

Economics Curriculum and Teaching for Transformative Learning: The Case of the Anglophone Sub-System of Education in Cameroon

Nubonyin Hilda Fokong

Faculty of Education, The University of Bamenda, P.O.Box 39 Bambili, Cameroon

Abstract

The purpose of Cameroon general certificate of education ordinary level economic curriculum is to form innovative citizens and effective decision makers. To accomplish this purpose, economics teachers were obliged to make an important paradigm shift in their pedagogy from transmission style education to transformative teaching and learning. Notwithstanding the emphasis on autonomous economics teaching and learning, the problem of poor achievement of students in economics in external examinations has been a matter of concern to the nation. As part of the effort to arrest the situation, this paper assesses the extent to which teachers' knowledge of transformative teaching methods influences students' examination scores in economics at the ordinary level. Using the ex-post-facto research design, the study was carried out in 07 public grammar secondary schools in Mezam Division and 01 higher teacher training college in Bambili, North West Region of Cameroon. Sample for the study consisted of 03 regional pedagogic inspectors, 08 heads of department, 444 students from form 05 and 33 teachers of economics. Data for the study was collected through questionnaires, observation checklist and interview guide. The study employed econometrics regression techniques such as structural equation modeling approach using partial least square to analyse the data. The results reveal that teachers' knowledge of transformative teaching has both a direct and indirect (through teachers' knowledge of students' conception) influence on students' examination scores in economics. The paper concluded that transformative teaching motivates students to take responsibility for their own learning. Thus, regular seminars, conferences and workshops should be organised at national, regional, divisional and school levels to equip teachers with appropriate active teaching and learning knowledge and skills.

Keywords: transformative economics curriculum, transformative teaching, transformative learning, anglophone sub-system of education

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1. Introduction

The Anglophone population increasingly are questioning the relevance of the Ordinary Level (O/L) economics curriculum within their educational sub-system in Cameroon. They seek to know the practices of transformative pedagogy and its effects on students' transformative learning. They further seek to know whether economics curriculum create a more equitable and sustainable future to economics teachers and students. One possible answer to these questions could be the significance of economics curriculum and pedagogy in the Anglophone Sub-System of Education in Cameroon. According to Ntoh (2015) the functional objective of economics curriculum and pedagogy is to promote civic competence with the goal of helping students make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an independent world. To achieve this functional objective the content of the curriculum was drawn from the physical, economic, social and cultural environments, as well as the norms, values, customs, beliefs and religions of the Cameroon indigenes (Cameroon, GCE Board Syllabus, 2015; Gwanfogbe, 2011). This content takes into account transformative teaching and learning. However, in relation to students' achievement in economics, Alobwede (2015) and Subject Report in Economics (2019) indicate that economics teachers' practices of transformative pedagogy fail to provoke knowledge acquisition and application.

To corroborate the above argument, several empirical studies have summarised the role of practices of transformative pedagogy or the ways of knowing and doing in the Anglophone Sub-System of Education. For example, Mac Ojong (2008) emphasized that indigenous Cameroonian curriculum was imparted using three principal methods namely: observation, imitation and participation. According to Gwanfogbe (2011) the bases of these methods of teaching and learning were the beliefs held by the family and community that through observation, the children were made to imitate their parents in whatever they were doing. After observation the children were expected to imitate and participate in the process. Interestingly, these teaching methods constitute the bedrock of economics teaching methods used in secondary schools (Ntoh, 2015) and teacher training institutions (HTTC, Bambili Undergraduate and Graduate Course Description Booklet, 2013) today in Anglophone Sub-system of Education.

Despite this emphasis on transformative learning via transformative pedagogy, recent literature on

classroom teaching holds that the teaching of economics is a matter of teacher talk and chalk, syllabus and scheme of work coverage as well as administration of continuous assessment which are not adapted to enhancing students' achievement (Becker, 2000; Watts and Becker, 2008; Liakopoulou, 2011; Subject Report in Economics, 2019). To address this pedagogical challenge in secondary schools in Cameroon, there have been shifts from compensatory teaching, new pedagogic approach to eclectic approach and the use of new educational technology (National Education Forum 1995 and Law No 98/04 of 14th April 1998: To Lay down Guidelines of Education in Cameroon).

