

The Use of Critical Pedagogy in Social Science Education: An Analysis of Cartoons on Teaching and Learning Outcomes in the Bamenda Municipality

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Abstract

Social science teachers use a wide variety of innovative pedagogy to support students' cognitive, affective and psychomotor development. This explains the shift from Socratic pedagogy to the use of cartoon-critical pedagogy in social science education. Cartoons are used for explanation of difficult content in textbooks hence, motivating students to learn. Unfortunately, this innovative pedagogy is ineffectively utilized by some social science teachers in their classroom. Therefore, this paper analyses the use of cartoons in social science lessons as a critical pedagogy to enhance teaching and students' learning outcomes. Constructivist learning theory and dual coding theory are used in the study which focused on 03 public grammar secondary schools in the Bamenda Municipality. A sample of 07 pedagogic inspectors, 375 students and 36 social science teachers were selected using convenient and simple random sampling techniques. Data for the study was collected using questionnaires and focus group discussions. The data was analysed using descriptive and inferential statistics. The results reveal that, teachers' use of cartoons in social science classes as a teaching device positively promoted cooperative learning, problem based learning, transformative learning and critical thinking amongst students. Furthermore, teachers' use of cartoons in social science classes as a learning device positively improved students' ability to understand, apply, analyse, evaluate and synthesize economics, geography and history concepts. The study concludes that, cartoon-critical pedagogy motivated teachers to become transformative intellectuals and students to become critically and socially conscious.

Keywords: critical pedagogy, social science education, cartoons, teaching and learning outcomes, Bamenda Municipality

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1. Introduction

The relationship between teaching and learning practices that help learners to develop critical consciousness remains an important subject of discussion in pedagogy of education literature. This relationship which today has become known as critical pedagogy is a transformation-based approach to education that can be traced back to the ancient era of Friere (1971). It should be noted that, cartoons are used to illustrate this transformation-based approach to education. For example, the banking concept of education is epitomized in cartoons defining a shift in teaching from a situation where education makes student repeat and memorize what teachers say without understanding; to a dialogical problem-posing method of education (Friere, 1997).

The dialogical problem-posing method of education has evolved over time in several developed and developing countries. In Sub-Saharan African (SSA) countries, the government has pointed the dialogical problem-posing method of education as a major educational priority to promote critical thinking skills and subsequently, sustainable development (Giacomazzi, Fontana and Trujillo, 2022). In Cameroon, this dialogical problem-posing method of education has evolved to Socratic Method of education; where teachers use cartoons to teach any concept in the classroom. This method of education has attained its peak during the Education Forum of 1995 when the government called for the reformation of the educational system. As a result, from 2014 to 2019 the Republic of Cameroon, Ministry of Secondary Education (MINESEC), Inspectorate General of Education (ICE) and Inspectorate of Pedagogy for the Social Sciences (IP-SS) has revised curricula, pedagogies and assessment framework for all subjects (MINESEC/IGE/IP-SS, 2019). The new curricula has focused on a shift from skill based approach (SBA) to a competence-based approach (CBA) through real life situations; a shift from a school cut off from society to one that prepares citizens for a smooth insertion into socio-cultural and economic activities and a shift from an evaluation of knowledge to that of competences necessary for sustainable development (MINESEC/IGE/IP-SS, 2019).

This change in paradigm from content based approach to objective based approach and now to competency based approach would bring some positive teaching and learning outcomes to Cameroonian learners. This is because, as compared to the traditional Socratic Method, the learners' role in Socratic Method via cartoon is more active, and role of the teacher is that of providing conditions to facilitate an improvement in teaching and learning outcomes. Unfortunately, the phenomenon of large class size and the diversity of responses that may be

given to questions impede the effective use of the Socratic methods (Tchombe, 2019). From the aforementioned challenges, there is need to understand whether cartoons Socratic method improves teaching and learning outcomes in social science education.

According to Alemnge (2021), the area of learning called social sciences or humanities in both private and public secondary schools in Cameroon is made up of disciplines that are concerned with matters associated with human societies and their works. These disciplines are Citizenship Education, Economics, Geography, History, and Philosophy (MINESEC/IGE/IP-SS, 2019). In most regions in Cameroon, cartoon has been widely used in social science education where the number of teaching hours or period per week has varied from two (for one and two) to three (for form three to five) in the first cycle and; from eight to ten (for lower and upper sixth arts) in the second cycle (MINESEC/IGE/IP-SS, 2019). Today, perhaps more than ever, teachers' and learners effective utilization of the prescribed teaching hours or periods, critical pedagogy devices and methods has implications for teaching and learning outcomes. For example, a social science pedagogue has argued that the use of cartoons in Economics, History and Geography Education have some positive and negative outcomes (Van Wky, 2011; Theotokatou, 2016; von Reumont and Budke, 2021). Given the mixed results, the effective usage of cartoon as an instructional device in social science classes in Cameroon in general and North West region in particular remains questionable.

