



## Curriculum Implementation in the 21<sup>st</sup> Century Classroom: Dynamics and Challenges for Cameroon Education Sector

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**Abstract:** This article articulates for a global paradigm shift for curriculum with focus on the Cameroon education system. In the new paradigm, curriculum is reconceptualized and repositioned to best meet current and future challenges and opportunities. Key drivers of change in the 21st century that impel the reconceptualization and repositioning of curriculum are outlined. The article sets off with an acknowledgement of existing conceptualizations of curriculum, but argues that they understate its significance, role, and potential impact in the 21st century. It notes that current conceptualizations position curriculum almost exclusively within the education sector; tightly associate it with general education (K-12), with children of K-12 age, and with schools. This further limits the significance, role, and impact of curriculum. Curriculum is much more than that. Globalization and the increasing convergence of digital technologies were the defining characteristics of our world at the turn of the 21st Century. Corresponding changes and innovations in the curriculum to address this evolution was eminent. The curriculum has existed to respond to the problems of living in particular societies. The demands on the curriculum have since the turn of the 21<sup>st</sup> century become so complex and multifaceted that the society's demands sometimes overwhelm the curriculum implementation process. This study aimed at investigating the challenges of curriculum implementation in Cameroon in the 21<sup>st</sup> century. Specifically, the study sought to find out; 1) the extent to which teachers are prepared for the 21<sup>st</sup> century classroom, 2) the extent to which classrooms are adapted to technologies, and 3) how curriculum overload affects implementation. Three research questions were formulated from the objectives to be answered by the study. The survey research design was used, and data were collected using the questionnaire and an interview schedule. The study targeted teachers and students from some selected secondary schools in Fako Division, South West Region of Cameroon. The sample for the study consisted of 10 teachers and 70 students selected randomly from five secondary schools. The data collected was analyzed descriptively and thematically to establish the challenges to curriculum implementation in Cameroon. Findings suggested that teachers are not sufficiently prepared in training to take charge of the 21<sup>st</sup> century classroom, classrooms are ill-adapted to technologies, and the fact that content of the curriculum impedes implementation. Based on the findings, it is recommended that a reform of the teacher training process be done so as to orientate teachers and their teaching towards the technologically driven 21<sup>st</sup> century classroom. Again teaching in the 21<sup>st</sup> century should target 21<sup>st</sup> century skills; in which case some of the content of our curricular that still target 20<sup>th</sup> century competencies can be scrapped off. Basic knowledge of ICT should be made a primary requirement for qualification to teach.

**Keywords:** Curriculum Implementation, 21st Century Classroom, Dynamics and Challenges for Cameroon Education Sector

### 1. INTRODUCTION

The new millennium has been characterized by unprecedented breakthroughs in knowledge and technology. The 21st century challenges have called for new paradigms and “maps” of engagements in all spheres of life. Education in particular, continues to play a pivotal role in ensuring national and global survival and growth through its curriculum planning and implementation. The main challenge for curriculum implementation at the turn of the 21<sup>st</sup> century is moving away from knowing to doing. To ensure efficiency of the school system and the development of 21<sup>st</sup> century skills, our schools need state of the art teachers and classrooms as central frames to curriculum implementation.

The curriculum exists to respond to society's problems but unfortunately the evolution of some of these problems and demands on the school system tend to be overwhelming. It is observed that most of our schools in their curricula continue to train for the 20<sup>th</sup> century in the 21<sup>st</sup> century with

essentially primitive methods because our classroom and learning environments in general are not yet adapted to the age of information communication technology.

Internationally, all the debates and research in education have as its corollary the emerging consensus that teacher quality is one of the most, if not the most significant factor for student learning, achievement and educational improvement. Evidence points to the preparation, induction and continuous development of teachers as being imperative to achieving that quality. The verdict is clear: attract the best, shape them to be the best and continuously develop them to give their best once they enter the schools. This is the 21<sup>st</sup> century classroom orientation.

