

## **Using Public Examinations to check Learning Deficits: Making a Case for System Assessment Reforms for Secondary Education in Cameroon**

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**ABSTRACT:** Sustainable Development Goal 4 (SDG4) underscores the critical need for monitoring and evaluating learning outcomes without prescribing an internationally-agreed methodology. While the UNESCO Institute of Statistics (UIS) SDG4 Data Book 2019 reported no data for student learning in lower secondary education for Cameroon, the Ministry of Secondary Education published statistics of public examinations which highlighted learning outcomes and quality. Whereas UIS uses results of national and international assessments, Cameroon relies on public examinations. With one-third of the time set to achieve the SDG4 already gone, this study explores the use of public examinations to monitor and evaluate learning outcomes in Cameroon. The study was steered by the question; can data from public examinations in Cameroon be aggregated to provide an assessment of the education system? Features consistent with national assessments and public examinations are reviewed. Data for the 2020 GCE Ordinary in Cameroon is presented as published by the examining board. Analyses of the data reveal the statistical vagueness and limitations of public examinations in secondary schools in Cameroon. The study asserts that public examinations in Cameroon do not provide the proximate determinants nor identify the correlates of achievements associated with learning outcomes. The findings posit that the extent of the learning crisis in Cameroon is largely unknown as the Ministry of Secondary Education does not have any systematic data on who is learning and who is not. The study cautions against the use of high-stakes testing to measure achievement levels. The study concludes that with no appropriate mechanism to measure learning outcomes, identify existing gaps and manage change, Cameroon will continue to fall well behind the universal benchmark for the completion of secondary education, the achievement of relevant and effective outcomes and the distribution of equitable education opportunities. The study recommends the creation of a permanent national assessment structure and an Education Management Information System (EMIS) that will provide a robust diagnostic of trends over time. It also recommends selective participation in cross-national assessment like PISA for Development as a strategy to develop capacity and benchmark a national system.

**KEYWORD:** National assessment, Public examinations, Monitor and evaluating, learning outcomes

### INTRODUCTION

The global commitment to learning was significantly scaled back with the adoption of the two MDGs focusing solely on universal access to school for girls and boys. Learning regrettably got lost in the promise to get every child to school. The MDG indicators gave no indication of what was learned, and by whom (Perlman-Robinson,2011).By employing indicators related to enrolment and completion rates, the education-related MDGs generated an incentive for governments, donors, and civil societies to focus on getting children into school rather, than the acquisition of knowledge and skills for development which should be the central business of schools. National and international efforts have rather and almost singularly focused on the easiest-to-measure goal of access.

In 2019, the World Bank introduced the concept of learning poverty-the inability to read and understand a short, age-appropriate text by the age of 10.The learning crisis in Cameroon is profound. According to the World Bank (2019), 77 percent of children in Cameroon at late primary school age are not proficient in reading adjusted for the out of school children. Meanwhile, 5 percent of primary school age children are not enrolled in school. These children are excluded from learning in school. A large scale learning assessment in Cameroon has indicated that 76 percent of those enrolled in primary schools do not achieve the minimum proficiency level at the end of six years, as proxied by data from grade 6 in 2014. Cameroon's learning poverty is benchmarked at 9.5 percentage points lower than the average for the Sub-Saharan region and 22.1 percentage point worse than the average for lower middle income countries.

Globally, it is now estimated that 617 million children and adolescents do not achieve minimum proficiency levels (MPLs) in reading and mathematics (UIS 2017). Similarly, 260 million children are not in school (World Bank 2019).

The learning crisis is acute in Sub-Saharan Africa with about 85% of children not learning the minimum. Data reveal that 88% of children and adolescents in Sub-Saharan Africa will not be able to read proficiently by the time they are of age to complete primary and lower secondary education (UIS 2017). Leading international assessments of literacy and numeracy- Progress in International Reading Literacy Study (PIRLS) asserts that the average student in low-income countries performs worse than 95% of children in high income countries, meaning that such a student would be singled out for remedial in a class in high-income countries (World Bank 2018).

Learning assessment is a central theme of SDG4. SDG4 underscores the critical need to monitor and evaluate learning outcomes. This responsibility lies with education authorities in the various countries. Monitoring and evaluation are critical for the formulation of evidence-based policy decisions and interventions and role assessment regimes in this regard cannot be overemphasized. They can track progress on improvement and provide the evidence for what works (Centre for Global Development, 2013).

Data on student learning is an asset to the Global Education Agenda. Education Commission (2016) reports that "setting clear priorities and high standards, collecting reliable performance data to track systems and student progress, using data to drive accountability, are consistent features of the world's most improved education systems".