The 21st Century teaching trend has focused on teachers' use of technology (Tanyi, 2022) and the learners' construction of knowledge and acquisition of skills (Alemnge, 2021; Wiysahnyuy, 2021). This trend has led to the integration of cartoons in the syllabi for each social science subject. This integration has several implications for the learning outcomes (or expected competences) at the end of the first and second cycle of social science education. On the one hand, the use of cartoons in Citizenship education enables learners to possess essential knowledge in rights and duties in order to be active citizens in a fully democratic society whereas; the use of cartoons in Economics education helps learners to develop an understanding of economic theory and to contribute in solving the basic economic problem at the national and global scale (MINESEC/IGE/IP-SS, 2019). On the other hand, the incorporation of cartoons in Geography lessons develops learner's curiosity and knowledge of the world while in History it enables them to be aware of heritage from the past and current challenges. In addition, the merging of cartoons in Philosophy education enhances learners' ability to interpret complex texts using techniques in critical thinking (MINESEC/IGE/IP-SS, 2019). Despite this emphasis on cartoons via critical pedagogy, Wiysahnyuy (2021) has argued that, majority of the 21st century teachers in public secondary schools in Bamenda municipality find it difficult to implement the CBA in their classroom. This implies that, the use of cartoon-critical pedagogy to enhance teaching and learning outcomes as anticipated by subject syllabus for social sciences for first and second cycles of secondary general education (MINESEC/IGE/IP-SS, 2019) should be given an attention.

It is against this backdrop that, this study attempts to provide answers to the following research questions:

- How do teachers use cartoons in social science lessons as a critical pedagogy to enhance teaching outcomes in the Bamenda Municipality?
- How do teachers use cartoons in social science lessons as a critical pedagogy to enhance students' learning outcomes in the Bamenda Municipality?

The following hypotheses have been formulated to guide the study.

H_0 : There is no statistically significant mean difference between teachers' use of cartoons in social science lessons as a critical pedagogy to enhance teaching outcomes and teachers' use of cartoons in social science lessons as a critical pedagogy to enhance learning outcomes in the Bamenda Municipality.

H_1 : There is a statistically significant mean difference between teachers' use of cartoons in social science lessons as a critical pedagogy to enhance teaching outcomes and teachers' use of cartoons in social science lessons as a critical pedagogy to enhance learning outcomes in the Bamenda Municipality.

2. Literature Review

Many researchers (Keogh and Naylor, 1999; Thakur, 2015; Şentürk and Şimşek, 2021) refer to cartoon as simple sketches or drawings with exaggerated features which are humorous. Cartoons can be used either inside or outside the classroom environment (Van Wky, 2011). In the context of critical pedagogy, cartoons have been used as a pedagogical tool (Van Wky, 2011), material/activity (Ates, 2019) and method (Von Reumont and Budke, 2021) to support teaching and learning. In this respect, critical thinking and problem solving skills are developed when teachers and students utilize different types of cartoons like concept cartoons (Birisçi and Metin, 2010), political cartoon (Ojo, 2015), illustrated cartoon, gag, comic book or serial cartoon (Akcanca, 2020), commercial cartoon, animated cartoons (Zhang, 2012) and television cartoon (Ali and Muhammad, 2015). In this research, the pedagogic implications of using concept cartoons in social science education are investigated.

Concept cartoon refers to cartoons which combine words and drawings to convey their message while

others express their messages through drawings only (Birisçi and Metin, 2010; Ojo, 2015). Visual representation of scientific ideas, minimal presentation of text in dialogue form and the provision of alternative viewpoints on the situation are the salient characteristics of a concept cartoon (Keogh and Naylor, 1999; Akcanca, 2020). Concept cartoons have been used in Economics education (Van Wky, 2011), History education (Ojo, 2015) and Geography education (Von Reumont and Budke, 2021) to generate different teaching and learning outcomes.