### **1.1. Curriculum Implementation: Realities in Developing Countries**

Many of the developing countries have average levels of education in the 21<sup>st</sup> century that were achieved in many Western countries by the early decades of the 20<sup>th</sup> century (Schleicher, 2015). Many of these countries are struggling to change their pedagogical practices mainly because of politico-social beliefs and lack of resources. The curriculum and syllabuses of their schools teach obsolete skills that are not needed in the digital era. Many children are leaving school without mastering a minimum set of cognitive and non-cognitive skills. “Entire structure of school, including its age segregation by grades and the content of curriculum, is determined by the outgrown characteristics of pre-digital age technologies. An attempted use of computers to improve the obsolete system is akin to using the jet engine to improve transportation by attaching it to a stagecoach” (Papert & Markowsky, 2013, p. 31).

In many countries, especially in developing countries, teachers and students are stuck with a curriculum that is highly outdated and of very little use in their future lives. In 21<sup>st</sup> century challenges for education systems are manifold. New economies are driven by entrepreneurs, technology, and innovations. Emergence of the ‘knowledge society’, rise of service sector, dependence on knowledge products, and highly educated personnel for economic growth are new phenomena (Castells, 2000; Friedman, 2006; Odian and Mancias, 2004). With rapid advances in knowledge, technology and skills are becoming the key drivers for development. Knowledge economy is the generator of most wealth jobs and citizens will be needed with the capacity to identify problems, work in multi-disciplinary teams to identify solutions to manage complex and multidimensional tasks, to synthesize ideas and to communicate effectively. In knowledge society, crucial challenge for a nation’s education is to align curriculum and learning to a whole new economic model based on an emerging global knowledge based workforce (Dede, 2008). To accomplish this, it is imperative to transform children’s learning processes in and out of school and engage them in acquiring 21<sup>st</sup> century skills and knowledge.

Education devoid of teaching and learning of thinking skills and contextualized learning environments, is merely knowledge gathering and remembering. The advent of institutionalized teaching and learning, along with its critically significant summative examinations, has mainly weakened student’s ability to acquire the core 21<sup>st</sup> Century skills of high-order thinking, communication, creativity and innovation, problem solving and confidence.

Warner & Kaur (2017) opine that it is now well-recognized that “the most important single factor for the quality of education and thus for the efficiency and quality of the pupils’ learning is the quality of the teachers’ training.” However teaching and research excellence are only as good as their engagement with the latest trends in teacher education, backed by evidence and informed by enlightened policies. The demands placed on teachers in this day and age are high. Teachers have to be equipped to deal with the increasing diversity and changing profile of students within a global and digital landscape. They must continually develop their skills in order to drive change, take on collaborative roles and integrate learning in school systems.

Pathways that reflect a holistic teacher education continuum provide the various points of entry to a wide repertoire of programmes which enable teachers to make informed decisions about learning options so as to achieve their academic and professional aspirations. Learners in our schools also have their own aspirations and expectations of the teachers implying that the two must be in tandem. Teacher learning is a continuous process and because of changing educational, societal and technological factors, teachers must be given timely and appropriate opportunities at every stage of their careers to upgrade and develop their professional capacities. This calls for the need of

continuous development and in-service training for teachers in the field so as to keep them up to speed with improved approaches to curriculum implementation.

Research shows us that exemplary teacher education programmes possess at least the following attributes: close integration of courses that create a coherent experience throughout the programme, well-defined standards of practices and performance, a core curriculum with emphasis on student learning, assessment and content pedagogy, use of problem-based teaching methods, active assessment using case studies and portfolios, drawing on the best practices of skilled veteran teachers in clinical experiences, and extending the amount of clinical exposure as early as possible in the programme. (Warner & Kaur 2017).