In other words, for meaningful and transformative learning to occur, the Anglophone Sub-System of Education put emphasis on teachers' adequate knowledge of how to link teaching methods, strategies and learning processes with the subject concerned. This Sub-System of Education recognizes that, the family and community (Mac Ojong, 2008; Gwanfogbe, 2011) as well as teachers (Tchombe, 2019) are responsible for the scaffolding of students. This implies that beside teachers' knowledge of effective teaching skills, educational resources enhance students learning. Unfortunately, in this Sub-System of Education the quality of human, time and material resources continue to hinder teachers' practices of transformative pedagogy and account for students' poor achievement in economics (Tchombe, 2019; Fokong and Shafack, 2020).

The government and educational stakeholders blame this situation of inadequate practices of transformative pedagogy and poor students' achievement on: drug abuse, violence, poverty, teenage pregnancies, school dropout, strikes, peer influence, moral decadence, use of mobile phones, gender inequality, unemployment, weak school management, unconducive school environment, curriculum reforms, among other factors (Munda, 2017; Subject Report in Economics, 2021). Holistically, these social, economic and environmental factors have had a severe backwash effect on economics teachers' practices of transformative pedagogy which make them to concentrate more on the teaching process and not participative learning (Subject Report in Economics, 2021; Fokong and Shafack, 2020).

It is evident that the evolving incidence of the coronavirus pandemic (COVID 19) has given a new orientation to transformative teaching and learning in the Anglophone Sub-System of Education in Cameroon. Specially, in a Circular Letter No 09/20/LC/MINESEC/CAB of March 27th 2020 (on the management of government and private secondary schools during the period of class restriction due to COVID 19), the Minister of Secondary Education prescribed that educational stakeholders should prepare course materials (audio, video, digital and hard copy) for online modes of delivery in order to keep students engaged in learning. Unfortunately, pedagogic inspectors' complaints about slow and unsteady internet connections have pushed one to wonder whether teachers could actually engage students in learning. It is worthy to note that, the success of the Minister of Secondary Education's initiative depended on economics teachers' knowledge of transformative teaching methods and the ability of teachers and students to adapt to their learning environment.

1.2 Statement of the problem

Curriculum and pedagogical practices in the Anglophone Sub-System of Education were tailored towards transformative learning. Unfortunately, results obtained from the implementation of this prescribed curriculum and pedagogical practices at the school level revealed that, ordinary level students of economics continue to perform poorly in external examination (Subject Report in Economics, 2021). This poor performance elicits a lot of doubts about methods and strategies of knowledge transfer and knowledge applicability in real life contexts. By implication, it is doubtful whether teachers' possess knowledge and skills that permit them to engage students in experiential, discovery, cooperative or collaborative and insight learning (especially during this period of COVID 19 pandemic). Hence, the main objective of this research is to assess the extent to which teachers' knowledge of transformative teaching methods influence students' examination scores in economics at the ordinary level. Specifically, the study attempts to answer two research questions namely:

- Is there a direct effect of teachers' knowledge of transformative teaching methods on students' examination scores in economics at the ordinary level?
- Is there an indirect effect of teachers' knowledge of transformative teaching methods on students' examination scores in economics at the ordinary level?

The following hypotheses are formulated and will be tested at 0.05 level of significance:

H₀₁: There are no significant direct effects of teachers' knowledge of transformative teaching methods on students' examination scores in economics at the ordinary level.

H₀₂: There are no significant indirect effects of teachers' knowledge of transformative teaching methods on students' examination scores in economics at the ordinary level.

2. Literature Review

From a theoretical perspective, teachers' knowledge of teaching methods mean having a command of various teaching methods and strategies, knowing when and how to apply each method and strategy (Shulman, 1987). In

line with this definition, Bruner (1966) indicates that, the process of teaching and learning is a matter of communication. He believes that learning involves three processes: knowledge acquisition, knowledge transformation and knowledge relevance. Conversely, Ausubel (1968) emphasizes that to facilitate learning the teacher should use advance organisers such as verbs, phrases or graphics. Mezirow (1997) and Cranton (2002) subscribe to this view, arguing that to promote transformative learning teachers must possess knowledge of teaching methods like: cooperative, collaborative, experiential and problem based teaching methods, among others. Thus, engagement in such active learning process leads to deep structured learning (Piaget, 1978; Olson and Hergenhahn, 2009; Yusof and Zakaria, 2015).