From a theoretical standpoint, Paivio (1971) dual coding learning theory stated that our memory has two codes (or channels) that deal with visual (or nonverbal) and verbal stimuli. He assumed that in the classroom the main types of stimuli that are used are visual and verbal. The theoretical framework illustrated that, different types of representational units (such as *imagens* and *logogens*) simultaneously facilitated nonverbal and verbal processing; the activation of the verbal system by the nonverbal system or vice versa and associative processing (Clark and Paivio, 1991). Thus, learning occurs when learners are actively engaged and are not distracted (Paivio, 1991). The theory is applicable in this study because the use of objects presented as words (that is, teachers explanations), cartoons or word-cartoons pairs are expected to enhance teaching and learning outcomes in social science classes.

Piaget (1977) and Vygotsky (1978) theories on constructivism stipulated that, learning occurs when students construct knowledge by linking prior experiences to further new concepts that they elicit from a social learning context. From a constructivist point of view, cartoons are intended as a starting point to enhance group discussions, collaborative learning, reflective skills and discovery learning (Abuzahra, Farrah and Zalloum, 2016). The fact that teaching and learning are based on students' active participation in problem solving and critical thinking makes constructivist theory to be of relevance to the present study.

Empirical research on cartoon critical pedagogy generally, shows that cartoons are an inexpensive tool used in the teaching of social sciences as compared to projectors and computers. In Geography Education cartoons were used to find out six grade elementary students conceptual understanding of soil erosion (Birisçi and Metin, 2010). Their findings revealed that, in Turkey teachers' use of concept cartoons in Geography classes positively promoted cooperative learning amongst students. Birisçi and Metin (2010) argued that, the use of questions based on the cartoons engaged the learners in discussion and through exploration they were able to produce new ideas to solve the problem by studying together. Their findings further revealed that, through the teachers' explanations the learners were able to apply the newly gained information thus; they differentiated erosion from other concepts like landslide and earthquake.

In Pakistan, Ali and Muhammad (2010) used a survey research design to sample 300 students aged 6 to 13 years. Their non-parametric results indicated that, 80% of the learners spent time to watch cartoons. They concluded that meaningful learning would occur when cartoon- critical pedagogy are used in the classroom.

Cartoons were used in Economics education to convey abstract concepts like unemployment, poverty and inflation to 48 female and 20 male student teachers in an entertaining way (Van Wyk, 2011). His qualitative and quantitative results revealed that, cartoons positively enhanced constructive learning, cooperative learning and collaborative learning amongst peers. Similarly, Zhang (2012) used a survey research design and reported that the utilization of cartoons improved economics students learning efficiency, increased their interest, knowledge and understanding of economic concepts. His findings also showed that cartoons and animations increased students' engagement in their studies.

With regards to History education, Ojo (2015) used haunting images and captions to picture Sub Saharan African historical issues like political corruption, conflicts, social and economic privations. Using Zimbabwean experience Ojo (2015) argued that, concept cartoon can be used as a springboard for critical thinking since it focuses on untold stories that may challenge people to seek positive change. He also argued that, concept cartoon positively improved people's ability to understand and explore historical concepts like postcolonial and neo-colonial Africa situations.

In another field of study emphasizing the use of concept cartoons in the context of cultural imperialism, Eşitti (2016) debated that teachers' use of cartoons in History education positively encouraged transformative learning. The findings also indicated that, Western values and lifestyles found in cartoons with global distribution influenced the students to get alienated from their own cultures. Eşitti (2016) concluded that, teachers should design and use cartoons that reflect their local cultures. This would enable students to use their cultural experiences to understand, apply and evaluate global and local concepts like the influence of imperialism.

Similarly, von Reumont and Budke (2021) used a survey research design and reported that the utilization of concept cartoons in geography education triggered creative thinking and enabled students to synthesize geography concepts. Their qualitative result also showed that, teachers used this teaching approach to diagnose students' capabilities and learning difficulties.

In an experimental study emphasizing the positivity of cartoons, it was realized that, when teachers used cartoon-critical pedagogy in social studies courses, students' academic performance were enhanced. The one-way ANOVA results also indicated that, teacher's utilization of cartoons led to an effective teaching and learning

of social studies (Şentürk and Şimşek, 2021). From the foregoing discussions it is observed that, previous studies failed to examine the alignment of cartoon-critical pedagogy with Blooms Taxonomy and 21st century teaching trends in order to enhance teaching and learning outcomes. The present study attempts to align cartoon-critical pedagogy with teaching and learning outcomes. The study is first of its nature in the field of social science education in the Bamenda Municipality, North West Region.

