COLLECTIVE BARGAINING AGREEMENT IMPLEMENTATION AND EQUITY IN GRADE PROMOTION OF PUBLIC POST-PRIMARY TEACHERS IN KAKAMEGA COUNTY, KENYA

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A Research Thesis Submitted in Partial Fulfillment of the Requirements for the Award of Degree of Doctor of Philosophy in Economics of Education of Masinde Muliro University of Science and Technology

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DECLARATION

This is my original work and has not been presented for any degree or diploma in this or any other college or university

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for the acceptance by Masinde Muliro University of Science and Technology this thesis entitled: "**Collective Bargaining Agreement Implementation and Equity in Grade Promotion of Public Post Primary Teachers in Kakamega County, Kenya."**

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DEDICATION

To my dear wife Linet Livanze and beloved children Wesley Mwani, Daisy Kavulani and Graham Chimayi, for always being there for me as I burnt the mid-night oil to accomplish this work!

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ABSTRACT

The 2017-2021 Collective Bargaining Agreement for teachers in Kenya was meant to streamline grade promotion through an inevitable paradigm shift in its implementation policy from the "Scheme of Service" approach to a "Career Based Strategy" approach for both unions, KUPPET and KNUT. However, the combined use of the two approaches due to a court ruling complicated the ability to establish equity levels in promotions since each union was affiliated to its own approach. Given that both unions had members in post-primary institutions, the purpose of this comparative study was to determine the difference in equity in grade promotion of teachers between KUPPET and KNUT at that level. Hypothesis testing was used to test the three study objectives which were to determine the difference in equity in grade promotion of teachers between the application of scheme of service and career progression guideline approaches based on years of service; academic qualification; and teacher performance in TPAD between 2017-2021. The study was conducted in Kakamega County because despite it being among those with the highest mean stagnation index at 15.7 years per grade, it had the highest number of unionized teachers in each of the two unions countrywide. The study was guided by the Socialist economics of education theory pronounced by Louis Blank and a conceptual framework modified from Walton and McKersie's behavioral theory for labour negotiations. A comparative research design was used with a sample of 1,569 respondents drawn from a study population of 5,923. In sampling research respondents, Systematic random sampling was used to select teachers in each union based on the chronological order of their TSC numbers while purposive sampling was used to select principals to ensure fair representation from all the four categories of schools and saturated sampling was used to select sub-county TSC directors and union executive secretaries. Content validity was enhanced in the study while internal consistency reliability of the instruments was done with a Cronbach alpha co-efficient of 0.877. In data analysis, pairwise correlation helped to determine plausible interactions between grade promotion and the explanatory variables before Logistic regression analysis could be done to model the effect of each of the explanatory variables on grade promotion while controlling for teacher-level and school-level variables. This helped to establish the odds of promotion per approach for purposes of comparison between the two unions. Gini coefficients were then used to measure aggregate values of equity in grade promotion for the two unions. The findings of the study revealed that despite KUPPET reducing the odds of promotion by up to 23.46% based on years of service, there was no statistically significant difference in equity in grade promotion of the teachers between the two unions. Secondly, the study established a statistically significant difference in equity between the two unions based on academic qualifications, with Career Progression Guideline approach reducing the odds of promotion in KUPPET by up to 22.58%. Finally, the study ascertained a statistically significant difference in equity between the two unions based on teacher performance in TPAD ratings with an extra score in 2017, and teaching in extra-county and national schools reducing the odds of promotion to the next grade. In conclusion, grade promotion was found to be marginally equitably distributed in KUPPET than KNUT based on all the explanatory variables of the study. Consequently, the study recommends for harmonization of the two approaches into one hybrid and demarcation of teachers' membership in to one union per level of education. These findings will be significant to teachers, their employer TSC and their labor unions.

