Teachers' Perception on Students' Achievement Ability in Geography Competence Based Curriculum

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Abstract: Rwanda secondary education is applying Competence--Based Curriculum (CBC) since 2015 in all teaching and learning subjects. CBC is envisioned to produce more skillful students capable of contributing to the development of the country. However, a number of problems have been pointed out, since the CBC implementation, challenging its presumed output and sometimes the expected competences are not acquired by the students. Therefore, this study aims at assessing teachers' views about secondary school learners' ability to achieve expected competences in Geography Competence Based Curriculum compared to students' performance. It follows a quantitative cross-sectional design and used a structured questionnaire to collect data from 13 teachers of Geography as well as a test administered to 210 students of senior 5 and 6 who learn Geography as one of the major subjects. The study was conducted at Groupe Scolaire Mukamira, Groupe Scolaire Notre Dame des Apôtres de Rwaza, Groupe Scolaire Jabana, Groupe Scolaire Saint André, Blue Lakes International School and Gahogo Adventist Academy. Schools, teachers and students were purposively chosen and a census for small populations was applied to select respondents. Data analysis involves descriptive statistics by means of SPSS. The findings of the study reveal that teachers of all schools have enough confidence in their students' ability to achieve expected CBC competences in Physical, Human and Economic Geography covered in senior 4 and 5. However, the test given to the students demonstrated that teachers' confidence do not match with students' performance at some schools. Therefore, there is a need to raise teachers' awareness about their students' achievement ability through continuous trainings and much efforts should be invested in students learning to maximize CBC high level achievement of expected competences.

Keywords: Teachers, Perception, Students, CBC, Competence, Geography

1. Introduction

To improve the quality of education, Rwanda has moved from a "Knowledge-Based Curriculum" to CBC since 2015 in all levels of education and all subjects [11]. The implementation of CBC in the teaching and learning process is not new. It has been applied in both developed and developing countries. From the United States of America, CBC spread to other countries like United Kingdom, Canada, New Zealand, Germany, Australia and Singapore in the recent decades. In Africa, countries such as Tanzania, Zambia, Namibia, Botswana, The Seychelles, South Africa and Kenya have also embraced CBC [12, 13, 18, 19]. Since the introduction of the CBC in Rwanda, different studies have been conducted to analyze its advantages [10], the opportunities and challenges associated with its implementation in order to develop mitigation strategies [3, 8-10, 12]. However, there are other aspects of CBC implementation which are still under research. For instance, there is lack of research about CBC implementation in relation to teachers' perception on students' achievement

ability in many subjects taught in secondary schools including Geography. It is with this regard the study was conducted to fill in this knowledge gap by assessing teachers' views about secondary school learners' ability to achieve Geography expected learning outcomes in CBC. Considering its nature, Geography is one of school subjects in which learners are supposed to easily and actively participate in the construction and acquisition of knowledge, skills and attitudes embedded in the CBC. Besides, Geography has been purposely chosen basing on the knowledge and experience of the researchers on Competence Based Approach (CBA) and on Geography subject as either former secondary school teachers, university lecturers, programme developers, textbooks writers and quality assurers on behalf of Rwanda Education Board (REB) in the framework of in House Programme Project and CPD programme facilitators.

In Rwanda, the CBC approach in Geography highlights the required competences that students are expected to achieve. They include the ability to explain different physical geographical phenomena and their impact on the sustainable development of Rwanda; explain different problems associated with the physical, human and economic environment of Rwanda and suggest solutions; evaluate the major challenges related to overpopulation and the environmental degradation in Rwanda; use appropriate field work techniques to observe, collect, record and analyze geographical data; use statistical diagrams and maps to interpret the geographical information; interpret physical and human features on the maps and the photographs [18]. The study looks at the views of teachers on the ability of students to achieve these expected leaning outcomes in Geography.

The study was conducted in six secondary schools selected per province and the city of Kigali, their status as private or public, boarding or day public schools and their location in rural, urban or semi- urban areas. The target population was secondary schools Geography teachers and learners in advanced level in combinations having Geography as one of major subjects.

This study would enrich knowledge about CBC implementation from Geography teaching and learning process perspective in Rwandan secondary schools and suggest practical solutions to the identified issues. Its findings would help to improve the quality of education and develop a highly skilled and globally competitive labour force as it is the target of the National Strategy for Transformation (NST1) (2017-2024) and the Rwanda Vision 2050 targeting education as a tool to achieve "High Quality and Standards of Life" [20, 21].