The preparation and development of teachers is not an end in itself but a step towards achieving the desired outcomes for students in our schools. From observations, the teaching strategies, methods and techniques have not evolved to the 21<sup>st</sup> century requirements that place the learners at the center of the instructional process. It will be unfair to crucify the teachers but at the same time without exonerating them as a lot of factors are responsible for this.

First and foremost, the teacher training process is deficient in preparing trainees to fit in today's classrooms with huge challenges of information proliferation, inclusion and the need to adopt classroom technologies. It is an open secret that a lot of teachers do not have basic computer skills, let alone surfing the web to improve their instruction. Secondly, the curriculum is observed to be overloaded with the introduction of new areas of learning especially in ICT and computer sciences as well as food technology. The content required to be covered by the teachers is enormous and most significantly learners are constantly under pressure sometimes with as many as 27 school subjects to study (Ngundam&Tanyi, 1999). The result of this is that learners have up to 40 hours of classes every week and the time dedicated to the study of trade or specialty is greatly reduced thereby compromising the development of much needed skills. The solution to such a problem would simply be to make use of broad field approaches to curriculum planning. The hurdle here however remains that teachers are trained in specific subjects instead of broad areas of knowledge like science, arts, social sciences etc.

## **1.2. Management of Curriculum Change for Effective Curriculum Implementation**

Change as a process needs to be managed. The school principal, as the key figure around which much of the school's activities revolve, to a great extent determines the school's success or failure when change is implemented. An educational leader should lead the change; not merely be subject to it (Van der Horst and McDonald 2001). According to Briggs and Sommefeldt (2002:29), the principal should know how to manage and lead the process of change. The principal should ensure that s/he has the necessary policy documents, circulars and guidelines on hand. S/he should study those documents and internalize all the fundamentals of the curriculum changes. Change means that the principal should work through the following phases with his staff: diagnosing the problem, planning for change, implementing change and reviewing developments. Working as a team with the staff should ensure that those who are affected by the implementation of change are involved in the planning from the beginning. Irrespective of who makes the final decision, the staff should feel that they were consulted as a group as well as individuals, and that their opinions had some influence on the final decision.

Graetz et al (2006) identify the change process as including the following: unlearning, which involves establishing a felt need for change and managing resistance; changing, which requires establishing new learned and instinctive ways of thinking and behaving; relearning, which entails a process of reinforcing, evaluating and modifying desired ideas and behaviour; and institutionalizing change, which involves using human resource processes such as performance to reinforce continual personal improvement that is consistent with the desired change outcome. According to Bertels (2003), the process of organizational change is as follows: unfreezing (recognizing the need for change), changing (attempting to create a new state of affairs) and refreezing (incorporating the changes, creating and maintaining a new organizational system). Most people resist change because it is threatening and uncomfortable, especially when the outcomes of change are unknown or unfavourable.

Furthermore, the new curriculum content is learner-centered; the learning activities revolve around the learner instead of the teacher as it used to be; it is source-based and skills- oriented. Although

educators experience problems with its implementation, the curriculum allows the learners to develop their own interpretations of resources that are available in their communities. In the past, outcomes centered on knowledge in the classroom, where it was reduced to the constructs that teachers and learners individually brought into the classroom, or became simply a product of classroom interaction through some form of progressive education. For instruction to be effective, the teacher must know more than the learner, must have adequate content knowledge, and must know the conceptual destination of the learning. The cognitive aspect of schooling has been lost through too much emphasis on outcomes in the new curriculum. Today 80% of our schools are referred to as dysfunctional. This calls for the overhauling of the education system. Every child deserves the right to education of quality. Resistance to change was caused by different factors at different levels.