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LIST OF ABBREVIATIONS AND ACRONYMS

AFT	American Federation of Teachers
CBA	Collective Bargaining Agreement
CEMASTEA	Centre for Mathematics, Science and Technology Education in Africa
CoG	Census of Government
CORT	Code of Regulation for Teachers
CPG	Career Progression Guideline
CPS	Current Population Survey
ECD	Early Childhood Development
ELRC	Employment and Labour Relations Court
FY	Financial Year
GDP	Gross Domestic Product
HELB	Higher Education Loans Board
ILS	International Labour Standards
ILO	International Labour Organization
JE	Job Evaluation
KISE	Kenya Institute of Special Education
KNUT	Kenya National Union of Teachers

KUPPET	Kenya Union of Post-Primary Education Teachers
KUSNET	Kenya Union of Special Needs Education Teachers
MOE	Ministry of Education
NACOSTI	National Council of Science and Technology
NBER-	National Bureau of Educational Research
NCES	National Centre for Education Statistics
NEA	Native Education Association
NLRB	National Labor Relations Board
OECD	Organization of Economic Cooperation and Development
PPE	Post-Primary Education
SAT	School Assessment Test
SADC	Southern African Development Community
SNE	Special Needs Education
SoS	Scheme of Service
SRC	Salaries Remuneration Commission
TCAs	Transnational Company Agreements
TPAD	Teacher Performance and Appraisal Development
TPD	Teacher Professional Development
TSC	Teachers Service Commission

TTC	Teacher Training College
TTI	Technical Training Institute
TVET	Technical and Vocational Education Training
UASU	University Academic Staff Union
USA	United States of America

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Collective Bargaining Agreements operate on the principle of "equal pay for equal value of work done" (Republic of Kenya, 2007). They prescribe, among many other issues, the wage attachments to each cadre of work and grade mobility of workers within a given profession. Whereas employers clearly specify to employees the amount of wages, allowances and other benefits attached to an employment at the time of recruitment, their rate of mobility in the profession from one grade to another is never guaranteed because promotions are either never specified at the point of entry in the profession or are never clearly structured. Hence, a Collective Bargaining Agreement (CBA) provides a platform for such structures and therefore becomes a common point of reference in case of any labour dispute arising between employers and employees on grade promotions.

The Labour Relations Act (2007) defines a Collective Bargaining Agreement as a foundational legal agreement made and signed between an employer and employees for all issues related to salary, benefits, grade promotion and other general working conditions for a specific period of time (Republic of Kenya, 2007). Employees are represented in the CBA by their respective trade union which is then made legally binding by depositing it with the registrar of trade unions to ensure both parties stick to the agreed terms and conditions. The registrar registers the CBA in the Employment and

Labour Relations Court (ELRC) within fourteen days of its reception in the absence of any objection. The agreements then become enforceable.

To ensure its smooth implementation, a CBA gets attached to a specific instrument to operationalize its contents for a specific period of time. The instrument of operationalization of a CBA becomes its formal implementation approach for the entire period of its application. Hence, to avoid ambiguity, a CBA must characteristically be operationalized by a single tool of implementation in order to enhance equity in career progression of employees during its lifespan (Lindy, 2011; Labour Relations Act, 2007).

Most studies worldwide reveal that the strength of a given CBA lies in its implementation strategy or approach on grade promotion of its subjects (Lindy, 2011; Jordhus-Lier, 2012). Indeed, in United States of America, case studies Jones-White (2004), Fuller, Mitchell and Hartmann (2000) and Terry (2010) which targeted specific states of Miami-Dade County (Florida), Minneapolis and New York respectively found a direct positive relationship between the negotiated CBAs and the progression of tutors in their teaching cadres in the 19th century due to the application of a single tool per CBA.