3. Methodology

This study adopted a survey research design. The population of the study was 08 public grammar secondary schools in the Bamenda Municipality. Simple balloting without replacement was used to select 03 schools (Government Bilingual High School (GBHS) Bamendawke, Bayelle and Down Town) and 03 social science subjects (Economics, Geography and History). From a total population of 15000 social science students, krejcie and Morgam (1970) table was used to sample 375 students. A total of 126 male and 249 female lower sixth social science students in GBHS Bamendawke, GBHS Bayelle and GBHS Down Town were randomly sampled. A convenient sampling technique was used to select 07 pedagogic inspectors and 36 social science teachers. A 16 item questionnaire made up of close ended and open ended questions was administered to the students by the researcher. The questionnaire consisted of four sections; the first include filling in demographic data while the second section consisted of three cartoons measuring students' knowledge of social science concepts like opportunity cost and choice, population and resources; scrambled for colonies in Africa. Test scores were generated.

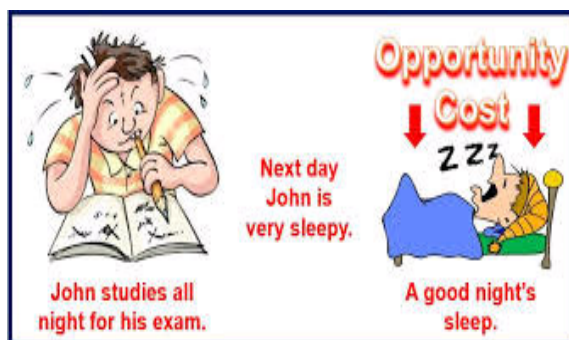


Figure 1: Economics Cartoon

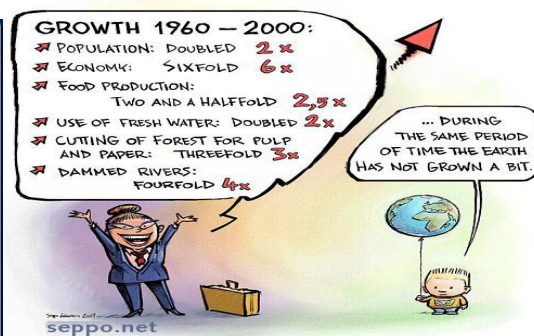


Figure 2: Geography Cartoon

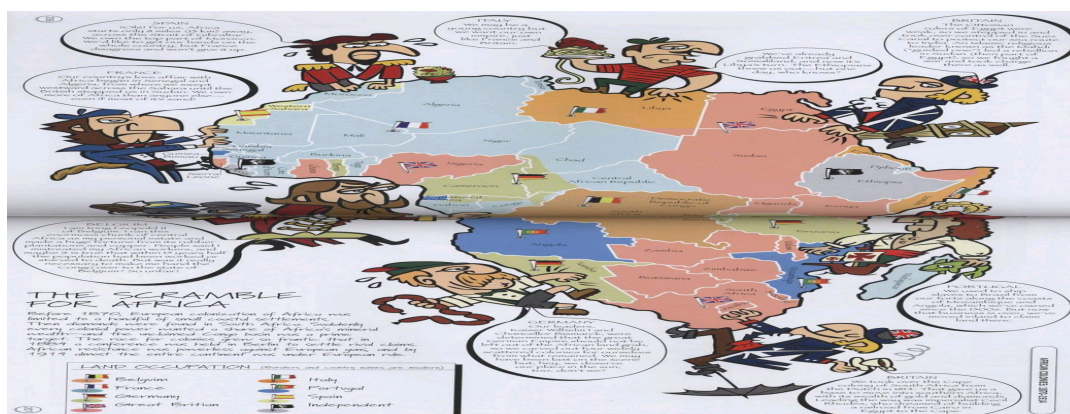


Figure 3: History Cartoon

The third section was composed of item to measure teachers' use of cartoons in social science lessons as a critical pedagogy to enhance teaching outcomes. The fourth section included items to measure teachers' use of cartoons in social science lessons as a critical pedagogy to enhance students' learning outcomes. Regional pedagogic inspectors and teachers of Economics, Geography and History who were present at their jobsite were involved in the focus group discussions. Permission was sought and these participants were provided two themes for discussions. The reliability coefficient of the questionnaire was tested using a sample of 50 students who were not part of the sample of this study. The Cronbach's Internal Consistency Alpha was 0.82, implying that the value was good enough for the instrument to be considered reliable. Descriptive and inferential statistics were used to analyse the data with the aid of the Statistical Package for Social Sciences (SPSS) version 28.0.1(64 bit). Specifically, percentages, frequencies and one sample t-test (2 tailed) were used at a 0.05 alpha level. Thematic analysis was used for the analysis of the data (obtained from pedagogic inspectors and teachers), as it provided information that supplemented the students' answers.

