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Investigating the Level of Teachers' Preparedness on Students' Academic Performance in Geography: Case Study of Bamenda III Municipality-Cameroon

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Abstract

Teachers' preparedness is an important component in the teaching learning progress. This study aimed at investigating the level of Geography teachers' preparedness on students' academic performance in grammar secondary schools in Bamenda III Municipality of Cameroon. Two research questions were formulated to guide the study. The participants were made up of 285 randomly selected form five students; 44 teachers and 8 heads of department (HODs) of Geography purposively selected. The study was a cross sectional survey that made use of an interview guide and two questionnaires with high and low being indicators of teachers' preparedness. The instruments were validated by 10 students who did not constitute part of the sample. The data collected were analysed using descriptive and inferential statistics. The findings revealed that, high level of teachers' preparedness had a statistical significant positive effect on Geography students' academic performance in grammar secondary schools in Bamenda III, Municipality. From the findings, low level of teachers' preparedness were explained by factors like lack of competence in balancing diverse learning needs of students, heavy workload as a result of insufficient teachers and inadequate teaching-learning aids. Based on the findings, there is need for the government to provide adequate instructional resources and to embark on regular in-service training programs.

Keywords: *Geography, level of teachers' preparedness, students' academic performance*

Introduction

Geography is a social science subject in the curriculum for general secondary schools in Cameroon (Ministry of Secondary Education (MINESEC), 2014). According to MINESEC (2014), the general objectives of teaching Geography in the first cycle of secondary schools are not only to build intellectual, civic and moral skills in learners but also competences and fundamental knowledge which will either enable them to foster their education in the second cycle or to prepare them for smooth insertion into the job market after graduation from school. This implies that the task of the teacher is to prepare learners who can use their competencies to solve problems through identifying a family of situation or all real life situations in Geography and taking actions (steps) to solve a life situation. For the teacher to accomplish this task, the Cameroon teacher training programme has focused on training teachers to develop the necessary skills which enable them to act efficiently in real life situations (Ndobegang, 2021).

In the North West region and specifically in Bamenda III, yearly pedagogic seminars have been organised by North West Geography Teachers Association (NOWEGTA) to improve the quality of teachers'

preparedness or professional development. Despite the organisation of these seminars, NOWEGTA (2022) report revealed that most teachers do not attend seminars. This might either mean that some teachers may face challenges when preparing their lesson. Or some teachers may not acquire the essential knowledge, skills, attitudes and behaviours required for effective performance of a real world task or activity in the Geography classroom and other professional levels.

To corroborate the above statement, Wiysahnyuy (2021) explained that the lack of teachers' preparedness or professional development inhibits teachers from making learning meaningful by establishing links between quality teaching and learning. From the aforementioned arguments, it is doubtful whether Geography teachers in Mezam Division can mobilise relevant internal resources (such as essential knowledge, skills, attitudes and values) and external resources (such as teaching aids) to form competent students with the necessary knowledge, attitudes, values and skills in the different subject matter. To clarify the doubts, it is necessary to examine the academic performance of students in Bamenda III- Mezam Division.

Geography performance in secondary schools in Bamenda III is poor based on the Cameroon General Certificate of Education (GCE) reports (Divisional Delegation of Secondary Education- Mezam, 2022). The aforementioned report on Cameroon GCE results in Geography in Bamenda III raise questions on the number of students who have mastered sub competences required for efficient acting within a specific period during the year (or cycle of study); or the final competence expected to be mastered by teachers during teacher preparation and learners during the teaching learning process within the Geography class in a year (or cycle) in order to resolve situations in real life efficiently. To provide an answer to these rhetorical questions, this study has focused on the following questions:

- What are the effects of teachers' preparedness on Geography students' academic performance in grammar secondary schools in Bamenda III Municipality?
- What are the challenges that Geography teachers face when preparing their lessons?

The study tested the following hypothesis:

- Ho: Teachers' preparedness has no significant effects on Geography students' academic performance in grammar secondary schools in Bamenda III Municipality.