However, Nona (2016) established that as of 2014 the union density in United States had contrastingly dropped compared to the 1950s due to redundancy in career progression of tutors as a result of change in CBA implementation mode which favoured multidisciplinary approach in award of grade promotions through CBAs as opposed to single approaches. This was during the advent of liberalization in education in the various states which impacted directly on the teaching sector. The various pieces of legislations

from different states governing career progression of tutors was the cause for the change to a multi-tool approach in CBA implementation on grade promotions. A number of approaches could be used to implement a CBA with an aim of addressing different needs of teachers at different levels of institutions in their system of education. This gave rise to a wide range of variations in equity in grade promotions of tutors with the inability to determine the one with the most equitable distribution of grade promotions.

In Australia, there is a bi-partisan approach to award of grade promotions of teachers in the post early-childhood education system (Baccaro and Benassi, 2017). One approach, the Modern Awards approach, is affiliated to the small-scale sectorial bargaining agreements whose promotions are structured in regular (annually) and equal intervals of awards with minimal wage increaments administered automatically within grades while the other approach which operates in freelance mode for both unionized and non-unionized teachers, known as the external regulator approach, is majorly controlled by the state without involvement of the unions and has no specific timelines for promotions.

Traxler (1995) established that the two approaches complicate the ability to determine the exact levels of equity in grade promotions of teachers due to lack of a specific unified approach in Australia. The study found 36% of teacher employees as being covered by Modern Awards through unions, 23% directly covered by the awards without any affiliation to unions while the remaining about 41% catered for promotions through the state-provided approach. That is, around three-fifths of total employees have wages and grade promotions not determined by the employer and employee, despite the Awards having been structured on skill level.

In Germany, lack of implementation approach in CBAs on grade promotions of teachers complicate the ability to ascertain the exact levels of equity in grade promotions attributing such ambiguity to open clauses in the CBAs that are deliberately inserted for non-commital engagements and are usually contingent upon an initial agreement between the signatory social partners in the education sector (Haipeter and Lehndorff, 2014). There is always some leeway in designing the clause on career progression in the CBAs to allow for time to time negotiations.

However, there are high levels of equity noted in career progression of tutors in some countries in European Union due to lack of ambiguity in CBA implementation on grade promotions. For instance, Smit (2014) asserts that there is high rate of grade promotions in teaching profession in Philippine largely attributed to CBAs that are implemented by a single approach. The approach is found to be strongly anchored on tutor professional development tool that favours regular short term courses at the expense of the initial academic qualification that one joins the teaching profession with during recruitment.

Additionally, New Zealand realized high levels of equity in career progression of teachers from early 1991 (Peetz and Rasmussen, 2018) after the adoption of a single hybrid approach in implementation of its CBA that was tailored towards combining the 'length of service' and 'academic qualifications' in grade promotions of teachers. This was despite there having been no CBAs for several decades prior to this to regulate grade promotions until concerns rose about equity in grade promotions of teachers (Visser, 2016).

In Africa, a case study of Southern African Development Community (SADC) countries by Zvobga (2019) undeniably argues that the use of International Labour Instruments found relevance in boosting equity in career progression of its employees when a legislation limiting the implementation of existing domestic CBAs in all member states to a single tool of approach was passed. This legislation on international treaties for workers in both monist and dualist legal systems in every jurisdiction process around SADC was a major boost that accounts for over 70% of equity in grade promotions of teachers in Madagascar.

In Kenya, the use of a single tool of implementation of CBAs on grade promotion of teachers known as the scheme of service easily accounted for equity in promotions and dated as back as the onset of CBAs in Kenya in 2005 (Code of Regulation for Teachers, 2005). The same tool was transcended into Post-Primary Education (PPE) institutions in 2011 as the single approach in CBA implementation on grade promotions.

However, in 2016 following a new job evaluation exercise in the public teaching sector conducted jointly by both Salaries and Remuneration Commission (SRC) and Teachers Service Commission (TSC), a recommendation for an inevitable paradigm shift in policy from the "scheme of service approach" to a "career based strategy approach" was made (CBA Reference Manual, 2018). This necessitated the signing of a new CBA between TSC and the teachers' unions, mainly the Kenya National Union of Teachers (KNUT) and Kenya Union of Post-Primary Education Teachers (KUPPET) on 25th and 26th October 2016 respectively. This CBA was registered with the ELRC on 30th November 2016 and was to run from 1st July 2017 to 30th June 2021 hence referred to as the 2017-

2021 CBA. Grade promotions were to be effected in four phases, with each phase due on 1st July of every year. The new CBA therefore required the invention of a new tool to implement its new approach in grade promotions.

