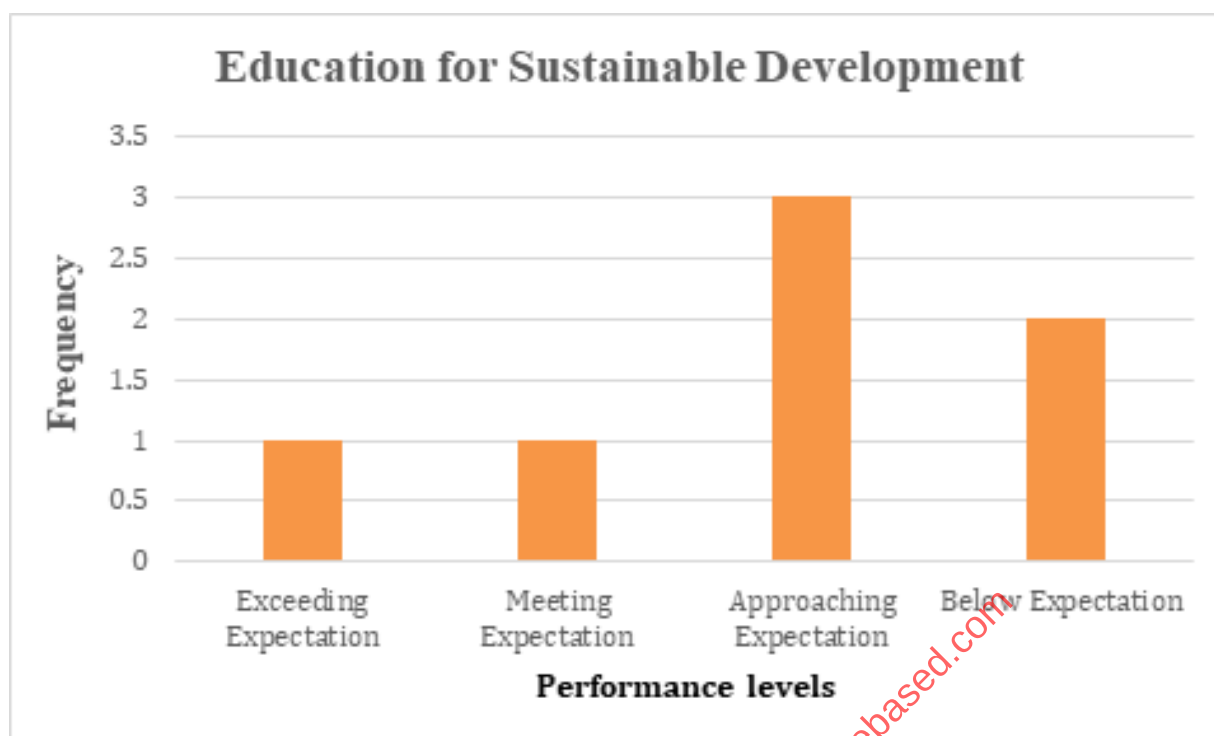


Figure 22. Education for sustainable development

Figure 23 shows that in the proxy item that assessed ESD, most learners performed at level 2 (approaching expectation) and level 1 (below expectation). This implies that teachers should provide more guidance to learners on activities that promote peace, integrity, social cohesion, patriotism and good governance.

3.2.4.5 Learner support programmes

Under this broad area, the pertinent and contemporary issues are guidance services, career guidance, counseling services, peer education, mentorship, learning to live together, clubs and

societies, sports and games.

Some items in Mathematics were anchored on Learner Support Programmes. For instance, item 4 “4K club had 2156 chicks. The chicks were distributed equally among 15 members. How many more chicks will the 4K club add for all the members to get an equal share?” expected the learner to appreciate sharing, an aspect of living together.

The analysis of the proxy items on Learner Support Programmes based on the summative assessment is shown in table 36 and figure 24.

Table 36. Performance on the proxy questions on learner support programmes

Subject	Performance on the Proxy Questions			
Mathematics	Question Number	8		
	% of Learners Scoring Correct	17.13%		
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
Quartiles	76-100	51-75	26-50	0-25
Frequency	0	0	0	1