Kobola (2007) indicates that the following factors cause resistance to change: at the individual level, some individuals exhibit resistance to change if they perceive a lack of personal control over unfolding events; other individuals have attitudes towards change based upon their previous experiences of organizational change. Their attitudes are based on a lack of trust and misunderstanding of the intentions of change. At a group level, resistance is caused by group cohesiveness, social norms, participation in decision-making and autonomy for self-determination of actions. In this case, the distribution of organizational power and authority mediates the levels of resistance under different circumstances. Any change that emanates from outside the group is likely to be perceived as a threat to the status quo because the group values highly its social interactions but possesses little power to influence the change process. At organizational level, factors such as organizational structure, climate, culture and strategy contribute to change.

Curriculum implementation cannot be done without the inclusion of the principals. According to Briggs and Sommefeldt (2002), principals should address the following pertaining to change:

- The soundness of the proposed change, because change proposals are not all authentic.
- Understanding the failure of well-intentioned change. New policies could be hoped for and adopted naively without the adapters realizing the implications or understanding the specific changes needed for implementation.
- The depth of the change. Change strikes at the core of the learned skills and beliefs of educators and creates doubts about their sense of competence and purpose.
- The question of valuing. The principal should check whether particular change is valuable.

## **2. RE-CONCEPTUALIZING AND REPOSITIONING CURRICULUM**

National and global policy statements reflect the universally acknowledged relevance of education to development. However, concrete instruments for giving effect to these policies remain scant and mostly unstated. Not surprisingly, the growing recognition of the development-relevance of education is often accompanied by persisting frustration with the irrelevance of education to development within specific contexts. This is mostly manifest in graduates who do not meet expectations of the demand side of education systems. Examples include graduates who are functionally illiterate in national and/or global contexts, are alienated from their cultures, have poor mastery of their languages, lack skills for employability and for life, lack digital skills required in digital workplaces, lack facility for lifelong learning, etc.

To say that an education system is irrelevant to development is to say that its curriculum does not enable graduates to acquire required competences. It is through the curriculum that societies identify and package competences that enable people to meet current and future development challenges and to take up emerging opportunities. An appropriate selection of these competences depends on a textured understanding of development within specific geographical and temporal contexts. Yet, for many countries, dialogue on the development-relevance of education often excludes mainstream educators such as curriculum developers. More often, it is economists of education and education planners who are involved in this dialogue. In many countries, instruments that communicate national development policies and strategies are not effectively shared, including with curriculum specialists. Furthermore, it is unusual for training programs for curriculum specialists to include development as an area of study. In sum, those who actually determine and select competences that should constitute curricula content are not necessarily in tune with long term development dialogue, outlooks, policies,

and strategies in their contexts. Perhaps then, the perceived or real irrelevance of education to development should not come as a surprise.

### **2.1. Repositioning Curriculum at the Core of National and Global Development Dialogue, Policies, and Interventions**

Accepting this first conceptualization of curriculum implies its repositioning at the center of the national and global development dialogue, policies, strategies, and interventions. It further identifies curriculum designers and developers as key stakeholders in the shaping of, and in giving effect to national and global development policies.

### **2.2. Key Considerations**

Development-relevance is as much a strength of the curriculum as it can be its weakness. There is always tension between the core function of education, which is to produce a lifelong learner, and the instrumentalist function, which is contextual relevance. A key risk could be the overcrowding of curriculum and the squeezing out of foundational competences to make space for competences that are perceived to ensure relevance. This risk is particularly high when curricula relevance is expressed by adding new subjects or learning areas instead of through the integration of competences into existing subjects and learning areas. Positioning curriculum at the core of development has to therefore be accompanied with well-deliberated “scope and balance” as core principles of curriculum design.

Another risk is that curriculum can be over-politicized under the guise of relevance. Endless reforms can be prompted by bipartisan politics, especially at transition points, and by powerful interest groups rather than by national development priorities. National mechanisms for protecting curriculum from political agendas therefore need to be established and institutionalized.