Since the new "career based strategy" approach was aimed at embracing the principles of performance management that integrate performance contracting and appraisal system with a teacher's career progression path, the Career Progression Guidelines (2018) was developed by TSC as a new tool to operationalize this new CBA. The Career Progression Guidelines (CPG) replaced the Scheme of Service (SoS) with effect from 8th November 2017 (Code of Regulations for Teachers, 2015).

The guidelines provided the standardized policies and procedures for effective management of teachers' professional career growth through grade promotions from the year 2017 to 2021. In operationalizing the CBA, the CPG outlined the promotion of teachers based on four basic qualifications. They included the relevant experience in terms of years of service; the highest academic qualification as at the time of advertisement for any grade promotion; satisfactory performance as per the evaluation on Teacher Performance and Appraisal Development (TPAD) schedule; and the relevant Teacher Professional Development (TPD) modules (Career Progression Guidelines, 2018). However, the TPD module requirement was halted to a later date when its structures will have been put in place through an Act of Parliament. Chapter six of the constitution on integrity and leadership was included as additional requirements as added

advantages for promotion precisely for those teachers in administrative grades through competitive interview processes.

When the CBA implementation commenced on 1st July 2017 through the CPG approach, all the serving 317,000 teachers in primary and PPE were re-designated (TSC, 2020). However, after the second phase of implementation, a section of the teachers affiliated to KNUT successfully protested in court in 2018 on the use of CPG as an implementation approach of the CBA citing career stagnation and inequity in grade promotions (KNUT Strike notice for 2nd January 2019; TSC petition no. 151 of 2018 dated 31st Dec 2018).

The court ruled in their favour and sought to have the 2017-2021 CBA also aligned to the former scheme of service (2005) for teachers in KNUT. It further ordered for the immediate advertisement of 5,000 vacancies for administrators and 50,000 vacancies of teachers for promotion to various grades under SoS (ELRC, 2019) implying that they could have been discriminated in grade promotions as a result of their affiliation to CPG.

However, returning the teachers affiliated to KNUT back to SoS had its share of challenges. It reversed any promotional gains that had accrued to them previously through CPG in order to pave way for their new promotions under SoS. The changes were therefore back-dated to 1st July 2017 when the CBA had commenced, leading to a total of 103,624 administrators and about 96,000 teachers in KNUT losing their promotional benefits embedded in the CPG in phase 3 and 4 of the CBA implementation.

Given that each of them lost an intended additional KES. 20,000 per month per phase resulting in underutilization of KES. 7 billion per phase for phase 3 and 4 of the entire

cost of the CBA which had stood at KES. 54 billion, this further casted doubts on the effectiveness of the SoS approach. Consequently, this led to the transfer of about 100,000 administrators and 80,000 teachers nationally from KNUT to KUPPET (Akelo and Onyando, 2020) for those in PPE institutions or non-unionization for those in primary education institutions. This resulted into the creation of two different, independent and parallel payrolls in PPE institutions by the same employer with one payroll aligned to SoS for KNUT while the other payroll was aligned to CPG for KUPPET in the same institutions. Given that unionized teachers in primary schools were all in KNUT, the SoS became their single tool of implementation of the CBA for their grade promotions.

However, those in PPE institutions had to bear the burden of adopting both approaches in implementing the same CBA since they drew members in both KNUT and KUPPET unions. This scenario in PPE institutions where two approaches implemented the same CBA concurrently therefore cast doubts on the effectiveness of the CBA. This study therefore puts focus on the two approaches in finding out their equity levels in promotion.