4. Findings

A complete picture of the proportions of males and females pertaining to public grammar secondary schools in the Bamenda Municipality are shown in table 1.

Table 1: Cross tabulation of secondary schools and gender (Questionnaire Item 1 and 2)

Name of School	Male (Percentage)	Female (Percentage)	Total (Percentage)
GBHS Bamendawke	54 (43.5%)	70 (56.5 %)	124 (100%)
GBHS Bayelle	27 (21.4%)	99 (78.6)	126 (100%)
GBHS Down Town	45 (36.0)	80 (64.0)	125 (100%)
Total	126 (33.6%)	249 (66.4%)	375 (100%)

It is revealed from table 1 that out of 375 students, 33.6% are boys and 66.4% are girls.

A descriptive statistics of the concepts illustrated by the cartoons is presented in table 2.

Table 2: Social science concepts illustrated by the cartoons (Questionnaire Item 3)

Concepts Illustrated by the Cartoons	Frequency	Percentage (%)
Opportunity cost, choice (Economic concepts)	95	25.3
Population growth, resources (Geography concepts)	61	16.3
Scramble for Africa, Scramble for Cameroon (History concepts)	71	18.9
Other concepts not illustrated by the cartoons	148	39.5
Total	375	100.0

It is revealed from table 2 that out of 375 students, 148(39.5%) were unable to identify and state the social science concepts illustrated in the cartoons whereas, 227 (60.5%) were able to recognize social science concepts illustrated in the cartoons. Specifically, 95(25.3%) of the respondents stated economic concepts like opportunity cost and choice; 61(16.3) of the respondents outlined geography concepts like population growth and resources and; 71(18.9%) of the respondents listed history concepts like scramble for Africa and Cameroon.

A summary statistics of teachers' use of cartoons in social science lessons as a critical pedagogy to enhance teaching outcomes is presented in table 3.

Table 3: Teachers' use of cartoon in Social Science classes as a teaching device (Questionnaire Item 4, 5, 6, 7, 8 and 9)

SN	Response Items	Strongly agree	Agree	Disagree	Strongly Disagree	Total
4	The use of cartoons in social science lessons boosts students' creative abilities	195 (52.0%)	121 (32.3%)	20 (5.3%)	39 (10.4%)	375 (100%)
5	The use of cartoons in social science lesson develops students' skill of cooperation	149 (39.7%)	151 (40.3%)	14 (3.7%)	61 (16.3%)	375 (100%)
6	The use of cartoons in social science lesson develops students' skill of problem solving	113 (30.1%)	132 (35.2%)	42 (11.2%)	88 (23.5%)	375 (100%)
7	The use of cartoons in social science lesson boosts students' transformative learning abilities	139 (37.1%)	152 (40.5%)	18 (4.8%)	66 (17.6%)	375 (100%)
8	The use of cartoons in social science lesson increases students' critical thinking skills	160 (42.7%)	141 (37.6%)	20 (5.3%)	54 (14.4%)	375 (100%)
9	The use of cartoons in social science to assess teaching increases academic performance	137 (36.5%)	151 (40.3%)	16 (4.3%)	71 (18.9%)	375 (100%)

Table 3 revealed that out of 375 respondents of item four, 195(52.0%) and 121 (32.3%) of them were of the opinion that the use of cartoons in social science lessons boosts students' creative abilities while only 20 (5.3%) and 39 (10.4%) refuted the idea. As to whether the use of cartoons in social science lesson develops students' skill of cooperation (item 5)' and problem solving (item 6), 149(39.7%) and 113(30.1%) of them strongly agreed while 61 (16.3%) and 88 (23.5%) strongly disagreed for each item respectively. 139 (37.1%) and 152 (40.5%) of them strongly agreed and agreed that, the use of cartoons in social science lesson boosts students' transformative learning abilities (item 7) while only 18 (4.8%) disagreed and 66 (17.6%) strongly disagreed. As to whether the use of cartoons in social science lesson increases students' critical thinking skills (item 8) and academic performance (item 9), 160(42.7%) and 137(36.5%) of them strongly agreed while 54 (14.4%) and 71 (18.9%) strongly disagreed for each item respectively.