### **2.3. A Catalyst for Innovation, Disruption, and Social Transformation**

In a proactive role both formal and informal curriculum are powerful catalysts for social change, transformation, and for disrupting the status quo. Curricula can change attitudes and mindsets. Examples include social dispositions towards strategic gender roles, women in STEM, racial groups, sexual orientation, the environment, etc. Curricula can construct and deconstruct social order. Care has to be taken to ensure that curricula support desirable social order marked by equity, inclusion, equality, justice, respect for human right, peace, responsible citizenship, etc.

### **2.4. A Force for Social Equity, Justice, Cohesion, Stability, and Peace**

As much as curriculum is transformative, it is among the most profound stabilizing forces. It is through curricula that societies conserve and pass on their values, age-old wisdoms, heritages, and accumulated expertise to new generations. Curricula are key socializing forces and even control that through which societies cohere. The challenge is when to draw a line between desirable and just socialization, and unjust and oppressive socialization that trample the rights of others.

### **2.5. Curriculum as an Integrative Core of Education Systems**

Adopting and sustaining a systemic approach to education and learning remains a challenge in many countries. Fragmentation of core elements is not uncommon, and this weakens the effectiveness of supposed systems. At worst, core elements may even undermine each other. Because curriculum relates to most elements of an education system, it can serve as an integrative force to engender a systemic approach to education and learning. Curriculum leads teaching, learning, and assessment. Among others, it determines the physical teaching and learning environment (infrastructure, books and learning materials, consumables, furniture, equipment, etc.), and education personnel, especially teachers. Student curriculum determines curricula for initial teacher training and for continuous professional development. Coherence in key elements of the systems is critical for system effectiveness and resource efficiency.

### **2.6. Curriculum as a Lifelong Learning System in its Own Right**

21st century curricula are intensively challenged to sustain relevance to rapid, unpredictable, and sometimes disruptive contextual changes. An even bigger challenge is for curricula to not only react to contextual changes but to also lead them. To effectively play the reactive and proactive role,

curricula have to themselves be lifelong learning systems. Mechanisms have to therefore be built to ensure constant self-renewal of curricula sub-systems, lest they risk being irrelevant. The ever-escalating pace of change challenges traditional durations of curricula reforms which often take years. 21st century curricula have to have the foresight, anticipatory, and regenerative capacity for constant self-renewal, to adapt quickly, and to be innovative.

### **3. SITUATING THE PROBLEM OF CURRICULUM IMPLEMENTATION IN THE 21ST CENTURY**

The turn of the 21<sup>st</sup> century brought with it globalization and technological advancements that have invaded every sphere of human life especially the classroom. It is observed that despite research findings on new teaching methods and classroom technology, curriculum implementation in Cameroon remains way below expectations. This assertion is affirmed by the Sector Wide Approach document (SWAe, pg.28) which attributes an inefficiency of over 30% to the educational system. The implication of this is that more than 30% of all resources invested for curriculum implementation are wasted in the form of failure, in examinations, poor development of skills by learners and school dropouts. This should not be the case in the 21<sup>st</sup> century when everything in education has undergone a revolution for the better.

Furthermore, curriculum implementation depends on the quality of teachers, and overall instructional support for teachers. It is observed that a lot of teachers have limited knowledge of ICTs particularly because the teacher training process did not help them, our schools are ill-adapted to technologies as well and these put together we have a recipe for failure. Teachers are not skilled at using technologies at the disposal of learners to stimulate life-long learning, which gives them the latitude to engage in “self-destructive” tendencies. Again, the number of school subjects for both teachers and students is observed to be too much. This inevitably reduces the amount of time dedicated to practical work for proper skill development. There is supposed to be a theory-practice nexus which is a huge problem in teacher education. This paper sought to assess the challenges to curriculum implementation in 21<sup>st</sup> century Cameroon.

### **4. OBJECTIVES OF THE STUDY**

This study was designed to investigate the challenges of curriculum implementation in 21<sup>st</sup> century Cameroon. More specifically, it sought to find out;

- The extent to which teachers are prepared for the 21<sup>st</sup> century classroom,
- The extent to which classrooms are adapted to technologies, and
- How curriculum overload affects implementation.