1.2 Statement of the Problem

It was not clear if there existed any statistically significant difference in the application of the two different and independent approaches that were used in the implementation of the 2017-2021 CBA on grade promotions of teachers in post-primary institutions. In effect, it was not easy to ascertain which approach between SoS and CPG had more statistically significant levels of equity in grade promotions of teachers despite them being used concurrently to implement the same CBA for teachers in the same institutions.

Whereas CPG was rejected by KNUT on the basis of causing career stagnation, the same tool was preferred and recommended by KUPPET on the basis of its strength in enhancing career progression of its members in the same PPE institutions. On the other hand, whereas SoS was preferred by KNUT on the basis of enhancement of career progression through grade promotions of its members, the same approach caused a mass withdrawal of about 100,000 administrators and 80,000 teachers from the union countrywide to either KUPPET for those in PPE institutions or non-unionization for those in primary schools in 2018. This was after their members had been reverted back to SoS from CPG and consequently lost promotional benefits initially accrued to them in CPG.

Compounded by the national annual decline in the rate of access to teacher promotions in secondary schools from 12.9% in 2016 to 5.2% in 2020 in Kenya, Kakamega county led with a job stagnation of 15.7 years per grade (Republic of Kenya, 2020b) which is far beyond the ILO recommendation of a baseline of 3 years per grade through recommendation no. 154 of 1981 ILO convention. Given that PPE institutions had teachers in both unions which align to different approaches for grade promotion, it was not easy to ascertain the contribution of each of the two unions in the grade stagnation cited. In other words, it was not easy to determine which of the two approaches was more inequitably distributed in grade promotion at post primary level unless a study such as this one was carried out.

1.3 Purpose of the Study

This study sought to determine the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches in Kakamega County, Kenya.

1.4 Objectives of the Study

The study was guided by the following objectives:

(i) To determine the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches of the 2017-2021 Collective Bargaining Agreement, based on years of service.

(ii) To establish the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches of the 2017-2021 Collective Bargaining Agreement, based on academic qualifications.

(iii) To ascertain the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches of the 2017-2021 Collective Bargaining Agreement, based on teacher performance.

1.5 Hypothesis

This study was guided by the following null hypotheses which were tested at alpha 0.05:

$\boldsymbol{H_O}$**1**: There is no statistically significant difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches, based on years of service.

$\boldsymbol{H_O}$**2**: There is no statistically significant difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches, based on academic qualifications.

$\boldsymbol{H_O}$**3**: There is no statistically significant difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches, based on teacher performance.

1.6 Significance of the Study

The study findings will help to equip various education stakeholders with comparative insights on equity levels accruable through implementation approaches of CBAs to the same cohort of beneficiaries who are at same level of teaching in the service.

The findings may help the teachers' employer (TSC) in gaining more insights on how the teaching experience gained by teachers in terms of years of service can be modeled into a strong, automatic and reliable factor of consideration for equitable award of promotions to teachers irrespective of the union one belongs to.

The study findings may also help teachers in ascertaining any relevance of their academic qualifications in increasing their odds of promotion and hence any justification for continued investment in higher education for more and superior academic certifications.

The study findings may moreover guide the two teacher unions on the modalities of coming up with more equitable approaches for grade promotion while negotiating for future CBAs for teachers in consideration of their TPAD scores.

1.7 Scope of the Study

This study was carried out among unionised teachers in public PPE institutions in Kakamega County whose employer is TSC. This is owing to the fact that any CBA is legally binding to unionised members of a trade union who in this study was KNUT and KUPPET only. It is at the post primary level only where members are affiliated to both.

1.8 Limitations of the Study

This study was limited to the 2017-2021 CBA only since it is the one that was implemented by two different independent approaches on grade promotion. It was further limited to post-primary teachers in public schools only because it is only at post-primary level that teachers are eligible to be in either KNUT or KUPPET unions. Only teachers in public schools can be unionized since their common employer TSC is a signatory and implementer of a CBA. The study was further limited to the use of only three factors as determinants of grade promotion since they are the ones enshrined in the 2017-2021 CBA as the qualifying criteria. Any other variable affecting grade promotion of teachers was considered as an extraneous factor and was controlled for the outcome variable.