2. Literature Review

2.1. Understanding Learners' Competences in Rwandan Competence Based - Curriculum

Since 2015, Rwanda has started to implement CBC in all levels of Education and all subjects. REB [17] defines curriculum as the learning provided throughout the education system consisting of learning areas, subjects including knowledge and competences, cross cutting issues, basic and generic competences, skills and attitudes. It also defines competence as the ability to use an appropriate combination of knowledge, skills, attitudes, values and behavior to accomplish a particular task successfully; the ability to apply learning with confidence in a range of situations. Furthermore, it explains competence - based curriculum as a curriculum designed to develop learners' competences rather than just their knowledge to ensure their learning has greater purpose and is deeper than it would be otherwise. A competence-based curriculum takes learning to higher levels by providing challenging and engaging learning experiences which require deep thinking rather than just memorization. Its focus is on what young people can do rather than just on what they know [18].

Two categories of competences are recognized in Rwandan CBC. They include basic and generic competences [17]. Basic competences are based on expectations and aspirations reflected in the national policy documents. They are relevant to Rwanda on account of its history and context and are built into the subject syllabi. They include literacy; numeracy, ICT; citizenship and national identity, entrepreneurship and business development, science and technology and communication in the official languages [17]. Generic competences involve and promote the development of the higher order thinking skills. They apply across all curricula, and are developed in all subjects. They encompass critical thinking, creativity and innovation, research and problem solving, communication, co-operation, interpersonal relations and life skills as well as lifelong learning. These generic competences help students to deepen their understanding of subjects and apply their subject learning in a range of situations. They therefore contribute to the development of subject competence. As students develop these generic competences, they also acquire the set of skills that employers look for in their employees. The acquired competences make the students to be prepared for the world of work. They are vital for enabling students to become lifelong learners who can adapt to our fast-changing world and the uncertain [17]. The present study focuses on teachers' views on learners' achievement of both basic and generic competences because they are not separated in terms of learning outcomes.

2.2. Developing Competences in CBC

Competences cannot be taught directly like subject knowledge. They are acquired over time through the cumulative effect of a competence approach to learning. They require students to practice and employ the generic competences throughout the subjects that they study. They require the syllabi to be constructed with competences at their heart. They require teachers to adopt approaches that encourage and enable students to think critically, to carry out research, to solve problems, to be creative and innovative, to communicate, to co-operate and to become life-long leaners. The subject content provides a necessary context for students

to develop the competences, and the basic and generic competences help deepen students' understanding of the subject and build students' ability to apply their subject learning in practical situations. In this way, the curriculum is an important way of raising standards and making the curriculum more relevant. Competence in a subject requires a learner to have achieved an appropriate level in terms of all two categories of competence (REB, 2015a). Therefore, this study looks at the level of learners' achievement of the two key categories of competences.

2.3. Learners' Competences in Geography Upper Secondary in Rwanda

Geography subject is taught and learnt in upper secondary education as a core subject, i.e. in S4, S5 and S6 respectively. At every grade, the curriculum is structured in topic areas, sub-topic areas where applicable, and then further broken down into units. The Geography curriculum for the Advanced Level has got 3 topic areas (Practical Geography, Physical Geography, Human and Economic Geography). Each topic area and each unit have key competences whose achievements are pursued by all teaching and learning activities undertaken by both the teacher and learner. So, Geography teachers are to ensure that the learners are exposed to the tasks that help them to achieve the required competences [18]. The present study was selective and focuses on two topic areas of Geography i.e. Physical, Human and Economic Geography. As the present study focuses on teachers' perception about students' performance in Geography at the end of senior 4 and 5, the following sections present the expected learners' competences in the two grades.

2.3.1. Key Competences at the End of Senior Four Geography

At the end of senior four, the learner should be able to: 1) explain different physical geographical phenomena and their impact on the sustainable development in Rwanda; 2) explain different problems associated with the physical, human and economic environment of Rwanda and suggest solutions, 3) evaluate the major challenges related to overpopulation and the environmental degradation in Rwanda, 4) use appropriate field work techniques to observe, collect, record and analyze geographical data and 5) differentiate among the types of cartographic projections and categories of the maps [18].