Review of Related Literature

The concept of teacher preparedness and students' academic performance has several meanings. On the one hand, teacher preparedness means to improve teachers' professional development through seminars and conferences (Wiysahnyuy 2021); to ensure that teachers develop skills in instructional design (Ekundayo, Oyerinde and Kalawole 2013); to improve teaching performance by using suitable lesson plans (Robertson 2010; Houston and Beech, 2002) and appropriate methods for teaching (Amininik, 2000 as cited in Bazrafkan & Shokrpour, 2005). On the other hand, students' academic performance means the attainment of students which is usually expressed through school grade point average (Radhika, 2018) or obtained through an application of what is learnt in class in real life situations outside the classroom (Yusuf, 2010); examinations or continuous assessment, formative and summative test in class (Marti, 2003).

The theoretical framework of Gross and Bernstein (1971) theory is useful in this study. This is because the study emphasizes that teachers' preparedness or effective implementation of the competency based approach (CBA) in a Geography classroom depends on the teacher trainers, students teachers and students clear understanding and capability of using the CBA. Similarly, Shulman (1986) theory is highly applicable in this study because, it links Geography teachers' preparedness in terms of their acquisition of pedagogical content knowledge of CBA during their training and eventual teaching to their students' learning or academic performance. From the foregoing theories, it is expected that the effects of teachers' preparedness on students' academic performance should be positive.

There are a number of studies on the effects of teachers' preparedness on students' academic performance as exemplified by Damien & Claire (2022), Filgona & Sakiyo (2020). In a developing country like Rwanda, Damien & Claire (2022) used a sample population of 174 respondents and stated that there is a statistically significant high correlation between teacher preparedness and students' academic performance. Similarly, in

Nigeria, Filgona & Sakiyo (2020) used a sample of 800 (400 teachers and students respectively) from a target population of 25,890 students and 834 teachers and reported that high level of teachers’ academic qualification affects Geography students’ academic performance positively. Filgona & Sakiyo (2020) highlighted that teachers of Geography without education qualification should go for further training to acquaint themselves with methodologies that will enhance students’ academic performance. In developed country like America, Steele (2017) used the correlation design and argued that there exist no relationships between teacher preparedness and students’ academic performance in California. However, in South Texas Brinkman (2014) used the ex-post facto designed and argued that teachers’ preparation programme had a positive impact on students’ academic achievement because it provided students with an opportunity to acquire knowledge, skills and attitudes necessary to resolve real life situations such as unemployment.

Methodology

The study has adopted the cross sectional survey research design. This design has enabled the evaluation of the variables by obtaining facts and opinions (without manipulation) from a target population of 1111 form five students, 49 teachers and 8 heads of department (HODs) of Geography in Grammar secondary schools in Bamenda III Municipality, Mezam Division of the North West Region of Cameroon (Divisional Delegation of Secondary Education- Mezam, 2022). Using the Krejcie and Morgan (1970) table, 337 participants is the estimated sample size of the study. It is comprised of 285 students, 44 teachers and 8 HODs. The simple random sampling technique is used to select the students whereas the purposive sampling technique is used to select teachers and HODs. The simple random sampling technique is appropriate because it has given every student an equal chance of being selected to participate in the study. The purposive sampling technique is suitable because it has helped to ensure that teachers and HODs who possess the required characteristics are included in the sample.

Two separate questionnaires consisting of close-ended items with four options including “strongly disagree”, “disagree”, “agree” and “strongly agree” are used to generate data from students and teachers. A structured interview guide is used to collect data from HODs. Validity of the research instrument is measured using face and content validity. The instruments are evaluated by ten experts and all misconceptions and ambiguous questions/statements identified are corrected. Cronbach alpha reliability coefficient for the students’ questionnaire is 0.83 and for teachers’ questionnaires is 0.81. The data are analysed using descriptive and inferential statistics. Specifically, statistical mean, standard deviation and percentages are used to answer the research questions while the hypothesis is tested using analysis of variance (ANOVA) at 0.05 level of significance. In analysing the level of teachers’ preparedness which is based on a 4 point Likert scale, the decision depended on whether the mean score is greater than 10 out of 20 (high level of teachers’ preparedness) or less than 10 out of 20 (low level of teachers’ preparedness). Ethical issues like informed consent, anonymity and confidentiality were identified and considered.

Results

The result of descriptive statistics is presented followed by inferential statistics result. The results are presented in accordance with the stated research questions and hypothesis that guided the study.

The first research question sought to investigate the effects of teachers’ preparedness on Geography students’ academic performance in grammar secondary schools in Bamenda III Municipality. The results are presented in tables 1, 2, 3, 4 and 5.