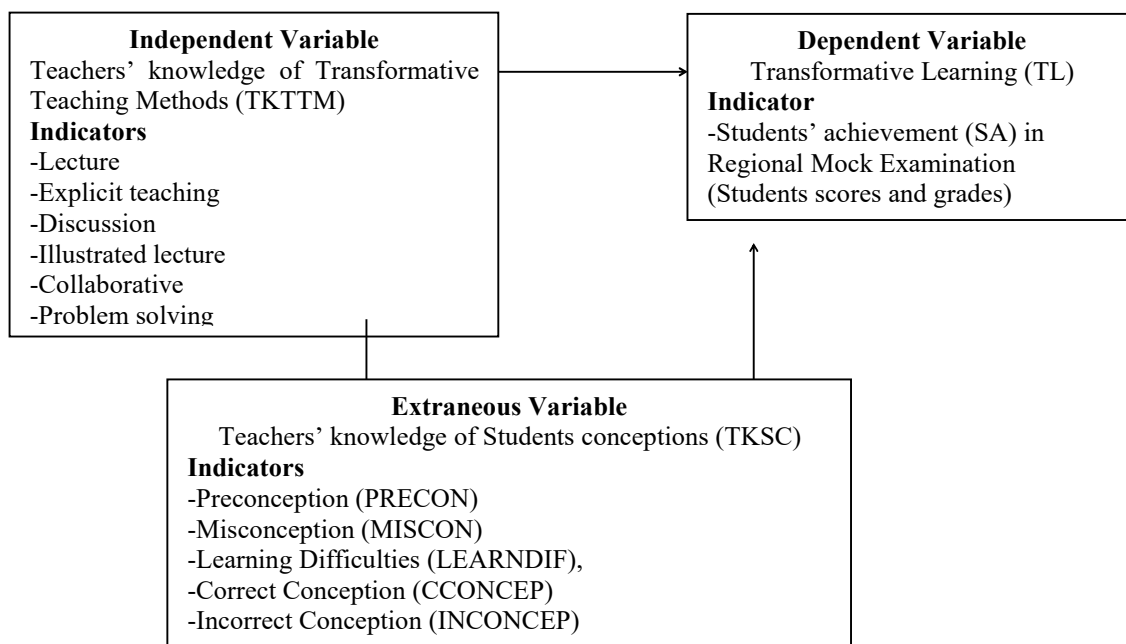


Figure 1: Conceptual Framework of the Study

From a conceptual perspective, the framework in figure 1 clearly indicates that, teachers' knowledge of transformative teaching methods is likely to have a direct influence on students' examination scores in O/L economics in grammar secondary schools. Similarly, teachers' knowledge of transformative teaching methods is likely to have an indirect influence (through extraneous factors like teachers knowledge of students' preconceptions, misconceptions, learning difficulties, correct conceptions and incorrect conceptions) on students' examination score in O/L economics.

From an empirical perspective, Jeronen, Ahonen and Korkeamaki (2022) used qualitative content analysis and argued that teaching and learning methods like experiential learning, group and teamwork, discussions and argumentation, inquiry based learning, problem solving learning, roleplays and debates, teacher questions and presentation as well as games enables students to leverage active participation in the class, construct their own knowledge and develop self confidence.

Fokong and Shafack (2020) used a survey research design and explained that economics teachers have inadequate knowledge on how to establish a classroom environment and to plan instructions that address students' needs. Furthermore, Atandi, Gisore and Ntabo (2019) applied a mixed research design and revealed that teaching methods influence students' academic performance. Their findings concluded that, the lecture method was a leading method followed by question and answer, group work, demonstration, guided learning and role play.

In another study, Ro'ufah, Sri, Januar, Agung, Hari and Sapir (2018) used qualitative descriptive research design and argued that economics student' encounter problems of learning difficulties caused by the source of instructional material and pedagogical practices. Ro'ufah et al. (2018) concluded that, to enhance students' learning teachers must collect material taken from compulsory economics textbooks, electronic books, increase the frequency of exercises in school's exercise book, make summaries, schedule study time outside the school and use a variety of learning methods.

Ayers (2016) sampled 9 students in America using structured and semi structured interview schedules. The findings show that increasingly economics teachers' used the lecture demonstration methods. He argues that assignments has a positive effect on students' achievement and is one of the most influential contributors to the development of teachers' knowledge in economics.

Nwaubani, Ogbueghu, Adeniyi and Eze (2016) used a sample of 224 economics students from Nigeria to measure the effect of teachers' instructional strategies on senior secondary school students' achievement in economics. Their findings revealed that both the think-pair share and student teams-achievement division significantly improved students' achievement in economics with female students making more significant gain than their male counterparts.

Khoo, Khuan, and Zainizam (2016) used a sample of 329 form four students selected from three secondary schools from Malaysia and explain that, teachers' use of concept cartoons with storylines that relate to students' daily lives can attract students' attention as well as enhance their interest and communication skills. Using this method allows teachers to trace students' prior knowledge, understanding and misconceptions during the class discussion (khoo et al, 2016).