2.3.2. Key Competences Per Topic Area in Senior Four Geography
Physical Geography

The learner should be able to: 1) use an appropriate field work techniques to collect, record and analyze the geographical data; 2) differentiate the types of cartographic projections and the categories of maps, 3) investigate the formation of major relief regions of Rwanda and evaluate their effects on the human activities; 4) compare different types of rocks and minerals of Rwanda and evaluate their importance, 5) compare different soil types in Rwanda,

determine the causes and effects of soil erosion, the conservation measures and assess the importance of soils in Rwanda; 6) investigate the climate and seasons of Rwanda and explain their impact on human activities; 7) explain the importance of different types of vegetation and evaluate the methods of conservation in Rwanda and describe the drainage system of Rwanda and explain its relationship with human activities [18].

Human and Economic Geography

The learner should be able to: 1) Research demographic problems in Rwanda and evaluate their solutions; 2) describe accurately the causes and the effects of the rapid population growth and the migration in Rwanda, and evaluate some measures to control the rapid population growth; 3) describe, explain and evaluate the impact of the rural and urban settlements on the sustainable development in Rwanda; 4) describe the impact of rural and urban settlements on the sustainable development projects in Rwanda; 5) explain why the development projects are important and evaluate the success of the projects on long term sustainability; 6) investigate the impact of various agricultural activities on the sustainable development in Rwanda; 7) investigate the impact of forests and forestry on the sustainable development in Rwanda; 8) explain the impact of fishing on the sustainable development of Rwanda; 9) investigate the impact of mining on the sustainable development in Rwanda; 10) categorize the different sources of energy and investigate the impact of power and energy production on the sustainable development of Rwanda; 11) explain the factors for the industrial growth and explain the impact of industrialization on the sustainable development of Rwanda; and 12) investigate the impact of transport, communication and trade on the sustainable development of Rwanda [18].

2.3.3. Key Competences at the End of Senior Five Geography

The learner should be able to: 1) explain different physical geographical phenomena and their impact on the sustainable development in the world; 2) explain different problems associated with the physical, human and economic environment of the world and suggest solutions; 3) evaluate the major challenges related to the population growth and exploitation of the resources in the world; 4) compare different modes of development in the world and 5) use statistical diagrams and maps to interpret the geographical information [18].

2.3.4. Key Competences Per Topic Area in S5 Geography
Physical Geography

The learner should be able to: 1) distinguish between the components of the universe and the Solar system, locate the earth and the moon in the solar system; 2) discuss the different theories of the earth's origin and the mineral composition; 3) examine the internal processes responsible for the evolution of different relief landforms; 4) investigate the causes and consequences of vulcanicity and earthquakes on the landscape 5) investigate the different soil constituents and morphological properties of the soil; 6) appreciate the

importance of the atmosphere, weather and the impact of climate on the environment and human activities in the world; 7) interpret the atmospheric phenomena and investigate the impact of the weather and climate on the environment and on the human activities; 8) appreciate the distribution of different types of vegetation in the world and 9) examine the classification and the characteristics of different natural vegetation of the world [18].

Human and Economic Geography

The learner should be able to: 1) discuss the problem of the population growth and the ways of controlling the population growth in the world; 2) explain the impacts of early sex, HIV/Aids, health risks and STDs on the world's population; 3) discuss the impact of settlement and urbanization on the sustainable development of different countries; 4) explain the impact of agricultural activities on the sustainable development of different countries in the world; 5) explain the impact of forests and forestry on the sustainable development; 6) explain the impact of fishing on the sustainable development of different countries of the world and clarify the minerals and explain the impact of mining on the sustainable development of different countries in the world [18].

Therefore, the present study wants to assess teachers' perception and learners' performance in relation to the expected competences in Physical, Human and Economic Geography.

2.4. Teachers' Perceptions on Students' Competences in Geography

Although, there is a lot of literature about teachers' views in relation to various aspects of Geography teaching and learning process in secondary education [2, 4, 6, 15, 16]. There is a worldwide limited research, particularly in Rwanda about teachers' views on students' achievement level of competences in Geography. Therefore, the present study attempts to fill in that knowledge gap by assessing teachers' opinions in relation to S4 and S5 learners' achievement ability of expected competences in Geography

and goes further to compare their views with learners' results in Geography.

2.5. Students' Performance in Geography

A number of studies revealed that secondary school students perform poorly in Geography [1, 5, 7, 14, 22]. Consequently, there is a need to carry out similar research to confirm or reject existing findings; to enrich and expand the literature on how secondary school students perform in Geography. Importantly, there is lack of such research in Rwanda. These give this study the rationale of being conducted.