Table 1: Descriptive Statistics Showing Level of Teacher Preparedness and Students’ Academic Performance (Students’ Responses)

Level of Teacher Preparedness	Statistics	N	Std. Error	95% Confidence Interval	
				Lower	Upper
Low Level of Teacher	N	221	7	208	234
	Mean	8.70	.49	8.00	9.85

Preparedness

Std. Deviation	7.50	3.70	1.77	12.81	
N	62	7	49	75	
High Level of Teacher Preparedness	Mean	11.45	.38	10.70	12.17
Std. Deviation	3.11	.19	2.68	3.474	

Source: The Researchers (2022)

Table 1 indicates that majority of the students (221) asserted that their teachers do not prepare well before coming to class. The table further indicates that for teachers who go to class unprepared (low level of teacher preparedness), as judged by the students, their students’ mean performance is 8.70 out of 20. On the other hand students’ mean performance is better (11.45 out of 20) when teachers go to class prepared (high level of teacher preparedness). Again, the standard deviations suggest that students taught by teachers with low level of preparedness have more varying abilities (S=7.50) than those (S=3.11) taught by teachers with high level of preparedness. The analysis suggests that students’ performances depend on teachers’ level of preparedness, with students performing better when teachers are more prepared.

Table 2: Descriptive Statistics Showing Level of Teacher Preparedness and Students’ Academic Performance (Teachers’ Responses)

Level of Teacher Preparedness	Statistics	Std. Error	95% Confidence Interval		
			Lower	Upper	
Low Level Teacher Preparedness	N	19	3	12	25
	Mean	1.00	.00	1.00	1.00
	Std. Deviation	.000	.000	.000	.000
High Level Teacher Preparedness	N	22	3	16	29
	Mean	1.00	.00	1.00	1.00
	Std. Deviation	.000	.000	.000	.000

Source: The Researchers (2022)

Taking a closer look at table 2, a slight majority of the teachers (22) claimed that they always prepare well before going to class. The table further indicates that, no matter the level of teacher preparedness, they all affirmed that students’ performance in Geography is low. The analysis therefore suggests that teachers’ level of preparedness has no effect on students’ academic performances as indicated by the teachers. The study hypothesized that teachers’ preparedness has no significant effects on Geography students’ academic performance in grammar secondary schools in Bamenda III Municipality. The results are presented in tables 3, 4 and 5 respectively.

Table 3: Regression Model Summary for Teacher Preparedness and Students’ Academic Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.363	.132	.130	6.803

The model summary table (table 3) shows that R-Square for the overall model is 0.132 with an adjusted R of 0.130. This suggests that 13% of the variations in students’ academic performances can be accounted for by teachers’ preparedness.

Table 4: ANOVA Table of Regression Analysis for Teacher Preparedness and Students' Academic Performance

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	355.275	1	355.275	8.677	.001
1	Residual	13004.591	281	46.280		
	Total	13359.866	282			

The ANOVA table shows that $F(1,281) = 8.677$ with $p = 0.001$. This suggests that there is a significant effect of teachers' preparedness on Geography students' academic performance. Consequently, H_{01} is rejected. It can therefore be concluded that teachers' preparedness has a significant positive effect on Geography students' academic performance in grammar secondary schools in Bamenda III.

Table 5: Regression Coefficients for Teacher Preparedness and Students' Academic Performance

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
	(Constant)	4.324	1.842	2.347	.020	
1	Teachers' preparedness	.288	.104	.163	2.771	.001

In table 5, the regression coefficients indicate that the regression equation is given by Students' Academic Performance = $4.324 + 0.288 \times \text{Teachers' Preparedness}$. Thus, when there is zero teacher preparedness, students' of Geography academic performance is 4.324. Whereas when teachers' preparedness increases by one unit, students' academic performance in Geography increases by 0.288. This increase is significant as indicated by the p-value of 0.001.

The second research question sought to investigate the challenges that teachers of Geography face when preparing their lessons. The result is presented in table 6.