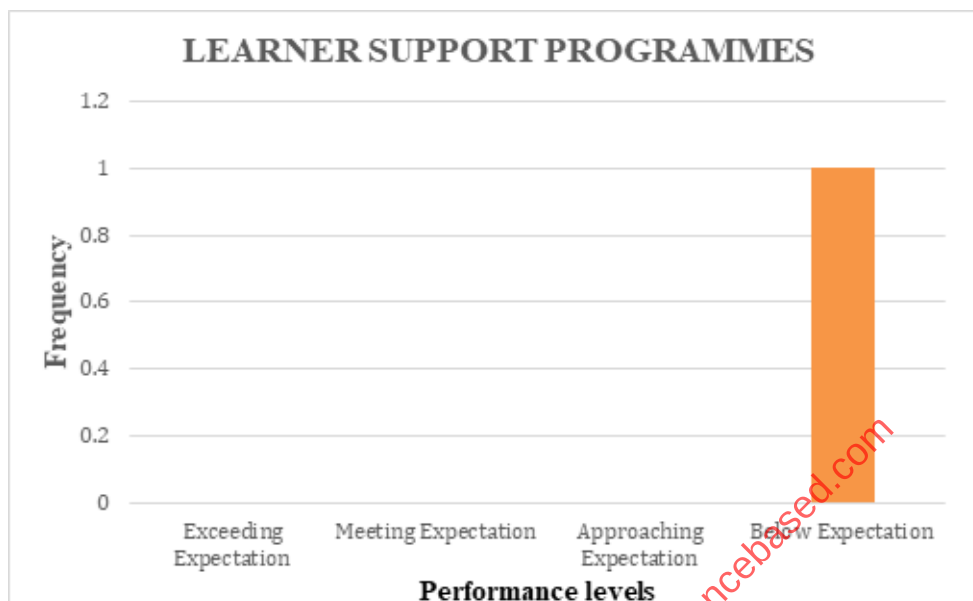


Figure 23. Learner support programmes

Figure 23 shows that learners performed at below expectation in the PCI of Learner Support Programmes. This could be attributed to the fact that only one item assessed this PCI and thus the data could not conclusively give sufficient information about the learners ability in this PCI. Teachers and assessors are advised to give learners more items that assess Learner Support Programmes.

3.2.4.6 Community Service Learning and Parental Engagement

The pertinent and contemporary issues under community service learning and parental engagement include service learning and community involvement, parental empowerment and engagement. Parental engagement is the active participation of parents in their children's learning and holistic development in collaboration with

teachers and other stakeholders (KICD, 2019). Learning experiences at home should reinforce what is learnt in school to help nurture learners' potential in and out of school. These connections can be maintained through various activities and the provision of opportunities for parents to render services.

A wide range of question types exists for testing life skills (Soland et al., 2013). The basic underlying principle of skills testing is that the best predictor of future skill performance is through assessing current skill performance. Thus, the most desirable method is testing through observation of the performance of a life skill (Lai and Viering, 2012).

The analysis of the proxy items on Community Service Learning and Parental Engagement based on the summative assessment is as shown in table 37 and figure 25.

Table 37. Performance on the proxy questions on community service learning and parental engagement.

Subject	Performance on the Proxy Questions			
English	Question Numbers	13	14	15
	% of Learners Scoring	46.78%	56.82%	43.54%
Agriculture	Question Numbers	22	23	
	% of Learners Scoring	52.62%	29.27%	
CRE	Question Numbers	49		
	% of Learners Scoring	56.65%		
Performance Levels	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
Quartiles	76-100	51-75	26-50	0-25
Frequency	0	3	3	0