The 2016 Global Education Monitoring Report advocates for the generation and use of education data, particularly learning metrics to realize Promise of Education for All.

A World Bank Development Report on Education entitled “Learning to Realize Education’s Promise” has articulated the need to measure learning to catalyse action. The report states that the “lack of data on learning means that governments can ignore or obscure the poor quality of education especially for disadvantaged groups” (World Bank, 2018).

The Professional use of learning data is central to the diagnosing of the health of the education sector, designing appropriate strategies, fostering stronger political engagements and evaluating systems progress. Compared to other vehicles of change, such as long term professional development, assessment is the go-to scheme to policy makers, since tests are relatively inexpensive to construct and administer. Moreover, assessment can be externally mandated and rapidly implemented thus, yielding valid results (Linn,2000). According to UIS Factsheet (2017), effective use of learning data can potentially reduce inefficiency by 5%.

Reviews by The High-Level Political Forum (2019) show that, on current trends, barely 6 in 10 young people will be completing secondary school in 2030, while in some regions, such as Sub-Saharan Africa, fewer students will be achieving minimum proficiency in reading at the end of primary school.

In addressing the issue of Learning Poverty, the World Bank recommends an ambitious measurement and research agenda to close the data gaps, and more action –oriented research and innovations on how to build foundational skills.

### **MEASURING LEARNING OUTCOMES IN CAMEROON**

The learning crisis in Cameroon is aggravated by the dearth of evidence on the quality of students’ learning. Cameroon does not organize national assessments nor participate in international assessments (at the secondary level). The administration uses proxy measures (number of schools and classrooms, results of public examinations like the GCE and First School leaving Certificate) to gauge education quality even though they are insufficient for evidence-based decision making. There is, therefore, an immense dissociation between the surrogate indicators available on quality education and the robust data required to understand the full dimension of the learning crisis, target policy to address areas of need, monitor progress and get stakeholders to be accountable.

Quality education in Cameroon is still defined in the generic sense using input and process indicators as students’ staying in school up to certain grades and teacher-student ratio rather than learning outcomes. The elusive description of quality education to include only logistics challenges like class size, quality of buildings and equipment to the exclusion of learning learning outcomes has impaired quality reforms at system level.

Education in Cameroon is managed by five different ministries. The need to assess student achievements will require a departure from the practices that limit the assessment of the quality of education to inputs, such as student participation rates, physical facilities, curriculum materials, books and teacher training (Grisay and Mahlck, 1991). Inputs have some relevance in an assessment of quality, but the assumption that high-quality inputs are associated with high levels of student achievement is not always tenable. By the same token, what are often considered low quality inputs are not always associated with low levels of achievement (Kellaghan and Greaney, 2004). Recent data suggest that generic policies that increase expenditure on standard inputs, such as number of teachers, are unlikely to be effective in improving education outcomes. Education Production Function asserts that commonly purchased inputs to schools- class size, teacher experience and

teacher education has a marginal systematic relationship with learning outcomes, implying that conventional input policies are unlikely to improve achievement (Hanushek 2008).

Cameroon today faces the challenges in improving her education system's ability to meet the double ambitious goals of access and quality. Available data on student learning does not provide the right evidence that can inform data-informed decisions and the issues at stake. This situation is compounded by political interest and the low implementation capacity of Ministries of Education officials.

The World Bank Group in the 2018 World Development Report amongst others recommended as effective learning measurement, measuring gaps, tracking progress and testing students when effective action is still possible. The worry is if these recommendations can be obtained in the context of public examinations in Cameroon.

Public examination remains the main framework for monitoring learning outcomes at the secondary level in Cameroon. Public examination in Cameroon has not diverted from the traditional roles of certification and selection.

#### **PUBLIC EXAMINATIONS AND NATIONAL ASSESSMENTS REVIEWED**

While public examinations are well-known characteristics of education in Africa, the idea of national assessment is an innovation. This is because they are similar in some aspects many and countries assume public examination can be used to obtain information that national assessments are designed to collect (Kellaghan & Greaney 1996). Their purposes are significantly different notwithstanding. The role of public examination is to determine whether an individual possesses some specific knowledge or skills. Information on student performance from public examination is used to make decisions about certification and selection, with selection tending to be the more important function (Kellaghan and Greaney 1992; Lockheed 1991). By certification they legitimate membership in the global society, and facilitate international mobility.