In America, Chulkov and Nizovtsev (2015) used secondary data instrument like questionnaire and regression analytical technique to justify that teachers' use of a student centred approach that structures learning around team-based problem solving has a positive and significant impact on student learning. On this interpretation Khoo (2015) reached completely the same conclusion as Chulkov and Nizovtsev (2015); Schug, Dieterle, and Clark (2009) as well as Khoo (2008) that, teachers' use of active group discussions or collaborative method could develop students' ability of thinking which will enhance their performance. However, in South Africa Wood and Maistry (2014) findings indicate that teacher-centred teaching approach enhances student achievement as opposed to learner-centred teaching approach advocated by South African Institute of Chartered Accountants.

Van Wyk (2013a; 2013b) used economics learners and teachers at secondary schools in South Africa and reiterates that to enhance students' performance teachers should teach using a cooperative learning teaching strategy as student teams' achievement divisions and games as opposed to direct instructional method. Similarly, Van Wyk (2011a) findings reveal that teachers' use of cartoon improves students' achievement in economics. However, Van Wyk (2011b) argues that students taught by cooperative methods like teams-groups-tournaments should perform equally as well as students taught by lecture method. To reaffirm the above findings Ganyaupfu (2013) results demonstrate that teacher-student interactive method was the most effective teaching method, followed by student-centred method while the teacher-centred approach was the least effective teaching method.

Mergendoller, Maxwell and Bellisimo (2006) findings show strong evidence that, students taught by problem based methods should perform better or equally as well as students taught by traditional instructional methods. To clarify this mixed result Joshi and Marri (2006) and Darling-Hammond (2000) findings reveal that, teachers with a sound knowledge of the elements of pedagogical content knowledge (PCK), always select teaching strategies that are appropriate for the level of development of their learners.

From the overall empirical studies it has been discovered that, most studies focus on analysing the effects of teachers' practices of transformative pedagogy on students' achievement in economics mostly in America or South Africa among other countries (Ayers, 2016; Van Wyk, 2013). No study has explicitly analysed the effects of teachers' knowledge of transformative teaching methods on students' achievement in economics in Cameroon. This study intends to fill this gap.

3. Methodology

The study adopted an expose-facto research design. The target population for this study was Regional Pedagogic Inspectors (RPIs), Heads of Department (HODs), teachers and students of economics in Mezam Division, North West Region of Cameroon. The study sampled seven (7) Grammar Secondary Schools in Mezam Division from a total population of 46 and one (01) higher teacher training college in Mezam Division. The respondents were three (03) RPIs, eight (08) HODs, thirty three (33) teachers of economics and four hundred and forty four (444) students of economics. The researcher focused on purposive sampling technique to select the RPIs, HODs, teachers and students of economics. Stratified and simple random sampling techniques were also used to select the Grammar Secondary Schools and proportional sampling techniques was used to select the students of economics. Furthermore, 20% of students from each school were selected regardless of subdivision size. There were three main primary sources from which data were collected for this study. These are structured questionnaires, observation checklist and interview guides. Suitable econometrics regression techniques such as structural equation modeling approach (using partial least square) was used to analyse the data obtained. All ethical issues were identified and considered.

4. Presentation of Findings

Table 1: Summary Statistics of Student Questionnaire Items Relating to Teachers' Knowledge of Transformative Teaching Methods (TKTTM)