A summary statistics of teachers' use of cartoons in social science lessons as a critical pedagogy to enhance learning outcomes is illustrated in table 4.

Table 4: Teachers' use of cartoon in Social Science classes as a learning device (Questionnaire Item 10, 11, 12, 13, 14, 15 and 16

SN	Response Items	Strongly agree	Agree	Disagree	Strongly Disagree	Total
10	The use of cartoons in social science lesson helps me to define social science concepts	123 (32.8%)	130 (34.7%)	28 (7.5%)	94 (25.0%)	375 (100%)
11	The use of cartoons in social science lesson enables me to explain social science concepts better	135 (36.0%)	142 (37.9%)	19 (5.0%)	79 (21.1%)	375 (100%)
12	The use of cartoons in social science lesson enables me to interpret social science concepts in real life situations	162 (43.2%)	122 (32.5%)	14 (3.7%)	77 (20.5%)	375 (100%)
13	The use of cartoons in social science lesson makes me to breakdown (or analyse) social science concepts	123 (32.8%)	127 (33.9%)	28 (7.5%)	97 (25.8%)	375 (100%)
14	The use of cartoons in social science lesson foster my evaluation of social science concepts	113 (30.1%)	124 (33.1%)	28 (7.5%)	110 (29.3%)	375 (100%)
15	The use of cartoons in social science lesson helps me to link social science concepts and form a whole (or synthesize social science information)	117 (31.2%)	133 (35.5%)	21 (5.6%)	104 (27.7%)	375 (100%)
16	The use of cartoons in social science lesson enhances my learning of social science	141 (37.6%)	140 (37.3%)	15 (4.0%)	79 (21.1%)	375 (100%)

Table 4 indicated that out of the 375 students, majority of them strongly agreed and agreed that, the use of cartoons in social science lessons helps them to define (32.8% and 34.7%), explain (36.0% and 37.9%), interpret (43.2% and 32.5%), analyse (32.8% and 33.9%), evaluate (30.1% and 33.1%) and synthesize (31.2% and 35.5%) social science concepts. Holistically, 141(37.6%) and 140(37.3%) of them strongly agreed and agreed that the use of cartoons in social science lesson enhances their learning whereas, 15 (4.0%) disagreed and 79 (21.1%) strongly disagreed.

More precisely, the 7 pedagogic inspectors and 36 teachers of social science education were of the opinion that, the use of cartoons in social science lessons enhances teaching and learning. This was because it motivated students to learn the social science concepts, it increased their participations in classroom discussions and it foster their understanding of the concept taught. Most of these teachers stated that their utilization of cartoons in social science lessons as a teaching device enhanced cooperative learning, critical thinking and problem based learning. From the discussions it was revealed that, some Economics, Geography and History teachers find it difficult to use concept cartoons consequently, they continue to use traditional Socratic pedagogy. A few of them explained that, the use of cartoons was time consuming and hindered meaningful learning of social science concepts because some students used it for fun and became distracted. However, a majority of them asserted that their use of cartoons in social science lessons as a learning device attracted most of the students' attention which helped them to recognize and understand the concepts illustrated in the cartoons. The pedagogic inspectors reiterated that, the few students that misinterpreted the concepts, lacked information and skills on the application of social science education in their everyday activities. Generally, most teachers testified that they seldom use cartoons in their classrooms although it enhances their students' academic performance.

Testing of hypotheses using one sample t test (2-tailed) is presented in table 5, 6 and 7. Table 5 revealed that the distribution of the test scores is normal with mean 41.147, standard deviation 21.987, at 374 degree of freedom and a confidence level of 95%. The value of the t statistics of 36.239 was found significant at .000. The study further indicated that, the level of significance (.000) was below the alpha level (0.05). Based on the decision rule, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) retained.

Table 5: Verification of hypotheses using one sample t-test

	N	t	Df	Sig. (2-tailed)	Test Value = 0		
					Mean Difference	95% Confidence Interval of the Difference	
test score	375	36.239	374	.000	41.147	Lower	
						Upper	
						38.914	43.379

To corroborate the results presented in table 5, tables 6 and 7 revealed that, the significance of using one sample t-test (2- tailed) was .000 at 4 degree of freedom. Since the level of significance (.000) was below the alpha level (0.05) the null hypothesis was rejected and the alternative hypothesis retained. This implied that,

teacher use of cartoons in social science lesson as a teaching device improved students': creative abilities, cooperative, problem solving, transformative learning and critical thinking skills in the Bamenda Municipality. Similarly, the findings meant that, teacher use of cartoons in social science lesson as a learning device enabled students' in the Bamenda Municipality to define, explain, interpret, analyse, evaluate and synthesize social science concepts.