#### **4.1. Research Questions**

To achieve the above objectives, the following research questions were posed:

- To what extent are teachers prepared for the 21<sup>st</sup> century classroom in Cameroon.
- To what extent are our classrooms adapted to technologies?
- How does curriculum overload affect effective implementation?

#### **4.2. Research Methodology**

The purpose of this section is to provide a blueprint as to how the objectives of the study will be achieved. The descriptive survey research design was used in this study because the researcher could generalize the findings to the whole population. Data collection was done using an interview guide, checklist, and a structured questionnaire.

#### **4.3. Sample and Sampling Techniques**

Data was collected from a total of 80 respondents (70 students and 10 teachers) using an interview guide (for teachers) and a structured questionnaire (for students). This sample was selected from the parent populations of Upper-sixth students and their teachers in Fako using the simple random sampling and the purposive sampling techniques.

**Table1:** Distribution of Sample Population (teachers/students) according to Schools

School Type	Gender				Total
	Teachers		Students		
	Male	Female	Male	Female	
Public	2	2	18	20	38
Denominational	1	2	11	09	20
Lay Private	2	1	07	05	12
Total	5	5	36	34	80

#### 4.4. Procedure for Data Analysis

The data obtained from the questionnaires were analyzed descriptively using percentages and means. The responses obtained from the interview guide were reported and used for subsequent discussions.

### 5. PRESENTATION OF FINDINGS

#### 5.1. Research Question One

This question sought to find out the extent to which teachers are prepared for the 21<sup>st</sup> century classroom. Results of the interview are presented as follows:

*Item 1: Do you have basic computer and internet surfing skills?*

To this question, 70.0% of the teachers (7/10) generally agreed to having basic computer knowledge but affirmed to having limited knowledge in surfing the web to enhance their teaching. The search engine they appeared to be familiar with is Google.

*Item 2: How do your surfing skills affect your teaching?*

60.0% of the teachers think that their surfing skills do not affect their teaching because they are able to stick to the traditional textbook-lecture methods while 40.0% of them are of the opinion that their inadequate knowledge in this domain affect their teaching negatively because most of their students are more skillful than them.

*Item 3: Did your teacher training target 21<sup>st</sup> century classrooms and technologies?*

All teachers disagreed strongly that that their training targeted today’s classrooms and learners. They affirmed to have taken a course or two in educational technological but it was void of any practical work making the internalization of skills almost impossible besides such technologies are almost inexistent in our schools. To them, the current teacher training process which is still based on pen-paper tests is not adequate to prepare teachers for facilitating 21<sup>st</sup> century skills.

*Item 4: With the knowledge that a lot of your students spend time on-line and on social media, do you make use of any of these platforms to enhance learning?*

All interviews disagreed to this assertion. They however agreed that a lot of their students spend time online but they do not use social media for teaching and learning because not all respondents interviewed have access and teachers are limited by theirs surfing skills as well. 50.0% of them however they use social media to send information to their students and also allow their students to send in their questions and misunderstanding about certain concepts.

*Item 5: What in your opinion should be done to make our teachers better ready for the 21<sup>st</sup> century classroom?*

“We cannot expect teachers to give what they don’t have” one of them intimated. The teachers were unanimous in the fact that reform is needed to refocus the teacher-training process so as to expose the teachers to modern technologies in education with maximum practical support. “Continuous professional development or in-service training should be expanded for teachers who do not have the ability to operate in this dispensation” they stated.

#### 5.2. Research Question Two

This question investigated the extent to which classrooms are adapted to technologies by looking at some facilities required for the 21<sup>st</sup> century classroom. Access to these facilities by teachers according to school type is presented on table 2.