3. Research Methodology

A cross-sectional design was used in this study and quantitative data collection methods were employed to get the views of teachers about students' achievement of expected learning outcomes.

The target population includes 13 teachers and 210 students. The study was limited to schools that teach Geography as one of major subjects (BCG, HEG, HGE, MEG, MPG, LEG, HGL, and RHG combinations). The concerned schools were purposively selected basing on the following criteria: (i) offering a combination that includes Geography as one major subject (ii) private versus public schools, (iii) boarding versus day secondary schools, (iv) rural, urban and semi urban schools, (v) distribution by province. By combining these five criteria, five schools were taken to be under investigation. Those schools are Groupe Scolaire Mukamira (GS Mukamira), Groupe Scolaire Notre Dame des Apôtres de Rwaza (GSNDA Rwaza), Groupe Scolaire Jabana (GS Jabana), Groupe Scolaire Saint André (GS St André), Blue Lakes International School (BLIS) and Gahogo Adventist Academy (GAA). Using a census for small populations, the study engaged with all 13 teachers, and 210 students who were also purposively selected in the 6 chosen schools. The table 1 below shows the population of the study.

Table 1. Study population.

Name of the school	Number of learners per school S5	Number of learners per school S6	Number of teachers per school	Status	Location		
				Private vs Public (boarding /day)	Rural, urban semi-urban	District	Province
GS Mukamira	17	14	4	Public/ day	Rural	Nyabihu	Western
GSNDA Rwaza	24	17	1	Public/Boarding	Rural	Musanze	Northern
GS Jabana	19	20	2	Public/day	Semi-urban	Gasabo	City of Kigali
G.S St André	21	21	2	Public/Boarding	Urban	Nyarugenge	City of Kigali
BLIS	18	8	3	Private/day	Semi-Urban	Bugesera	Eastern
GAA	24	7	1	Private/day	Urban	Muhanga	Southern
Total	123	87		6	6	6	6
Grand total	210						

To collect data, a structured questionnaire was used to investigate teachers' perception about knowledge and skills acquired by students basing on learning outcomes required by the Geography curriculum delivered in Rwandan secondary schools. The questionnaire was made up of two

sections: 1) identification of the teacher and 2) a five Likert scale (5= strongly agree, 4= agree, 3= undecided, 2=disagree; 1= strongly disagree) requesting teachers to indicate their level of agreement about the students' ability to answer the 10 questions set in relation to the learning outcomes. In

assessing knowledge and skills acquired by students, a test was set and given to Senior 5 and 6 students to analyze the achievement of competences related to various topics of Physical, Human and Economic Geography. The test consisted of 10 open questions including 5 questions related to Physical Geography and 5 others related to Human and Economic Geography. Each sub area was marked out of 25 making a total of 50 marks in both sub- areas.

To ensure the reliability of the research instruments, the pilot study was conducted at GS Jenda in Nyabihu district/ Western province and GS Nduba in Gasabo district/ City of Kigali. Besides, the questionnaire and the test were set referring to the learning outcomes of S4 and S5 Geography to confirm the validity of the research instruments. Data were analyzed by means of SPSS and were presented in form of tables and in a narrative way.

4. Findings

4.1. Perception of Teachers on Students' Achievement Ability

The teachers were asked to provide their point of views on the achievement ability of students' to answer to selected questions on the topics covered in previous years in relation to learning outcomes. Below is table 2 showing the feedback

from teachers.

4.1.1. Perception of Teachers on S5 Students' Achievement Ability

According to table 2, the total 13 interviewed teachers confirmed that the senior five students are able to determine correctly the relationship between climate and human activities especially agriculture and to describe the impact of the rural and urban settlements on land use while 12 teachers are confident enough that the same students have the competence of determining the causes and effects of soil erosion and the conservation measures of soil in their sector and district respectively. On the other hand, 11 teachers attested that senior five students have the ability of answering correctly the following questions: (i) identify the effects of the topography on the human activities, (ii) describe the impact of the rural and urban settlements on land use, (iii) describe various economic activities practiced in his/her area (sector or district), (iv) suggest the suitable industrial activities for the development of his/her district, (v) describe the challenges of transport his/her district. These feedbacks from teachers reveal that the majority of teachers believe that senior five students are competent enough to answer correctly most of the questions in Physical, Human and Economic Geography covered in senior four.

Table 2. Perceptions of teachers on S5 students' achievement ability.