SN	Item	Response Options / Percentages					Total
		SA	A	D	SD	N	
1	My teacher uses a teaching method that is suitable for the topic because it enhances my understanding of the topic.	115 (25.9 %)	192 (43.2 %)	74 (16.7%)	41 (9.2 %)	22 (5.0 %)	444
2	My teacher sometimes uses my experiences during the teaching learning process and it enhances my understanding of the topic.	103 (23.2 %)	188 (42.3 %)	79 (17.8 %)	54 (12.2 %)	20 (4.5 %)	444
3	My teacher mostly follows a step by step procedure to explain concepts and principles to students.	127 (28.6 %)	188 (42.3 %)	70 (15.8 %)	34 (7.7 %)	25 (5.6 %)	444
4	My teacher uses question and answer activities during the lesson.	137 (30.9 %)	157 (35.4 %)	75 (16.9 %)	47 (10.6 %)	28 (6.3 %)	444
5	My teacher clearly explains and illustrates economics relationships with the use of tables, diagrams, graphs and pictures.	138 (31.1 %)	171 (38.5 %)	75 (16.9 %)	27 (6.1 %)	33 (7.4 %)	444
6	My teacher usually engages students in discussion during economics lesson.	70 (15.8 %)	103 (23.2 %)	66 (14.9 %)	95 (21.4 %)	101 (24.8 %)	444
7	My teacher usually engages students in group work or collaborative activities during economics lesson.	40 (9.0 %)	83 (18.7 %)	81 (18.2 %)	115 (25.9 %)	125 (28.2 %)	444
8	My teacher can recognise many alternative problem solving practices and actively engages students' in solving real world problems during economics lessons.	59 (13.3 %)	125 (28.2 %)	104 (23.4 %)	107 (24.1 %)	49 (11.0 %)	444
9	My teacher usually selects the teaching method depending on the availability of learning and teaching materials.	52 (11.7 %)	152 (34.2 %)	118 (26.6 %)	76 (17.1 %)	46 (10.4 %)	444
10	My teacher aligns the learning objectives, activities and assessment with the teaching method.	50 (11.3 %)	145 (32.7 %)	137 (30.9 %)	73 (16.4 %)	39 (8.8 %)	444
Total		891 (20.1 %)	1504 (33.9 %)	879 (19.8 %)	669 (15.0 %)	497 (11.2 %)	4440

Source: Computed by the Author using SmartPLS, 2020

Table 1 indicates that, 69.1% (25.9% and 43.2%) of students agreed that their teachers had knowledge of economics teaching methods whereas, 25.9% disagreed (16.7% and 9.2%). 5.0% of the respondents were unable to assess their teachers' knowledge of teaching methods. 188 (42.3%), 157 (35.4%) and 171 (38.5%) of the students respectively agreed that their teachers had followed a step by step method to explain economics content, they used question and answer activities, explained and illustrated economics relationships using tables, diagrams and graphs. With regards to students' voices, 65.5% (23.2% and 42.3%) of students agreed that during the teaching learning process their teachers had involved them to share their experiences however, 30% (17.8% and 12.2%) of the respondents' disagreed. In the perspective of education for sustainability, 44.1% (18.2% and 25.9%) of the respondents strongly disagreed that their teachers used group work and engaged students in collaborative activities during the lesson whereas, only 27.7% (9.0% and 18.7%) agreed. With regards to knowledge transfer and applicability, 211(23.4% and 24.1%) of the students disagreed that their teachers could recognise many alternative problem solving practices and actively engage students' in solving real world problems during economics lessons whereas, 184 (13.3% and 28.2%) agreed. With regards to instructional materials, 45.9% (11.7% and 34.2%) of students agreed that their teachers selected the teaching methods depending on the availability of learning and teaching materials whereas, 43.7% disagreed (26.6% and 17.1%).

Table 2: Summary Statistics of Teacher Questionnaire Items Relating to Teachers' Knowledge of Transformative Teaching Methods (TKTTM)

SN	Item	Response Options / Percentages					Total
		SA	A	D	SD	N	
1	I know a suitable teaching method to use for the topic.	14 (42.4 %)	16 (48.5 %)	3 (9.1%)	0 (0 %)	0 (0 %)	33
2	I can use experiential learning and independent study techniques for the topic.	12 (36.4 %)	18 (54.5 %)	3 (9.1 %)	0 (0 %)	0 (0 %)	33
3	I mostly follow a step by step procedure to explain concepts and principles to students.	19 (57.6 %)	13 (39.4 %)	1 (3.0 %)	0 (0 %)	0 (0 %)	33
4	I can use question and answer activities during the lesson.	20 (60.6 %)	12 (36.4 %)	1 (3.0 %)	0 (0 %)	0 (0 %)	33
5	I know how to explain and illustrate economics relationships for students with tables, diagrams, graphs and pictures.	23 (69.7 %)	8 (24.2 %)	2 (6.1 %)	0 (0 %)	0 (0 %)	33
6	I know how to engage students in discussion during economics lesson.	19 (57.6 %)	13 (39.4 %)	1 (3.0 %)	0 (0 %)	0 (0 %)	33
7	I often engage students in group work or collaborative activities during economics lesson.	10 (30.3 %)	11 (33.3 %)	9 (27.3 %)	3 (9.1 %)	0 (0 %)	33
8	I can recognise many alternative problem solving practices and actively engage my students' in solving real world problems during economics lessons.	7 (21.2 %)	20 (60.6 %)	6 (18.2 %)	0 (0 %)	0 (0 %)	33
9	I usually select my teaching method depending on the availability of learning and teaching materials.	13 (39.4 %)	13 (39.4 %)	4 (12.1 %)	1 (3.0 %)	2 (6.1 %)	33
10	I have knowledge on how to align the learning objectives, activities and assessment with the teaching method.	11 (33.3 %)	16 (48.5 %)	3 (9.1 %)	2 (6.1 %)	1 (3.0 %)	33
Total		148 (44.8%)	140 (42.4 %)	33 (10%)	6 (1.8 %)	3 (1 %)	330