Table 6: Descriptive Statistics Showing Challenges that Teachers Face when Preparing their Lessons (Head of Departments' Responses)

s/n	Item	Frequency (%)	
		Yes (%)	No (%)
1a	<i>Do you think teacher preparedness is necessary in the teaching of Geography?</i>	8 (100%)	0 (0%)
b.	<i>If yes, why?</i>		
	So as to be effective during the teaching learning process	6 (75%)	2 (25%)
	To avoid waste of time during the teaching learning process	1(12.5%)	7(87.5%)
	To avoid being embarrassed by students during the teaching learning process	1(12.5%)	7(87.5%)
2a	<i>Are your teachers always prepared to teach Geography?</i>	8 (100%)	0(0%)
b.	<i>If yes, how?</i>		
	By preparing schemes of work for Geography	5 (62.5%)	3(37.5%)
	By preparing lesson notes for Geography	5 (62.5%)	3(37.5%)
	By attending Geography pedagogic seminars when they are organized	3(37.5%)	5(62.5%)

3a	<i>Do you think teacher preparedness influences students' academic performance in Geography?</i>	8 (100%)	0(0%)
b.	<i>If yes, how?</i>		
	Teacher preparedness increases students' academic performance	8 (100%)	0(0%)
4a	<i>Do teachers face challenges preparing their lessons?</i>	8 (100%)	0(0%)
b.	<i>If yes, what are the main challenges?</i>		
	Lack of competence in balancing diverse learning needs	1(12.5%)	7(87.5%)
	Too much work load caused by shortage of teachers	4(50%)	4(50%)
	Little or no teaching and learning aids	3(37.5%)	5(62.5%)
5	<i>How can teachers overcome these challenges?</i>		
	Frequent pedagogic seminars should be organized by educational stakeholders	1(12.5%)	7(87.5%)
	More teachers should be recruited so as to reduce teachers' workload	4(50%)	4(50%)
	Schools should be adequately funded so that teaching aids can be made available	3(37.5%)	5(62.5%)

Source: Researchers, 2022

From table 6 all the heads of department (8) agreed that teacher preparedness is necessary in the teaching of Geography. When asked why they think teacher preparedness is necessary, 6 HODs opined that preparedness enhance effective teaching and learning of Geography while 1 HOD asserted that preparedness helps the teacher to avoid waste of time and another one said preparedness prevents the teacher from being embarrassed by students. All the HODs said their teachers are always prepared. 5 HOD said their teachers are always prepared by preparing lesson notes and schemes of work and 3 opined they are always prepared by attending pedagogic seminars when they are organized. All of them agreed that teacher preparedness increases students' academic performance. One HOD identified balancing diverse learning needs as a challenge faced by teachers during lesson preparation while 4 mentioned too much work load as a challenge faced by teachers during lesson preparation and 3 identified inadequate teaching aids as a challenge. To solve the above challenges, they suggested that frequent pedagogic seminars should be organized by educational stakeholders, more teachers should be recruited so as to reduce teachers' workload and schools should be adequately funded so that teaching aids can be made available.

Discussion of Findings

The results revealed that teachers' preparedness has a significant and positive effect on students' academic performance in Geography in Bamenda III Municipality. This result is in line with studies carried out in a developed country by Brinkman (2014) and less developed country by Damien & Claire (2022) where it was reported that, teachers' preparedness has a positive and significant effect on students' acquisition of competences to resolve real life problems. The results further indicated that teachers' pre service preparedness is amongst the most critical factors to enhance students' academic performance in Geography. This is because students' academic performance in Geography increased as a result of their teachers acquiring pedagogical knowledge during their training and using the knowledge and skills acquired to effectively prepare schemes of work and lesson notes. The findings are consistent with Shulman (1986) theory which stated that teachers' preparedness in terms of their acquisition of pedagogical content knowledge during their training and effective utilization of this competence has a positive effects on students' academic performance. Shulman's theory reaffirms the HODs findings that teachers' preparedness is very necessary because it helps the teacher to adequately use the time allotted for the lesson and to develop self-confident during the teaching learning process.

The students findings indicated that a handful of Geography teachers in Bamenda III Municipality go to class unprepared. This implies that, they cannot effectively use CBA in their classroom during the teaching learning process. This can be one of the reasons among others for the poor performance of students in Geography in Bamenda III, Municipality. This finding reiterated the framework of Gross and Bernstein (1971) and Bazrafkan & Shokrpour, (2005) citing Amininik, (2000) who posited that teachers' preparedness or effective implementation of appropriate methods for teaching enhances learning. Thus, teachers' low level of

preparedness negatively affects students' academic performance whereas their high level of preparedness positively affects students' academic performance as Gross and Bernstein (1971) theory pointed out.