	GS Mukamira		GSNDA Rwaza		GAA		BLIS		GS St André		GS Jabana		Total	
	D	A	D	A	D	A	D	A	D	A	D	A	D	A
Identify the effects of the topography on the human activities	1	3	0	1	0	1	0	3	0	2	1	1	2	11
Determine the causes and effects of soil erosion and the conservation measures of soil in his/her sector/district	0	4	0	1	1	0	0	3	0	2	0	2	1	12
Determine the relationship between climate and human activities especially agriculture	0	4	0	1	0	1	0	3	0	2	0	2	0	13
Describe the causes and effects of the rapid population growth in Rwanda	0	4	0	1	0	1	0	1	0	2	0	2	0	13
Describe the impact of the rural and urban settlements on land use	1	3	0	1	0	1	0	3	0	2	1	1	2	11
Describe various economic activities practiced in his/her area (sector or district)	0	4	0	1	0	1	0	3	0	2	1	1	1	11
Suggest the suitable industrial activities for the development of his/district	1	3	0	1	0	1	0	3	1	1	0	2	2	11
Describe the challenges of transport his/her district	1	3	0	1	0	1	1	2	0	2	0	2	2	11

Key: D= Strongly disagree, Disagree and Undecided
A= Agree and strongly agree.

4.1.2. Perceptions of Teachers on S6 Students' Achievement Ability

The table 3 depicts that all 13 interviewed teachers confirmed that the senior six students have the ability of describing the ways of controlling population growth and explaining the impact of early sex and HIV/Aids to the future life of the young generation while twelve teachers confirmed that the same students have the competence of describing the position of the earth in the solar system, explaining the causes and consequences of volcanicity and earthquakes on the landscape in Rwanda and describing the economic

advantages of volcanoes for Rwanda as well as describing the impact of climate on the environment and human activities in Rwanda. Additionally, 11 teachers confirmed that the senior six students are able to differentiate the physical aspects of Nyabihu District from those of Kayonza District with 10 teachers who attested that these students are well skilled to explain the contribution of urbanization to the development of Rwanda. This shows that the majority of teachers believe that senior six students have the ability to answer correctly most of the questions on Physical, Human and Economic Geography covered in senior five.

Table 3. Perception of teachers on S6 students' achievement ability.

	GS Mukamira		GSNDA Rwaza		GAA		BLIS		GS St André		GS Jabana		Total	
	D	A	D	A	D	A	D	A	D	A	D	A	D	A
Describe the position of the earth in the solar system	0	4	0	1	0	1	0	3	0	2	1	1	1	12
Differentiate the physical aspects of Nyabihu district from those of Kayonza district	1	3	0	1	0	1	0	3	1	1	0	2	2	11
Explain the causes and consequences of volcanicity and earthquakes on the landscape in Rwanda	0	4	0	1	0	1	0	3	0	2	1	1	1	12
Describe the economic advantages of volcanoes for Rwanda	0	4	0	1	0	1	0	3	0	2	1	1	1	12
Describe the impact of climate on the environment and human activities in Rwanda	0	4	0	1	0	1	0	3	0	2	1	1	1	12
Describe the ways of controlling population growth	0	4	0	1	0	1	0	3	0	2	0	2	0	13
Explain the impact of early sex and HIV/Aids to the future life of the young generation	0	4	0	1	0	1	0	3	0	2	0	2	0	13
Explain the contribution of urbanization to the development of Rwanda	1	3	1	0	0	1	0	3	0	2	1	1	3	10

4.2. Students' Performance in Geography

4.2.1. Performance of Senior Five Students

Students were given questions on topics covered in senior four. They scored differently as it can be seen in the table 4 below though they were given the same test.

Table 4. Senior five students' performance in Physical Geography.

Name of the school	Number of students	Percent pass	Average mark/25	Lowest mark/25	Highest mark/25	Standard deviation
GS Mukamira	17	29.41	10.05	1.5	16.5	3.89
GSNDA Rwaza	24	75.00	14.16	7.5	25	3.92
GAA	24	58.33	11.91	5.5	18	3.88
BLIS	18	50.00	11.63	2.5	18	4.02
GS St André	21	100.00	18.3	13.5	22.5	2.77
GS Jabana	19	47.37	9.26	1.5	17.5	5.14
TOTAL	123	61.79	12.75	1.5	25	4.92