Source: Computed by the Author using SmartPLS, 2020

According to table 2, it is evident that economics teachers' had knowledge on how to select their teaching methods based on instructional resources. Interestingly, 78.8% (39.4% and 39.4%) of teachers agreed that they selected the teaching methods depending on the availability of learning and teaching materials whereas, 15.1% disagreed (12.1% and 3.0%). Majority (33.3% and 48.5%) of the teachers agreed that, they aligned their learning objectives, activities and assessment with the teaching method whereas; only a minority (9.1% and 6.1%) disagreed. These findings were inconsistent with the students' findings which established that majority (30.9% and 16.4%) of the teachers did not aligned their learning objectives, activities and assessment with the teaching method.

Table 3: Empirical Results for Teachers Knowledge of Transformative Teaching Methods (TKTTM) and Students' Achievement (SA)

	Coefficient	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (O/STERR)
TYPES <-TKTTM	0.377	0.036	0.036	10.186
WHEN <-TKTTM	0.386	0.035	0.035	10.896
HOW <- TKTTM	0.498	0.035	0.035	14.021

Source: Computed by the Author using Smart PLS, 2020

From the students' statistical analysis in table 3, teachers' knowledge of how to apply transformative teaching methods has the highest coefficient value (0.49) whereas teachers' knowledge on types of transformative teaching methods used in economics has the lowest value (0.37). The t-statistics results specifically show that, a 1% improvement in teachers' knowledge of types of methods and strategies, when to use the method and how to use the method will results to a 0.37%, 0.38% and 0.49% improvement in students' achievement in economics respectively.

Table 4: Teachers’ Knowledge of Transformative Teaching Methods

SN	Teachers’ Knowledge of teaching methods	Yes Responses		No Responses		Responses
		F	%	F	%	ΣF
1	The teacher took a central stage in the lesson (i.e. teacher used chalk and talk method).	8	100	0	0	8
2	Teacher used a variety of teaching methods.	5	62.5	3	37.5	8
3	Students actively participate in the lesson.	2	25.0	6	75.0	8

Source: Author’s estimation based on data from HODs of Economics

From the statistics in table 4, a total of 8 (100%) of the observed teachers took a central stage in lesson delivery; 6 (75.0%) did not exploit knowledge of transformative teaching methods that were engaging students to actively participate in the lesson whereas, just 2 (25.0%) of the teachers demonstrated mastery of such methods. Majority (62.5%) of the teachers observed possess knowledge of how to use a variety of teaching methods during a lesson.

Adults’ voices and democratic practices in schools are assumed to have an effect on students learning. In table 5, thorough interviews with RPIs revealed that teachers’ knowledge of the different types of transformative teaching methods as well as, how to appropriately use these methods and when to apply particular methods improve students’ achievement in economics. RPIs argued that their deep understanding of micro economics and macroeconomics topics (like price and market as well as international trade) and their effective utilization of teaching methods like illustrated lecture and discussion methods all have a positive effect on students understanding of the subject matter.

Table 5: Code-Grounding -Quotation Table on Knowledge of Transformative Teaching Method and Students’ Achievement

Questions	Code	Code Description	Grounding	Quotation
a) Which teaching method will be employed to ensure successful delivery of the lesson?	-Teaching method	-Types of teaching methods used.	3	a)-‘I will use the illustrated lecture method.(RPIs teaching price and markets) - I will use the discussion method. (RPI teaching international trade)
b) Why do you choose such a teaching method?	-Reason -Students’ Involvement	-Reasons for selecting the method		b) -‘This method is chosen because the relationship between price, income, etc and quantity demanded (or demand) will be presented on graphs.’ ‘This method is chosen because the different types of supply elasticities will be illustrated on graphs’. (RPIs teaching the topic price and markets) -‘This method is chosen because it involves the exchange of ideas between the teacher and student on issues of international trade. Hence, it keeps the students actively involved’.
c) In your selection of teaching learning activities of the topic or concept, have you selected teaching methods that keep the students actively engaged in the lesson?		-Types of students’ involvement		c) – ‘Yes, the plotting of graphs on demand (or various elasticities of supply) keeps the students actively engaged in the lesson. (RPIs teaching price and markets)