From the findings it is evident that secondary schools students in Bamenda III perform poorly in internal and external examinations because of the challenges that their teachers face when preparing lessons in Geography. This implies that, teachers' inability either to incorporated diverse students' needs in the lesson or to prepare adequate and appropriate teaching –learning aid explain the low level of their preparedness consequently, accounting for the poor academic performance of their students. The fact that most teachers fail to attend pedagogic seminars that are organised further explains the negative effect that low level of teachers preparedness has on students' academic performance. The results reiterate Filgona & Sakiyo (2020) argument that teachers of Geography without education qualification should go for further training to acquaint themselves with methodologies that will enhance students' academic performance. However, teachers of Geography in Bamenda III Municipality asserted that no matter the level of teacher qualification students' performance in Geography is low. This finding is similar to Steele (2017) assertion that, there exist no relationships between teacher preparedness and students' academic performance.

The findings further revealed that students' academic performance could improve remarkably when teachers remove obstacles that hinder their level of preparedness. Specifically, it was observed that when educational stakeholders like, national and regional pedagogic inspectors of Geography in Mezam Division constantly organize pedagogic seminars and school principals provide the resources for HODs and teachers to attend such seminars, students' academic performance would increase. Moreover, the findings highlighted that students' academic performance would increase when educational stakeholders adopt the policy of reducing teachers' workload by recruiting teachers and providing financial resources to schools. The findings of the current study are consistent with that of the study of Ndobegang (2021) and NOWEGTA (2022) where seminars and workshops are recommended for professional development of teachers and for enhancing pedagogic practices in Geography in Cameroon public secondary schools.

Educational Implications

The educational implications of the findings of this study are that:

1. Since high level of teachers' preparedness enhances intellectual, civic and moral skills in learners and promote competencies to solve problems through identifying a family of situation or all real life situations in Geography and taking actions to solve a life situation; low level of teachers' preparedness will not allow students benefit from the CBA method of learning.
2. Also, low level of teachers' preparedness can mar the essence of teachers preparing appropriate scheme of work and lesson notes (that integrates diverse needs of the learners) or preparing effective teaching-learning aids which is to make learning more interactive, meaningful and effective for better academic performance.
3. Teacher preparedness is not just acquiring deep knowledge of the content and teaching procedures to be taught to learners but also the ability of the geography teachers to transfer the information in a meaningful way to the learners. This calls for teachers to acquire core competences (knowledge, skills, attitudes and behaviours) that will enable them to act effectively in real life situations.

Conclusion and Recommendations

Teachers' preparedness is one of the most effective components of the teaching learning process that could enhance the academic performance of Geography students and possibly promote effective teaching. This position seems to have been proved by the findings of this study. Therefore, through the use of Geography syllabus by teachers to prepare appropriate scheme of work and lesson notes, the teaching and learning of Geography in grammar secondary schools in Bamenda III, Municipality could be made lively, interesting and motivating to the students. Through the provision of adequate resources by educational stakeholders for teacher to absolutely prepare effective teaching-learning aids; the teaching and learning of Geography could also possibly promote competences and fundamental knowledge which will enable students to foster their education

in the second cycle. Moreover, through the attending of pedagogic seminars teachers effectively prepare lessons that address students 'diverse needs. Thus, the teaching and learning of Geography in grammar secondary schools in Bamenda III, Municipality could perhaps promote students' learning and later prepare them for smooth insertion into the job market after graduation from school.

Based on the foregoing, there is therefore the need for the level of teachers' preparedness to be effectively considered in teacher preparation and education programmes of Geography as well as, all other social science subjects at the secondary education level. This implies that, the geography curriculum for teacher training colleges in Cameroon should be adequately design taking into consideration the nature of the curriculum that teachers will meet in the field after the pre-service training. In order to address the challenges posed by heavy work load due to the lack of teachers, the government should train and recruit more Geography teachers in secondary grammar schools to add up to the existing teachers. This means reversing her current policy of reducing the number of teachers to recruit. Insufficient teaching-learning aid was rated as one of the most important factors explaining the low level of teachers' preparedness and low level of students' academic performance in Geography. Consequently, there is the need for the retraining of teachers through workshops and seminars on more innovative ways of preparing teaching and learning aids. This will make learning more interesting and thus, enhance students' academic performance in Geography.

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