Table 6: Teachers' use of cartoon in Social Science classes as a teaching device

SN	Response Items	N	t	Df	Sig. (2-tailed)	Decision
4	The use of cartoons in social science lessons boosts students' creative abilities	375	224.333	4	.000	Reject the null hypothesis
5	The use of cartoons in social science lesson develops students' skill of cooperation	375	160.505	4	.000	Reject the null hypothesis
6	The use of cartoons in social science lesson develops students' skill of problem solving	375	56.698	4	.000	Reject the null hypothesis
7	The use of cartoons in social science lesson boosts students' transformative learning abilities	375	140.077	4	.000	Reject the null hypothesis
8	The use of cartoons in social science lesson increases students' critical thinking skills	375	159.131	4	.000	Reject the null hypothesis
9	The use of cartoons in social science to assess teaching increases academic performance	375	137.396	4	.000	Reject the null hypothesis

Table 7: Teachers' use of cartoon in Social Science classes as a learning device

SN	Response Items	N	t	Df	Sig. (2-tailed)	Decision
10	The use of cartoons in social science lesson helps me to define social science concepts	375	78.635	4	.000	Reject the null hypothesis
11	The use of cartoons in social science lesson enables me to explain social science concepts better	375	116.270	4	.000	Reject the null hypothesis
12	The use of cartoons in social science lesson enables me to interpret social science concepts in real life situations	375	141.743	4	.000	Reject the null hypothesis
13	The use of cartoons in social science lesson makes me to breakdown (or analyse) social science concepts	375	76.405	4	.000	Reject the null hypothesis
14	The use of cartoons in social science lesson foster my evaluation of social science concepts	375	71.653	4	.000	Reject the null hypothesis
15	The use of cartoons in social science lesson helps me to link social science concepts and form a whole (or synthesize social science information)	375	89.739	4	.000	Reject the null hypothesis
16	The use of cartoons in social science lesson enhances my learning of social science	375	127.036	4	.000	Reject the null hypothesis

5. Discussion of Findings

The study revealed that when cartoons-critical pedagogy is used in social science education, teaching and learning outcomes are enhanced. This is because after the teaching learning process most male and female students are able to state social science concepts. In line with this finding, (Birisçi and Metin, 2010), Van Wky (2011) and Ojo (2015) explained that, an enhancement in male and female students abilities to identify, state and apply History, Economics and Geography concepts was as a result of teachers utilization of concept-cartoons critical pedagogy. Yet, social science teachers in the Bamenda Municipality occasionally use concept cartoons in their lesson. It is worthy to note that their use of cartoons as a teaching, learning and assessment tool enhances students' learning and performance. The pedagogic implication of this finding is that, teachers of Economics, History and Geography should frequently use cartoons-critical pedagogy since; it promotes learning.

The study further revealed that, majority of the social science teachers have the basic knowledge and skills on how to effectively use cartoon critical pedagogy. This explains why the effective use of cartoons by teachers

in their Economics, Geography and History lessons boosts students' creative abilities and develops their skills of cooperation. The findings corroborate with the work of (Birişçi and Metin, 2010) and Van Wky (2011) that teachers' use of concept cartoons in Geography and Economics classes positively promotes cooperative learning amongst students. The implication of this results to pedagogy is that, teachers should use cartoons since; it enable learners to socially interact which helps in the emergence of the ability to consciously cognize, understand and articulate their understanding of any social science concept.

Most social science teachers effectively used cartoon critical pedagogy because their students developed problem solving skills. This pedagogic practice indicates that, social science teachers explain Economics, Geography or History concepts explicitly and engages their students in group discussions. It is therefore, reasonable to conclude that social science teachers' use of cartoon critical pedagogy in lessons provide an opportunity for the students to construct knowledge. This finding confirms the works of Abuzahra, et al., (2016) which emphasis that teaching strategies that focus on cartoons which enhance group discussions, collaborative learning, reflective skills and discovery learning should be utilized by teachers. The implication of this finding to pedagogic practice is that, teachers should use cartoon-critical pedagogy where learners depend on their own to explore and form ideas with pedagogy that accentuates collaborative learning in their classrooms. This will promote problem solving skills that will enable learners transfer their learning to solve real world challenges.