Source: Author’s Interpretation based on data from RPIs of Economics

Table 6: Bootstrapping Test Results for Effects of Teachers Knowledge of Transformative Teaching Methods and Students' Achievement

Hypo Theses	Hypothesized Path	Coefficient (S/T)	Standard deviation (S/T)	Standard error (S/T)	t-statistics (S/T)	Decision (S/T)
1	TKTTM->SA	0.09 / 0.08	0.07 / 0.03	0.07/0.03	0.65/ 2.14	Retain Ho/ Reject Ho
2	TKTTM->TKSC	0.21	0.07	0.07	2.66	Reject Ho

Source: Computed by the author using SmartPLS, 2020

S: students/ T: teachers

From students questionnaire the bootstrapping result in table 6 depicts that, a unit change in the standard deviation of teachers' knowledge of transformative teaching methods, will lead to an improvement in students' achievement by 7.0% ($t=0.65$). This result is insignificant thus, null hypothesis one (which states that, there are no significant direct effects of teacher knowledge of transformative teaching methods on students' examination scores in economics) is accepted.

The bootstrapping teachers result indicates that, a unit improvement on teacher knowledge of transformative teaching methods will lead to an improvement in students' achievement by 8.0% ($t = 2.14$). We reject null hypothesis one. Teacher knowledge of transformative teaching methods can contribute positively to students' achievement when mediated by teachers' knowledge of students' conception. The findings reveal that, a unit change in the standard deviation of teachers' knowledge of transformative teaching methods, when mediated by teachers' knowledge of students' conceptions will improve students' achievement by 7.0% ($t =2.66$). We reject null hypothesis two, which states that, there are no significant indirect effects of teacher knowledge of transformative teaching methods on students' examination scores in economics.

5. Discussion of Findings

After data analysis is completed and hypotheses are tested, the findings indicated important results. With regards to the summary statistics of student questionnaire items relating to teachers' knowledge of transformative teaching methods (TKTTM), it is observed that majority of the teachers have knowledge of economics teaching methods. Specifically, they can use transformative methods that focus on questions and answers activities which compell students to explain and illustrate economics relationships on tables, diagrams and graphs. The findings of this study uphold the works of Atandi, et al. (2019).

In addition, majority of the teachers have used the step by step approach and have given learners opportunities to share their experiences thus, enhancing their academic achievement in economics. These findings are in line with Ganyaupfu (2013), who explained that learning takes place when students are actively engaged and interactive. The findings further indicated that, teachers have fail to use transformative methods like groupwork and problem solving. This implies that, their students are unable to transfer learning to their immediate environment. This might be why Jeronen, et al., (2022) noted that, for teaching to be effectively; the teacher must use participatory approaches like collaborative learning and problem solving learning.

Moreover, the results revealed that majority of the economics teachers' have knowledge on how to select their teaching methods based on instructional resources. These findings concur with findings in a study by Ro'ufah, et al. (2018) on the difficulties of learning economics subject experienced by students. It is worthy to note that, majority of the teachers have either aligned or not aligned their learning objectives, activities and assessment with the teaching method. One possible reason for this mixed result is the fact that, teachers have inadequate knowledge on how to plan instructions that can address students' needs (Fokong and Shafack, 2020).

When investigated carefully, it is observed that an improvement in teachers' knowledge of types of methods and strategies, when to use the method and how to use the method resulted to an improvement in students' achievement in economics. The findings have confirmed earlier claim (Jeronen, et al., 2022; Nwaubani, et. al., 2016; Ayres, 2016; Chulkov and Nizovtsev, 2015; Wood and Maistry, 2014; Van Wyk, 2011b; Mergendoller, Maxwell and Bellisimo, 2006) that, there is a positive effect of teachers' knowledge of teaching methods on students' achievement in economics.

Generally, it is observed that every teacher is using the lectured method as opposed to transformative teaching methods that engage students to actively participate in the lesson. The findings are in alignment with the ideas of Atandi, et al. (2019), Wood and Maistry (2014), Watts and Becker (2008) and Becker (2000) that, contrary to the learner-centred teaching approach advocated by curriculum designers and developers, curriculum implementers' pedagogy is found to be teacher-centred. The findings reaffirmed Khoo's (2015) arguments that teachers' who lack knowledge on how to engage students in group learning activities might cause students to lack interest in learning economics. This is because teachers' use of active group discussions can develop

students' ability of thinking which will enhance their performance (Khoo, 2008).