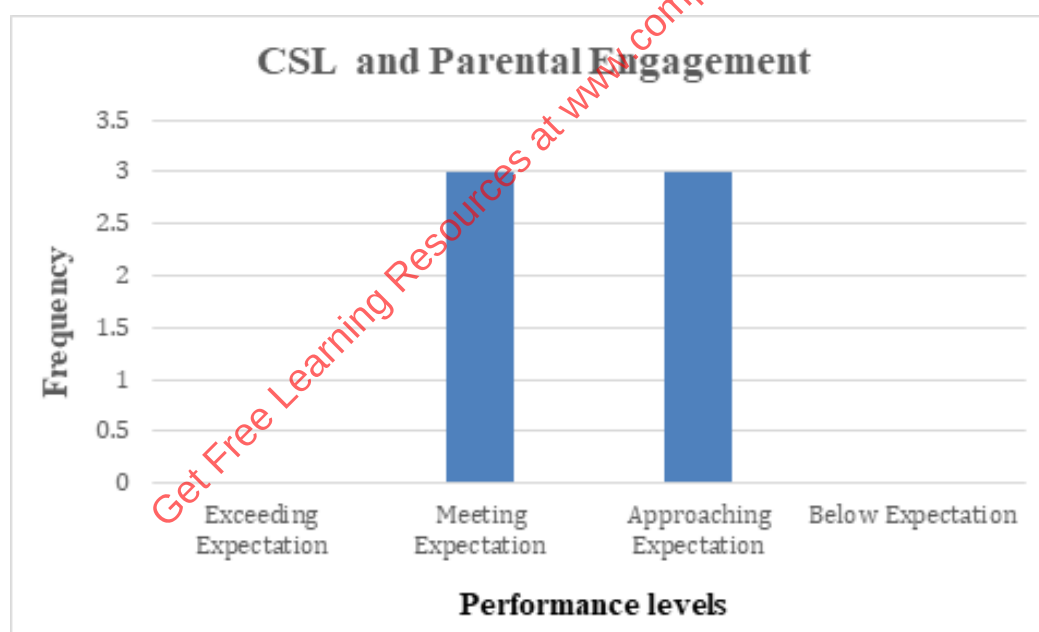


Figure 24. CSL and parental engagement

Figure 24 shows that the learners performed at level 3 (meeting expectation) and level 2 (approaching expectation). This suggests that most learners are making adequate progress in community service activities.

CHAPTER FOUR

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

4.1 Introduction

This chapter presents the findings, discussions, conclusions, and recommendations for KPSEA. It discusses equity in access to primary education in terms of age and gender for all candidates including those with disabilities. The discussion analyses quality of education at upper primary school and intermediate level. It also shows alignment of assessment to the Basic Education Framework aspirations and the extent of acquisition of the Core Competencies, Values and PCIs through assessment.

4.2 Summary of Findings

Generally, the policy concern that guided this National Report on KPSEA aimed at establishing whether the Grade 6 learners had developed or acquired the foundational knowledge skills, attitudes and values for further learning in the fourteen (14) subjects assessed; Core competencies development, using ICT in learning, safety for self/others, psychosocial wellbeing communication and Education for Sustainable Development (ESD) with age-appropriate responsiveness to PCIs. The findings point to aspects of access, transition, equity, and quality based on KPSEA conducted for the first cohort of CBC at the end of upper primary.

4.2.1 Access to education at upper primary

A total of 1,253,577 learners sat for KPSEA in 2022. Generally, it was observed that more boys (648,613) than girls (604,964) registered for the KPSEA. The proportion of boys who registered for the assessment was higher than that of girls by 3.48%. It was observed that 5 counties with notably high registration for KPSEA were Nairobi (87,169), Kakamega (65,622), Nakuru (58,053), Bungoma (60,400) and Kiambu (49,155) counties. On the other hand, low registration was observed

in Marsabit (7,164), Wajir (6,882), Samburu (6,081), Isiolo (4,567) and Lamu (3,857) county.

It was also noted that learners registered for KPSEA in some counties showed gender parity. For instance, Isiolo county had the lowest enrolment disparity between boys and girls. Boys were slightly more than girls by only 0.24%. In West Pokot, Nairobi and Kiambu, boys were slightly more than girls by only 0.25%, 0.28% and 1.06% respectively. Further counties like Mandera, Garissa, Wajir, and Turkana had a wider gender parity in registration compared to other counties, with more boys than girls registering for the assessment at 19.25%, 11.48%, 9.71% and 6.56% respectively.

On age, it was observed that Nyeri, Muranga, Kiambu, Kirinyaga and Nairobi counties had the highest proportion of learners falling between 11 and 12 years (age appropriate) at 77.67%, 75.45%, 75.23%, 70.50% and 70.01% respectively. On the other hand, Kwale, Kilifi, Garissa, Mandera and Turkana counties had the highest proportion of learners enrolled that were over 12 years old (overage) at 81.79%, 81.20%, 80.39%, 74.63% and 72.01% respectively.

4.2.2 Learning Centres

It was observed that Nairobi, Kitui and Machakos counties recorded the highest number of learning/assessment centres at 2,003 (6.15%), 1,516 (4.66%) and 1,202 (3.69%) respectively. Other counties that had equally high numbers of assessment centres were Kakamega, Nakuru, Homabay, Meru at 1,135 (3.49%), 1,132 (3.48%), 1,125 (3.46%) and 1,080 (3.32%) respectively. On the other hand, Lamu, Isiolo, Samburu, Tana River and Marsabit registered lower numbers of public assessment centres at 116 (0.36%), 142 (0.44%), 180 (0.55%), 201 (0.62%) and 213 (0.65%) respectively. It was noticeable that most of the counties with the large number of assessment centres were predominantly

urban while those registering lower assessment centres were Arid and Semi-Arid Land (ASAL) counties.

For better learning outcomes, learning environments should be learner-centred, provide a knowledge-centred environment that clarifies the content, the reasons for learning the content, and the target mastery. These environments should continuously assess student learning (formatively) and embrace a community-centred approach.