**Table2:** Distribution of access to facilities for 21<sup>st</sup> century classrooms

Facility	School Type/Frequency			Total	Mean Percentage
	Public	Denominational	Lay Private		
Computers	2(50.0%)	1(25.0%)	0(00%)	3	25.0%
Power Supply	4(100.0%)	4(100.0%)	2(100.0%)	10	100.0%
Internet access	2(50.0%)	0(00%)	0(00%)	0	16.66%
Projectors	0(00%)	0(00%)	0(00%)	0	00%
E-library access	0(00%)	0(00%)	0(00%)	0	00%
Television	2(50.0%)	1(25.0%)	1(50.0%)	4	41.6%
DVD/players	2(50.0%)	2(50.0)	1(50.0%)	5	50.0%
Simulations	1(25.0%)	3(75.0%)	0(00%)	5	33.33%
Interactive white boards	0(00%)	0(00%)	0(00%)	0	00%

Results in table 2 reveal that our classrooms are lacking in a lot of basic facilities required for the 21<sup>st</sup> century classroom such as e-library access, projectors, interactive white boards which are conspicuously absent even in urban schools. The only facility that is available to all the schools involved in the study is power supply which sometimes suffers frequent cuts. The access to other facilities is very low with DVDs/player at 50.0%, computers (25.0%), internet access (16.6%), televisions (41.6%) and simulations (33.33%). Therefore, our classrooms are not yet adapted for 21<sup>st</sup> century learning.

A questionnaire was prepared for students to check their access to these facilities and the opinions summarized in table 3.

**Table3:** Distribution of opinions on students access to ICTs (N=70)

School Type	Number of respondents	Number of items	Mean opinion	Percentage Agree (%)	Percentage disagree (%)
Public	38	5	3.24	85.21	14.79
Denominational	20	5	2.69	63.70	22.30
Lay Private	12	5	3.01	78.21	21.79
All	70	5	2.98	75.71	24.29
Critical mean opinion			2.50		

The results in table 3 shows that three-quarters (75.71%) of all the respondents generally agree (mean of 2.98) to having access to ICTs including smart mobile internet access and while 24.29% of them disagree. Interestingly, these students stated that they spend more time online chatting with friends and watching you-tube videos meanwhile with only 10.0% of them bothered about using this medium for learning.

### 5.3. Research Question Three

This research question investigated how curriculum overload affect implementation. The opinions of teachers are presented below.

**Item 6:** Do you regularly cover your syllabuses?

60.0% of the teachers interviewed agreed that they complete their syllabuses regularly while 40.0% of them disagree. They cited time constraints as being the major time available vis-à-vis the amount of content to be taught. “We are forced to organize extra classes so as to catch up, and sometimes we rush over the content due to time constraints” they stated.

**Item 7:** What is your opinion about the number of subjects in the curriculum?

All the teachers interviewed held the opinion that the number subjects are too many when compared with the time of teaching and the learners attention span. The problem is perennial from primary through secondary education with an average 18 subjects for each learner.

## 6. DISCUSSION OF FINDINGS

There was enough evidence uncovered to shed light on the challenges of curriculum implementation in 21<sup>st</sup> century Cameroon. A discussion of these findings is as follows:

- Teacher training programmes are not adapted to 21<sup>st</sup> century teaching in Cameroon which makes it difficult for them to transmit 21<sup>st</sup> century skills.



The responses from the teachers indicate that teacher training programmes in Cameroon do not have sufficient content to equip the teachers for the 21<sup>st</sup> century classroom. Reason why very few of them can use methods that employ modern technology in teaching. This is in line with Simplicio (2002) believes that this should gain the attention of teachers to transform their teaching methodologies as it is a major ingredient in the lives of youths all over the world. To determine the relationship between computer use in classroom instruction and mathematics achievement, among fourth and eighth graders, Wenglisky (1998) found that “higher mathematics scores were related to adequate access to computer technology in conjunction with teachers trained in technology use and the use of computers to learn new high-order concepts” (p. 2).