The table 4 reveals that the equal number of 24 students from GSNDA Rwaza and GAA sat for a test in Physical Geography while they were 21, 19, 18 and 17 from GS St André, GS Jabana, BLIS and GS Mukamira respectively. Based on the test results, GS St André had the best average mark of 18.3 out of 25 where all students had the pass mark (50%) with GS Jabana having the lowest average mark of 9.26 out of 25 though GS Mukamira had the lowest percentage of passes (29.41%). The student with highest mark (25/25) was seen at GSNDA Rwaza while GS Mukamira and GS Jabana had the ones who scored the lowest marks (1.5/25). The assessment of disparities between the scored marks in Physical Geography within the sampled schools was done with the help of standard deviation where a highest (5.14) was seen at GS Jabana with the lowest at GS St André (2.77). Based on these results, GS St André can be ranked the best performer and GS Jabana the last for senior five students in Physical Geography. The obtained results by senior five students in Human Geography per each sampled school are presented below.

Table 5. Senior five students' performance in Human and Economic Geography.

Name of the school	Number of students	Percent pass	Average mark/25	Lowest mark/25	Highest mark/25	Standard deviation
GS Mukamira	17	82.35	15.73	2.5	22.5	5.48
GSNDA Rwaza	24	91.67	16.58	5	25	4.14
GAA	24	87.50	15.41	5	22.5	4.19
BLIS	18	72.22	14.72	7.5	22.5	4.53
GS St André	21	100.00	21.8	12.5	25	3.1
GS Jabana	19	68.42	14.44	7.5	20	4.12
TOTAL	123	84.55	16.52	2.5	25	4.87

It can be depicted from the table 5 that GS St André keeps his first position in having the highest average mark (21.8) and percentage of passes (100%) as well as the lowest standard deviation (3.1) and GS Jabana keeps also the last position. The students from GSNDA Rwaza come to the second position in average marks (16.58/25), followed by GS Mukamira (15.73/25), GAA (15.41) and Blue Lakes (14.72) following GS Jabana from the bottom. However, GS Jabana has the second lowest (4.12) standard deviation after GS St André which implies the less disparities in marks scored by its students in Human and Economic Geography compared to those of GSNDA Rwaza (4.14), Gahogo Adventist Academy (4.19), BLIS (4.53) and GS Mukamira (5.48). It is important to mention that the scored marks in Human and Economic

Geography increased slightly at all schools compared to those received in Physical Geography. This shows that Human and Economic Geography was more understood by the students compare to the Physical Geography. The table 6 below presents the compiled results in Physical, Human and Economic Geography at six schools.

Table 6. Senior five students' performance in Physical, Human and Economic Geography.

Name of the school	Number of students	Percent pass	Average mark/25	Lowest mark/25	Highest mark/25	Standard deviation
GS Mukamira	17	70.59	25.79	4	39	8.3
GSNDA Rwaza	24	91.67	30.75	17.5	41.5	5.92
GAA	24	66.67	27.33	12.5	40	6.7
BLIS	18	61.11	26.36	12.5	37.5	6.56
GS St André	21	100.00	40.19	31	46.5	4.01
GS Jabana	19	52.63	16.36	10.5	35.5	6.56
TOTAL	123	74.80	29.28	4	46.5	8.53

The table 6 shows that GS St André is ranked the first in having the highest average mark (40.19/50) and percentage of passes (100%) as well as the lowest standard deviation (4.01) and GS Jabana keeps also the last position. The students from GSNDA Rwaza come to the second position in average marks (30.75/50), followed by GAA (27.33), BLIS (26.36) and GS Mukamira (25.79) which follows GS Jabana from the bottom (16.36). However, GS Jabana has the third lowest (6.56) standard deviation after GS St André and GSNDA Rwaza (5.92) which implies the less disparities in marks scored by its students in both Physical, Human and Economic Geography compared to those GAA (6.7), and GS Mukamira (8.3).

4.2.2. Performance of Senior Six Students

The table 7 below presents the compiled results in Physical Geography by senior six students.

Table 7. Senior six students' performance in Physical Geography.