This report does not analyse the learning contexts in which the learners are accessing education at upper primary. This is an important variable that needs to be considered to inform policy decision making processes.

4.2.3 Analysis of learner performance in KPSEA

Largely, the learning outcomes posted by the learners are an indicator of the quality of education being accessed by the learners. The national performance of learners was reported per subject using the ideal mean.

In KPSEA, learners performed slightly above the subject mean in four subjects namely: English Language (15.19 out of 30); Kiswahili Lugha (15.53 out of 30). Islamic Religious education (8.65 out of 15) and Agriculture (5.68 out of 10).

Significant to note, is the performance of below the subject mean mark in the following subjects, Music (4.72 out of 10) Home Science (4.75 out of 10), Christian Religious Education (7.94 out of 15), Science and Technology (6.99 out of 15), Social Studies (6.47 out of 15), Mathematics (10.13 out of 30), Art and Craft (3.58 out of 10) and Physical Health Education (5.63 out of 15). Worth noting also is the low mean marks of 8 out of 30, 10.13 out of 30, 3.58 out of 10 and 6.17 out of 15, registered in KSL, Mathematics, Art and Craft, Hindu Religious Education respectively.

The 2022 Grade 6 cohort that sat for KPSEA had the highest proportion of learners who either met or exceeded expectation recorded in Kiswahili at 56.38%, followed by Agriculture and Islamic Religious Education (IRE) at 51.59% and 50.69% respectively. Worth noting is that out of the 12

assessed subjects, only 3 subjects had more than half of the learners meeting or exceeding expectations.

Significant to note are the low proportions of learners meeting the expectation in the assessed subjects. For instance, the lowest share of learners that performed within the expected level was observed in Art and Craft at 15.09%. The other subjects that had low proportions of learners meeting expectations were Hindu Religious Education (HRE), Physical and Health Education (PHE), and Social Studies at 16.67%, 17.46%, and 23.70% respectively.

Out of the 14 subjects assessed in KPSEA, girls recorded a slightly higher mean mark in 9 subjects namely; English Language; Kiswahili lugha, Agriculture, Art & Craft, Home Science, Music, Science and Technology, Social Studies, and Christian Religious education. Gender parity was achieved in KSL as it is attested by the average mean mark of 8 for both boys and girls.

An analysis of the proportion of learners having difficulty in responding to the multiple choice questions/items was done. The facility indices of each item in each subject revealed that, out of the fourteen (14) subjects assessed in KPSEA, Home Science and IRE are the only subjects that did not have any questions with a facility index of less than 30%. Mathematics had the highest number of questions (16 out of 30 items) with a facility index of less than 30% followed by physical Health Education (6 out of 15 items) HRE (6 out of 15 items) and Social Studies (5 out of 15)

4.3 Assessment of Core Competencies, Core Values, Pertinent and Contemporary Issues

In KPSEA, Core Competencies were assessed across the curriculum. For instance, critical thinking and problem solving was assessed in all subjects, followed by citizenship (9 subjects), creativity (8 subjects), communication and collaboration (7 subjects). The findings point at the foundations being laid at primary level to acquire these core competencies among learners with a strong indication of the majority of the learners approaching expectation when assessed

in most of the core competencies. Of concern are the competencies of learning to learn, self-efficacy and digital literacy which were assessed in only six, five and four subjects, respectively. The building blocks for the development of these core competencies need to be elaborately defined to the teachers to enable systematic support for learners as they acquire these core competencies.

The Core Value of Responsibility was assessed in nine subjects (Mathematics, English, Kiswahili, Science and Technology, Agriculture, Home Science, Physical and Health Education, Social Studies and CRE). This was followed by Respect, Love and Patriotism being assessed in five or four subjects (Respect- English, Music, Art and Craft, CRE and IRE; Love- English, Art and Craft, CRE, HRE; Patriotism- English, Agriculture, Music and HRE). The values that were least assessed were Social Justice (assessed in English only) and Unity (assessed in English and CRE only).

In line with the aspirations of CBC, the Pertinent and Contemporary Issues, Life Skills and Value Education were assessed in English (7 items), Kiswahili (5 items) and Agriculture (5 items). Assessment of Education for Sustainable Development (ESD) appeared in two subjects only; Science (2 items) and Agriculture (2 items). Learner Support Programmes issues were assessed in Mathematics only (1 item). Other contextual questionnaires would have been useful in collecting data for this aspect. Global citizenship Education was mostly assessed in Music (4 items). The assessment of Health Education featured most in English (5 items) and Science and Technology (5 items). Community Service Learning and Parental engagement competence were assessed in English (3 items) and Agriculture (2 items) only.