Public examinations also guide the different elements of the school system, making sure that all schools teach to the same standards. They specify the objectives to teachers and students and are used to strengthen reforms in curriculum and teaching methods, a way to maintain national standards. Analyses of results can provide insights into achievements in terms of curriculum areas, gender, school types and regions. Results of public examinations are equally used for schools' and teachers' accountability. This is so because the results of students' performance are usually published in the media.

#### **LIMITATIONS OF DATA FROM PUBLIC EXAMINATIONS**

To ascertain that student achievements are improving overtime, data must be collected at different times. Public examination cannot be used for this purpose for a number of reasons. Data obtained from public examinations over time are limited to those students who take the examination and the subjects they take. Public examinations are voluntary. Candidates for public examinations select different subjects and within the subject area may choose different questions to answer. In this sense, public examinations are unlikely to provide information about common achievements for a complete population of students.

Furthermore, a different examination is set each year making it difficult to determine if the difficulty level of the examinations remain constant over the years. A major constraint in the use of public examination is that results of public examinations are often standardized and norm- reference in

which case the reported mean is fixed from year to year making it difficult to determine a change in standards.

An increase in educational provision tends to increase the number of students who sit for public examinations. In such situations the characteristics of examinees will change, which in turn might affect the average level of achievement for examinees.

Public examinations are not limited to school candidates. The fact that any person can go in for the examinations even those who have never been to school makes it unrealistic to use the results to determine standards. The publication of results in league tables is pushing schools to screen students who go in as school candidates. This practice makes the use of public examinations to determine standards and school performance unreliable.

Examination malpractice is an endemic issue in Cameroon because of the high stakes attached to public examinations. Question leakages, organized collusion, use of pre-prepared materials, bribing and intimidation of examination officials are consistent with public examinations in Cameroon. These practices profoundly affect the credibility of public examinations in Cameroon.

Grade inflation is equally an attribute of public examinations. Scores of public examinations are sometimes manipulated even for political reasons. During the grading process scores are sometimes adjusted on criteria not linked to the assessment process. External pressures from stakeholders are common especially when we understand that these results are used for accountability purposes. Grading systems in most public examinations are hardly made public as many assessment institutions establish a hybrid between norm and criterion reference.

Public examinations have some inherent drawbacks which impair accountability. These include: narrowing of the areas of the curriculum to be taught, neglect of what is not examined (teaching to the test), too much emphasis on learning strategies (that water down the curriculum like memorizing and rote learning, allocation of significant amount of time to test preparation) and deep dependence on extrinsic rather than intrinsic motivation vis-vis student learning.

Public examination may not provide valid and comparable measures of performance for all students as some schools exclude students in their assessment programmes. Questions often arise regarding scoring procedures and what it takes to 'pass' for a particular test. Some researchers claim that the use of averages in reporting test scores- one of the most common strategies in assessment- is inappropriate, arguing that averages fail to account for variability within the population ( Allen & Meyer, 1996).

#### **NATIONAL ASSESSMENT (LEARNING ASSESSMENT, System Assessment)**

National assessments are accountability measures. National assessments are designed to describe the level of achievements, not of individual students but of the whole education system. National assessments provide information on the "products" or "outcomes" of schooling. This information when used in relation with input data provides an appropriate base for policy and decision making. It provides stakeholders with relevant and reliable information about the state of the educational system, its achievements and problems. A national assessment provides evidence-based information to hold stakeholders accountable. Results of national assessments are used to determine if children are acquiring the useful knowledge, reasoning ability, skills, and values that schools promised to deliver. National assessments were initiated to address the fact that the educational data on inputs to

education usually collected in the past were often of little bearing or use to education stakeholders. National assessments provide answers to issues like:

How well are students learning in the education system (with reference, for example, to general expectation, SDG4, aims of the curriculum, or preparation for life)?

Is there evidence of particular strengths or weaknesses in the knowledge or skills students have acquired?

Do achievements of subgroups in the population differ? (Are there, for example, disparities between the achievements of boys and girls, of students in rural and urban locations, of students from different language and ethnic groups, of students in different regions of the country, or students who drop out early or are repeating grades?)

To what extent is achievement associated with characteristics of the learning environment (e.g., school resources, teacher preparation and experience, type of school) or with students' home and community circumstances?

Do the achievement of students change? This can be particularly important at a time of major change in the system (e.g., when numbers are increasing, when new subjects or curricula are being implemented). (Kellaghan and Greaney, 2001).

EFA 2015 Global Monitoring Report states that before 1990, 34% of countries carried out at least one national assessment and this has since grown to 69%.