In a nutshell, RPIs have argued that their deep understanding of micro economics and macroeconomics topics and their effective utilization of teaching methods like illustrated lecture and discussion methods all have a positive effect on students understanding of the subject matter. The findings tally with Joshi and Marri (2006) findings that, the success of a teacher in teaching a specific economics topic such as demand and supply depends on the depth and breadth of the economics teacher's knowledge of how to plan the lesson; choose a teaching strategy, method; and to select content that will suit the learners' level of understanding. To corroborate these findings Jeronen, et al. (2022), Khoo, Khuan, and Zainizam (2016), Cranton (2002) and Mezirow (1997) observed that, teachers' utilization of participative strategies and methods that relate to students' daily lives can sustain students' attention, interest and improve their communication skills.

From the students' perspective, the findings reaffirmed null hypothesis one which stated that, there are no significant direct effects of teacher knowledge of transformative teaching methods on students' examination scores in economics. The results are congruent with Piaget's and Bruner's explanations on the role of language and interaction that a student has with others as important determinants of students' achievement. Piaget and Bruner have further argued that, teachers' alignment of the knowledge of their students' conceptions with different types of active methods will enhance their students' learning. This result suggests that teachers' knowledge of students' conceptions and their learning environment are major pedagogical tool.

From the teachers' perspective, the findings reiterated that a unit improvement on teacher knowledge of transformative teaching methods will lead to an improvement in students' achievement. The findings are in line with those of Khoo, Khuan, and Zainizam (2016) who found that teachers' knowledge of teaching strategies and participative method have a direct relationship with students' achievement; because it allowed teachers to trace students' prior knowledge, understanding and misconceptions during the class discussion.

The findings supported null hypothesis two which stated that, there are no significant indirect effects of teacher knowledge of transformative teaching methods on students' examination scores in economics. This result reinforced the findings of Fokong and Shafack (2020), Yusof and Zakaria (2015) as well as Olson and Hergenbahn (2009) who argued that, teachers' knowledge of teaching methods through their knowledge of the students is significant in affecting the students' achievement. These findings are therefore in consonance with the position of Shulman's (1987) that teachers' knowledge of subject matter, teaching methods/strategies and learners' conceptions have a great influence on students' achievement. From the researcher's point of view, economics teachers' knowledge of transformative teaching methods is not just a deep knowledge and understanding of lecture method, but teachers' knowledge on transforming teacher-centred learning methods to student-centred learning methods.

6. Conclusion and Recommendations

One aspect in the teaching learning process that the classroom teacher can control is the quality of instruction. Thus, from a holistic perspective the study concluded as follows: first, there are significant (direct and indirect) effects of teachers' knowledge of transformative teaching methods on students' examination scores in economics. Second, a significant proportion of economics teachers possess knowledge of teacher centred teaching method but they are not well knowledgeable on how to use the students' centred teaching methods (transformative pedagogy). Third, a significant proportion of economics teachers select their teaching methods based on instructional resources in their local.

From the findings it is recommended that, to enhance students' achievement in economics and sustain transformative learning processes, teachers must utilize activity oriented methods like the collaborative, discussion, illustrated lecture and problem solving methods. In other words, teachers should be properly trained on student centred teaching methods. This means that teacher's education and educators should address critically the role of teachers' interactive skills, questioning skills and skills of refocusing class discussion through in service programmes (like seminars, workshops and conferences).

Furthermore, since teachers' knowledge of innovative and activity oriented teaching methods promotes learning that enhances student-student interaction, student-teacher interaction, boost self-esteem in students and promotes personal and supportive interdependence, students are encouraged to work in groups and to participate actively during the teaching learning process in order to enhance their achievement in economics. To further enhance students' learning, it is essential for parents to allocate resources to the education of their children. This can be done by providing online teaching facilities and allocating time to follow up their children progress at home.

To foster sustainability, creative thinking and flexibility in students, economics teachers should be properly nurtured on how to sequence instruction using a variety of material resources, actions and experiences to help students not to depend on knowledge and ideas created by teachers and economics authors but, to be creative and divergent in their thinking. Moreover, teachers and students should urgently undergo basic technical training in the distance working platforms being used by the ministry of secondary education (MINESEC).

Economics curriculum should provide ordinary level students' with rich opportunities for exploration and reflection so that they can develop competences to restructure and reconstruct their environment. Teacher education curriculum should focus on pedagogical practices that provide teachers with the framework for assessing their teaching and learning as well as that of their students.

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