The findings established that, the use of cartoons in social science lesson boosts students' transformative learning abilities and critical thinking skills. It is again clear that, the use of cartoons by social science teachers exposes the students to change from being receptacles of knowledge to more meaningful learning. This is because when teachers ask questions based on the concepts illustrated in the Economics, Geography and History cartoons, their students have the opportunity to examine their prior knowledge and experiences, make assumptions, challenge their perspective and interpret or reinterpret the concepts. This matches the findings of Ojo (2015), Eşitti (2016) and Giacomazzi, et al. (2022), which suggests that cartoon and dialogical problem-posing method of education foster critical thinking and the learning of any concept. The implication of this finding is that, teachers should ask open ended questions related to cartoon concept. This will promote critical thinking skills that will help learners relate the new experience to their own life experiences.

The results further indicated that quite a number of teachers use cartoons in teaching social science concepts which enable their students define, explain and interpret social science concepts. These findings reiterated the focus group discussions results that when teachers use concept cartoon, it motivated students to learn and keeps them actively involved in classroom discussions. As a result, they are able to state, explain and apply the concepts illustrated in the cartoons. According to Zhang (2012), Ojo (2015) and Eşitti (2016) concept cartoon could be used in helping students to acquire knowledge and skills on the social science concepts. Paivio (1971) and Clark and Paivio (1991) indicate that, the information learners derive simultaneously through cartoons or word-cartoons pairs may: facilitate their processing of the nonverbal and verbal information; activate their verbal system by the nonverbal system or vice versa and associative processing of the information. This means that, teachers should use either cartoons or word-cartoons pairs in social science education because it will enhance students comprehension and application of the social science concepts.

The findings found out that most teachers use cartoons in teaching social science concepts which help their students to analyse, evaluate and synthesize social science concepts. The findings is in tandem with the focus group discussions with pedagogic inspectors and teachers of social science education that lamented that although most teachers use cartoons which enable students analyse, evaluate and synthesize social science concepts; there are still few teachers in the Bamenda Municipality, who fail to use concept cartoons in their lessons. Interestingly, when teachers fail to use concept cartoon in social science education their students stop to pay attention, they do not participate actively as a result they are unable to construct knowledge. These findings also in tandem to Piaget (1977), Vygotsky (1978) and von Reumont and Budke (2021) who contend that teacher's effective utilization of concept cartoons in education trigged creative thinking and enabled students to analyse, evaluate and synthesize concepts.

The positive and significant one sample t test result of the mean difference between teachers' use of cartoons in social science lessons as a critical pedagogy to enhance teaching and learning outcomes in the Bamenda Municipality is a pointer to the fact that, teachers' use of concept cartoon in social science education promote students' cognitive, affective and psychomotor development. This finding also tie with the ideas of Şentürk and Şimşek (2021) who posits that, teachers effective use of concept cartoon in social science classroom promote teaching and learning outcomes. This shows that the use of cartoons as a teaching and learning device are very crucial for 21th century pedagogy in social science education.

6. Conclusion

Teaching and learning in social science education in Cameroon secondary schools is gradually shifting from traditional Socratic pedagogy to cartoon-critical pedagogy. With the revision of the syllabus of social science subjects to incorporate technology, social science education teachers at the secondary school level are obliged to

master and use pedagogy that facilitate teaching and learning outcomes. From the findings, social science teachers have basic knowledge and skills on cartoon-critical pedagogy and majority of them use it in Economics, Geography and History lessons. When teachers use cartoons as a teaching device, it fosters cooperative learning, problem based learning, transformative learning and critical thinking amongst students. When teachers' use cartoons in social science classes as a learning device, it enhances students' ability to understand, apply, analyse, evaluate and synthesize Economics, Geography and History concepts. The study concludes that, cartoon-critical pedagogy motivates teachers to become transformative intellectuals and students to become critically and socially conscious. However, instead of using cartoon-critical pedagogy in social science lesson, some teachers continue to use the traditional Socratic pedagogy which makes teaching and learning less interesting and interactive thus, decreasing students' academic performance and impeding teaching and learning outcomes in social science education. Therefore, there is need for retraining teachers through workshops and seminars on more innovative techniques of teaching such as cartoon-critical pedagogy. This will make teaching and learning more interesting and there by motivate teachers to teach and learners to learn.

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