### **THE PROBLEM**

The accountability function of assessment depends on the purpose of the assessment. A basic premise of the research on student assessment is the fact that the right kinds of assessment activities and the right uses of the data generated by those activities contribute to better outcomes be they those for improved learning or improved decision (Heubert and Hauser 1999). What constitutes "right" is largely driven by a set of theoretical and technical guidelines for test developers and users of the assessment information (AERA, APA and NCME, 1999)

SDG4 underscores the critical need for monitoring and evaluating learning outcomes without recommending an internationally-agreed methodology (Technical guidelines). While the Education 2030 Agenda tried to fill the gaps of the Dakar Framework for Action and the MDGs, its hands-off country-led approach remained a critical oversight. SDG4 recommended the challenging/difficult task of monitoring learning but left implementation to various countries. Whereas individual countries are expected to translate Global Education Agenda into achievable national targets based on their education priorities, resource and capacity, till date, there are no technical guidelines to reconcile national assessments and ensure cross-national comparability.

The SDG- Education 2030 Steering Committee has asserted that the global education goal is so all-encompassing and lacking in prioritization that it would be inappropriate to assume that countries switched to new policies once SDG4 came into effect. The route from data production to use is not simple, automatic and quick as was assumed. While the agenda is universal, it has not been apparent how countries perceive its importance, how they respond to the commitments made and what policies have been put in place to attain SDG4.

These critical omissions have compromised the global monitoring of learning outcomes. Some of the crucial concerns are:

- [1] What data is required to produce relevant indicators for decision making?
- [2] Which assessment type is most appropriate to provide for monitoring and evaluation at country levels?
- [3] How are such systems designed to provide the much needed robust data?

Countries and institutions have responded differently to these challenges and are generating abundant data. In Cameroon, the Ministry of Secondary Education exploits the results of Public Examinations.

**RESEARCH QUESTION**

Can data from public examinations in Cameroon be aggregated to provide an assessment of the education system?

**METHODOLOGY:**

This study adopted the explorative approach. The data is derived from the 2020 results statistics from the Cameroon General Certificate of Education Board (GCE Board) which is responsible for end of course examinations for lower and upper secondary levels for the English Speaking sub-system of education in Cameroon.

**FINDINGS**

**OVERALL PERFORMANCE IN THE 2020 EXAMINATIONS:**

**1.0 Results for each Examination in 2020 compared with 2019.**

Examinations	Reg 2020	Sat 2020	Absent 2020	Pass 2020	Fail 2020	% Pass 2020	% 2019	% Diff 2020-2019
GCE Advanced Level	49613	48744	752	33942	14802	69.63	78.36	-8.73
TVE Advanced Level	7481	7292	141	5037	2255	69.08	-	-
GCE Ordinary Level	76121	74954	1061	47997	26957	64.04	67.14	-3.1
TVE Intermediate Level	11043	10872	155	5926	4946	54.51	-	-

**2.0 Results for School Candidates at the GCE Ordinary and Advanced Levels Subjects:**

Examinations	Reg 2020	Sat 2020	Absent 2020	Pass 2020	Fail 2020	% Pass 2020	% Pass 2019	% Diff 2020-2019
GCE Advanced Level	32244	31991	226	25088	6903	78.42	86.65	-8.23
GCE Ordinary	57022	56455	529	38533	17922	68.25	66.34	+1.91

**3.0 Results of External Candidates at the GCE Ordinary and Advanced Levels Subjects:**

Examinations	Reg 2020	Sat 2020	Absent 2020	Pass 2020	Fail 2020	% Pass 2020	% Pass 2019	%Diff 2020-2019
GCE Ordinary Level	19099	18499	532	9464	9035	51.16	63.58	-12.42
GCE Advanced Level	17369	16753	526	8854	7899	52.85	48.11	+4.74

**4.0 Classification of Results by School Type:**

School Type	Reg	Sat	Absent	Pass	Fail	% Pass
Denominational	3949	3917	30	3193	724	81.52
Non Denominational	23556	23245	289	17030	6215	73.26
Government	29491	29267	210	18301	10966	62.53
External	19099	18499	532	9464	9035	51.16
Special	26	26	0	9	17	34.62

**5.0 Classification of 2020 Performance at the GCE Ordinary Level by Region**

SN	Region	Reg	Sat	Absent	Pass	Fail	% Pass
1	Centre	20324	19930	362	13863	6067	69.56
2	West	9604	9501	93	6381	3120	67.16
3	North West	5271	5167	94	3407	1760	65.94
4	Littoral	21633	21350	254	13994	7356	65.55
5	Adamawa	1386	1377	9	870	507	63.18
6	South	1384	1367	16	842	525	61.59
7	East	1130	1109	20	668	441	60.23
8	North	615	609	6	339	270	55.67
9	South West	14073	13851	199	7295	6556	52.67
10	Far North	701	693	8	338	355	48.77