Name of the school	Number of students	Percent pass	Average mark	Lowest mark/25	Highest mark/25	Standard deviation
GS Mukamira	14	57.14	14.14	5	23	5.86
GSNDA Rwaza	17	64.71	14.7	4.5	21	5.34
GAA	7	85.71	16.78	9	21	3.8
BLIS	8	62.50	14	7	19	4.63
GS St André	21	100.00	20.33	16.5	25	3
GS Jabana	20	50.00	11.42	4	19.5	5.04
TOTAL	87	70.11	15.33	4	25	5.59

The table 7 reveals that GS Saint André and GS Jabana have the highest equal number of 21 and 20 students respectively who sat for a test in Physical Geography followed by GSNDA Rwaza (17) and GS Mukamira while BLIS and GAA comes to the last positions with 8 and 7 students respectively. The results of senior six students show the same trend like results of senior five students. The students from GS St André were again the best performers in Physical Geography test with an average mark of 20.33 out of 25 with 16.5 and 25 as the lowest and highest mark respectively while the students from GS Jabana were the least performers with 11.42 as average mark, 4 and 19.5 as the lowest highest mark respectively. Based on the average mark, the students from Gahogo Adventist Academy (16.78), GSNDA Rwaza (14.7), GS Mukamira (14.14), BLIS (14) were ranked the second, third, fourth and fifth respectively. The assessment of disparities between the scored marks in Physical Geography within the sampled schools was done with help of standard deviation where a lowest standard deviation was seen at GS St André (3), followed by GAA (3.8), and BLIS (4.63). The schools with the highest standard deviation are GS Jabana, GSNDA Rwaza and GS Mukamira with 5.04, 5.34, and 5.86 respectively. The obtained results by senior six students in Human and Economic Geography are here below presented.

Table 8. Senior six students' performance in Human and Economic Geography.

Name of the school	Number of students	Percent pass	Average mark	Lowest mark/25	Highest mark/25	Standard deviation
GS Mukamira	14	92.86	19.89	10	25	4.14
GSNDA Rwaza	17	100.00	18.38	13	25	3.43
GAA	7	100.00	19.85	18	24	2.26
BLIS	8	75.00	15.93	3	23	6.89
GS St André	21	100.00	24.67	22.5	25	0.73
GS Jabana	20	75.00	16.95	0	25	8.28
TOTAL	87	90.80	19.71	0	25	5.81

It can be depicted from the table 8 that GS St André kept his first position with a very high average of 24.67 and the lowest mark of 22.5 as well as the lowest standard deviation (0.73) and BLIS came at the last position with average mark of 15.93 but GS Jabana had a student who scored 0 in this test. It is important to mention that the lowest mark at GS St André is

higher than the highest marks (between 15.93 and 19.89) registered across the remaining schools. Moreover, 100% of students from GS St André, GAA, GSNDA Rwaza got the pass marks, being 92.86 at GS Mukamira and 75% at GS Jabana and BLIS. Therefore, the students from these two last schools can be considered as the least performers as far as the standard deviation of 8.28 (GS Jabana) and 6.89 (BLIS) are

also the highest on the list of schools. However, the scored marks in Human and Economic Geography increased slightly at all schools compared to those received in Physical Geography. This shows that Human and Economic Geography was more understood by students compared to Physical Geography. The table 9 below presents the compiled results in Physical, Human and Economic Geography.

Table 9. *Senior six students' performance in Physical, Human and Economic Geography.*

Name of the school	Number of students	Percent pass	Average mark	Lowest mark/50	Highest mark/50	Standard deviation
GS Mukamira	14	78.57	34.03	15	48	8.62
GSNDA Rwaza	17	88.24	33.14	22.5	45	6.75
GAA	7	100.00	36.64	28	45	5.07
BLIS	8	75.00	29.93	20	38	5.94
GS St André	21	100.00	45.2	41.5	50	2.74
GS Jabana	20	65.00	28.37	4	44.5	12.6
TOTAL	87	83.91	35.04	4	50	9.97

The table 9 demonstrates that 100% of the students from GS St André and GAA who sat for a test in both Physical, Human and Economic Geography had the pass mark and they have the best average mark equals to 45.2 and 36.64 out of 50 respectively. These schools were followed by GSNDA Rwaza and GS Mukamira with 88.24% and 78.57% of students who had the pass mark and an average mark of 33.14 and 34.03 respectively. GS Jabana comes again at the last position with 65% of students who had pass mark and an average mark of 28.37 and it is followed from the bottom by Blue Lakes with 75% of students who got the pass mark and an average mark of 29.93 out of 50. The student who received the lowest marks (4) in both Physical, Human and Economic Geography is from GS Jabana. Notwithstanding that there are schools which had better average mark than others. All schools had the best performers if the reference is made to the highest marks but GS St André kept the best position in all considerations as far the lowest scored mark (45.2) is higher than the highest mark scored by a student from BLIS.