4.4 Conclusions

There are low content knowledge levels and core competencies acquisition levels among the majority of the learners at upper primary based on the high proportions of learners scoring below the mean mark in most of the subjects assessed in KPSEA. The Ministry of Education stakeholders

need to put a concerted effort into monitoring the curriculum implementation aspects and learning environments to ensure solid foundations are laid for learners at primary school level for improved learning outcomes in all subjects assessed.

4.5 Recommendations

4.5.1 Ministry of Education

The Ministry of Education should steer, coordinate, and monitor to ensure:

- i) Action research is carried out to inform the laying of solid foundations for STEM teaching and learning; specialist teaching of Creative and Performing Arts subjects to inform policy and improve on teaching and learning practices and environments at primary level.
- ii) Quality implementation of the curriculum by monitoring the implementation process in schools to ensure that teaching and assessment strategies that promote acquisition of competencies as stipulated in the Curriculum Designs are adhered to.
- iii) Provision of adequate and human resources to facilitate curriculum implementation in schools.
- iv) Provision of a learner friendly environment for all learners including those with special needs & disabilities.
- v) Improve internet connectivity and ICT infrastructure in schools to support the development of digital skills.
- vi) Use of assessment data and evidence in decision-making about CBC and CBA.
- vii) Updated NEMIS to capture learner data relevant for future decisions on learner transition and placement in different pathways at Junior Secondary, Senior School and future career options.

Teachers Service Commission (TSC)

The role of TSC is pivotal in ensuring that learners have facilitators that can support their learning. To this end TSC should:

- i) Strengthen capacity of TSC Quality Assurance and Standards Officers (QASOs) and Curriculum Support Officers (CSOs) to provide instructional leadership on CBAs at classroom level.
- ii) Through TSC QASOs and CSOs, provide on-going school level and classroom-level technical support to teachers to understand, operationalize and integrate best practices into their formative assessment practices leading to early identification of learning gaps for remediation.
- iii) Collaborate with SAGAs at the sub county and zonal levels to guide and build the capacity of teachers on the use of KPSEA school-specific reports and other formative assessment feedback reports to improve learning outcomes.
- iv) Use the available School -Specific reports to analyse and retool teachers in subject specific strategies to improve on the teaching and assessment of all subjects.
- v) Ensure mentorship, guidance and coaching sessions for teachers in primary schools to aid in teaching concepts of different subjects and core competencies and improve on the learners' performance.
- vi) Explore different ways on how technical subject teachers may be assisted in securing subject-specific professional development to improve teaching and learning.

The Kenya Institute of Curriculum Development should:

- i) Include on the Education Cloud resources on Competency Based Assessment (CBAs) that teachers can access and use in their classroom assessment for improved diagnosis of learning gaps for remediation.
- ii) Strengthen capacity of teachers to understand subject specific descriptors outlined in curriculum designs and to operationalize competency-based assessments in their classrooms. This could be done during periodic teacher professional development programmes and/or even via the Radio/TV (Edu Channel) programs to schools.
- iii) Collaborate with TSC and other SAGAs to guide teachers on use of KPSEA reports and other formative assessments in teaching and learning.
- iv) Review curriculum proposals from different stakeholders. For instance, increase in time allocation for teaching creative subjects like Music and Art, review of the Physical and Health Education curriculum content for upper primary that is reported to be highly pitched for the age and not appropriate for the country contexts, relooking at of some Mathematics content that present real life situations as it has proved to be challenging to learners at Grade 6.

Teachers

As facilitators of learning and role models to the learners, teachers are urged to:

- i) Embrace preparation of assessment items that are authentic and assess the content across the cognitive levels.
- ii) Give learners practice on tackling questions that require application of high order thinking skills to develop abilities in responding to different questions.

- iii) Nurture reading comprehension skills in learners by involving them in reading a variety of texts to develop analytical reading skills.
- iv) Ensure that content in the Curriculum design is covered within the stipulated time frame to avoid disadvantaging learners.
- v) Involve learners in vocabulary building tasks that create opportunities for using expressive and receptive skills in KSL directly or in pictorial representation.
- vi) Provide more opportunities for learners to participate in community service-learning activities that address problems or challenges faced by the community. School administrators to monitor curriculum interpretation in terms of coverage, use of learning resources and types of classroom assessments given to learners progressively.
- vii) To adopt modes of classroom assessment and adopt the approaches that relate tasks to real life situations to develop higher order thinking skills among learners.

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