**SOURCE: Cameroon GCE Board**

The information provided above fails to capture accurate, timely and comparable data that links input to learning outcomes. Assessments are designed to serve precise purposes. A test designed for one purpose is unlikely to serve a completely different purpose. A test designed to measure what students know overall is different from that which is designed to measure what students have learned within a particular course or time. Information about strengths and weaknesses in the knowledge and skills students have achieved and about how achievement is distributed in the population (e.g., by gender, location, socio-economic background etc) is vaguely provided. The statistics are too lacking to inform curriculum developers, text book writers and concerned politicians.

SDG 4 highlights the issue of disaggregation. Assessment data in the context of SDG4 must be disaggregated to highlight performance for students of different ethnicities, socio-economic backgrounds, or culture permitting for greater focus on students within those groups. Education participation and outcome indicators by individual demographic and socio-economic characteristics are absent in the tables above.

**DISCUSSION**

Tackling weak spots in education systems is difficult when accurate and relevant data on learning are lacking. Measuring progress towards the Millennium Development Goals on education (MDG2) depended very much on administrative records- data collected at the school level which was used to help plan the education system. Monitoring the SDG4 on the contrary, necessitates data from learning assessments, administrative records and household surveys. Turning small scale interventions into system wide improvements of learning in Cameroon is an imperative.

It is evident that critical decisions concerning education in Cameroon are not informed by empirical evidence. The formulation of national policies are guided by personal opinion and anecdotal evidence. Cameroon's education policies and practices do not comprehensively aligned to the 2030 Agenda targets and priorities. The data presented above provide very little guidance for systemic reforms. It can hardly provide needed information to diagnose where and why learning gaps exist. It does not track key drivers of low system performance.

While learning metrics are significant points for improving lagging systems, it is imperative to track the critical factors that drive learning, such as learner preparation, teacher qualification, quality of school management, level of financing to mention but these. Data from assessment institutions in Cameroon are not responsive to what decision-makers need. Cameroon's education agenda is yet to engage with questions of process and outcomes and has not gone beyond access. SDG4 has not influenced policy planning and implementation.

### **RECOMMENDATIONS**

Measuring learning outcomes in Cameroon will be an overwhelming task granted that education is managed by five ministries with a twisted synergy: Ministries of Basic Education, Secondary Education, Higher Education, Vocational Training and Employment and Sports and Physical Education. Data on schooling is fragmented across the several ministries in charge of education. Building a strong assessment framework that cuts across all the ministries is a daunting task. The absence of curriculum development agencies makes it difficult to determine the extent to which curriculum objectives are being attained. Ministries of education need to work together to determine the critical information needed to inform policies.

Without abandoning the unfinished commitment of universal secondary school completion and gender parity, the Ministry of Secondary Education needs to redefine its commitment to SDG4

Cameroon needs to create an Education Management Information System (EMIS) that cuts across all the education ministries. Such a structure must be designed to diagnose and provide a robust data and trends over time. Building such a structure requires adopting the appropriate policies and putting in place fiscal and human resources. Collecting, processing and communicating data entails significant resources. An effective data-driven system is not all about generating data. Information from such a system should be used to inform curricular, text book and teacher development, support school and system reforms and drive policy evaluation

Selective participation in cross-national assessments like PISA for Development is an imperative tool for Cameroon if she must develop her capacity and benchmark against her system and most fundamentally expose her education system to public scrutiny. However, translating awareness of cross-national assessment into action is challenging to low income countries. Currently, national and sub-national learning assessments remain the most feasible option for Cameroon. The assessment should be census-based and organized at regular intervals to track mastering of the national curriculum. It should be designed to tell which area of the curriculum students are weak in and if certain groups are lagging behind and by how much. Most importantly it should to identify the proximate determinants and correlates of student achievement.

SDG4 indicators are technically sophisticated. With the evident lack of a technical manpower to handle issues of National and International assessment, there is need to engage in stronger partnerships with other governments, NGOs and private institutions involved in learning assessment.

UNESCO 2017/18 Global Education Monitoring Report recommends that countries need to build their capacity for stronger representation at the level where problems are framed, priorities identified and solutions devised. Specifically, partnerships with Technical Cooperation Group on SDG4, UNESCO-UIS, World Bank are critical.

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