- Classrooms in our schools are poorly adapted to technology which is compounded by teachers’ lack of such skills. This greatly affects curriculum implementation and fall short of preparing learners for the knowledge economy. Teachers need the necessary technological tools to use in the classroom so as to give their learners relevant content to meet the needs of the modern or 21<sup>st</sup> century classrooms. The classrooms should be equipped with computers, projectors, available internet and any other tool that will help them teach effectively in line with the new technologies.

Jacobs (2010) holds that the solution to making 21<sup>st</sup> century skills have an important effect on learners, is to transmute them into learning applications connected to curriculum content and assessment. To do this, our classrooms and learning environment must be supportive. Furthermore, Regan (2008) corroborates that the infusion of 21<sup>st</sup> century skills must be a primary element of teaching and learning and not placed as add-ons to the curriculum. It is easy to articulate a commitment to the development of 21<sup>st</sup> century skills but is more demanding to translate this commitment into action.

- The curriculum of our secondary schools from observations and as confirmed by teachers is overloaded. An overloaded curriculum impedes effective teaching and especially the development of skills by learners. The depth of the subject matter can also not be fully covered because teachers are in a constant race against time with obvious consequences on the learners.

Majoni (2017) affirmed that curriculum overload has been caused by the need to comply with legislation and directives from government. In the study, teachers cited insufficient time to cover the syllabus and content as a factor of overload. The amount of time allocated to each subject and the amount of time required to teach each subject area has caused overload in the primary school curricula. Overlap or duplication of content was also identified as a major cause of overload even though not raised by the respondents. These are the same issues cited by teachers interviewed by this study which are an impediment to implementation. Curriculum overload is clearly a challenge to curriculum implementation especially in the 21<sup>st</sup> century where the skill set desired requires a lot of practical hands-on activities.

## **7. CONCLUDING REMARKS**

The realization of Vision 2035 which is aimed at positioning Cameroon as an emerging country demands heightened contributions of curricula. The Vision 2035 Agenda will be implemented within the Industry 4.0, whose transformative change is yet unknown. Yet, the framing of the agenda has not seriously factored in the implications of change in the 21<sup>st</sup> century and in Industry 4.0 specifically. This is a serious blind sight, and one that could break the agenda, if it is not adequately factored in. The unanticipated rapid change is going to steamroll education systems and curricula into dramatic changes, the directions of which are not yet known. The success of the educational objectives of Vision 2035 Agenda will lie in its ability to adapt to the unknown and reconsider itself against these realities. With the onset of Industry 4.0, such curricula that are stuck in the past will be severely challenged to catch up and even more so, to get ahead of the curve. Reconceptualizing and repositioning curriculum in the 21<sup>st</sup> century in general, in Education for Vision 2035 Agenda, and in Industry 4.0 is NOT a choice; it is a moral, social justice, global stability, global security, and global peace imperative!

Moving away from “knowing” to “doing” is a major challenge for education today. Wagner (2015), reiterates that in the 21<sup>st</sup> century, what you know is far less important than what you can do with what you know, and that interest in and the ability to create new knowledge to solve new problems is the

single most important skill that all students must master today. This study found out that in the way of this aspiration is most importantly the fact that teachers are not yet sufficiently trained to target this 21<sup>st</sup> century skills. This situation is further compounded by the fact that our classrooms are ill-adapted for teaching in the technological age. There is prevalence of curriculum overload resulting in teachers failing to cope with the tasks required of them to accomplish and effectively execute their duties.

### **RECOMMENDATIONS**

Based on the findings of this study, the recommendations have been made:

- A reform of the teacher training process be done so as to orientate teachers and their teaching towards the technologically driven 21<sup>st</sup> century classroom.
- Classrooms must be provided with equipment that reflects the 21<sup>st</sup> century workplace.
- Continuous professional development and in-service training should be fostered for teachers.

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