5. Discussion

The study on "Teachers' perception on students' achievement ability in Geography competence based curriculum" was conducted in six schools including BLIS from the Eastern Province in Bugesera District, selected as the private school; GSNDA Rwaza from the Northern Province in Musanze District and GS St André from the City of Kigali in Nyarugenge District sampled as the public secondary schools; GS Mukamira from the Western Province in Nyabihu District, GAA from the Southern Province in Muhanga District and GS Jabana from the City of Kigali in Gasabo District were taken as public ordinary secondary schools.

The findings indicate that most of the teachers are confident enough that senior five and six students have the ability to answer correctly most of the questions on Physical, Human and Economic Geography covered respectively in senior four and five. The results of the test showed that there are schools which had better performance than others which

makes some contrast between the teachers' views and the reality on the ground. It is important mentioning that students from GS St André were the best performers while students from GS Jabana were the least performers. It was interesting to see all senior six students from St André having the pass mark in both Physical, Human and Economic Geography and the percentage is above 75% for other schools except at GS Jabana where only 65% had the pass mark. Senior five students from GS St André remained the best performers as all of them (100%) had the pass mark followed by GSNDA Rwaza with (91.67%). The percentage was oscillating between 52% and 71% for other schools. It was surprised to see a senior six student from GS Jabana who scored 0 mark in Human and Economic Geography while he/she was about to sit for the Final National Examination. However, it is hard to draw a conclusion that the scored mark is either reflecting the student's performance or he/she did not take seriously the provided test as it was not supposed to have any impacts on students' academic cursus. Moreover, it is clear that senior six students performed better than senior five students across all sampled schools may be due to the fact that they will sit for the National Final Examinations this academic year 2022, they hypothetically concentrated some time in reading the content of previous years which will be part of their National Final Examinations. If it is the case, it will be hard to compare the competences of senior five and six senior in internalization of the content covered in previous year. The findings of the present study confirm some studies that secondary school students perform poorly in Geography [1, 5, 7, 14, 22] since some of the students in this study did not perform well but simultaneously contradict the same studies [1, 5, 7, 14, 22] because other students performed well in this study. This implies that the performance level of students in Geography is context specific and the poor performance can't be generalized as indicated by this study. Nevertheless, this study contributed to knowledge production in the teaching and learning of Geography as far as the CBC implementation in Rwanda is concerned; it enriches the literature as far as teachers' views about students' achievement ability and students' performance in Geography is concerned.

6. Conclusion

The teachers high considerations of senior five and six students' ability to answer questions on Physical, Human and Economic Geography covered in previous years were not, at some schools, corresponding with the reality on the ground because there are some schools with students who need more support to acquire the needed competences by the end of each year. This was demonstrated by the results from a prepared test where a good number of students failure remarkably especially at GS Jabana. On the other hand, the students from GS St André demonstrated that there are competent enough to answer the questions covering previous years of study. It is clear that senior six students performed better than senior five students which demonstrated that they are quite readily prepared for the National Final Examination. Though teachers were confident enough that their students have the ability to answer correctly the questions covering the previous years, the assessment given to the students demonstrated that their views are somehow different from the level they passed the test. It was hypothetically concluded that the disparities in students' performance is linked with unequal possession of teaching aids and selection of students to be allocated in these schools based on the year three National examination results ("Tronc Commun examination"). For instance, GS St André is well equipped with textbooks and reference books related to the curriculum, laboratory materials and internet connection to improve the quality, teaching-learning process comparing to other schools including GS Jabana. Additionally, GS St André was given in past years, the best performers in the "Tronc Commun examination" contrary to other schools including GS Jabana which has been the least performers. Moreover, further investigations on factors responsible for the variation in students' performance across different schools are highly recommended to have much details of the matter. Furthermore, academic performance of candidates admitted in first year of the upper secondary schools should also be investigated to be able to compare the students' performance at the entry mid-term and exit points. The similar studies are also recommended for other subjects to have a clear picture of factors influencing the variations in students' performance while implementing CBC in Rwanda. In line with the findings, continuous teacher trainings about CBC approaches and principles, teaching methods, inclusive education, and awareness of student ability are highly needed as well as the availability of teaching and learning materials if the expected goals and results of CBC in teaching and learning Geography and other subjects have to be met. The study invites other researchers to conduct similar studies in other subjects so as to get a clear picture of the CBC implementation in Rwanda and beyond.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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