1.9 Assumptions of the Study

The study was carried out based on the following assumptions:

(i) Majority of teachers in PPE institutions are unionised in KUPPET or KNUT.

(ii) TSC implemented all phases of promotions to deserving teachers between 2017-2021 exhaustively based on each of the two approaches in the CBA.

(iii) All the respondents cooperated in giving truthful and accurate information.

1.10 Theoretical Framework

The Lorenz Curve was utilized in this study based on the Socialist economics of education idea espoused by Louis Blank (Colander, 1994).

The notion emphasizes the need to alleviate poverty by shifting resources from the wealthy to the less fortunate in order to achieve economic parity. For the purpose of computing the gini coefficient for inequality, it displays on the horizontal axis, the cumulative percentage of households from the poorest to the richest, and, on the vertical axis, the cumulative percentage of their income from the lowest to the highest. In this study, the vertical axis represented cumulative proportion of teachers promoted from the least to the highest grade, while horizontal axis represented cumulative proportion of predictor factor from the least to the highest, as illustrated in Figure 1.1 for objective 1.

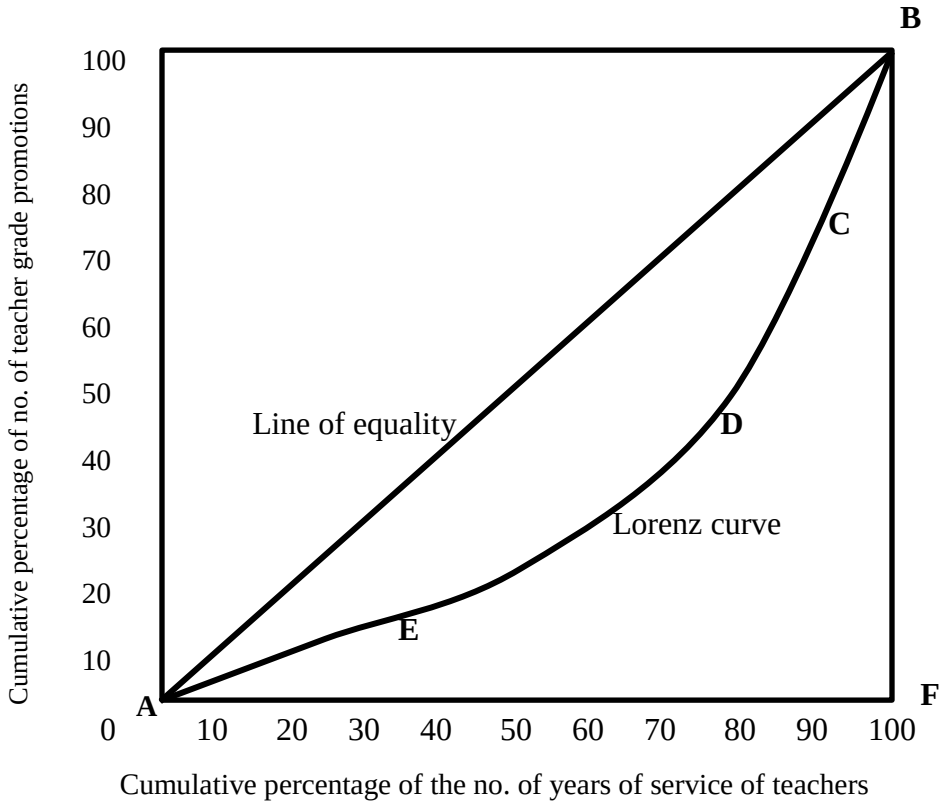

Figure 1. 1: Lorenz Curve for the Award of Teacher Grade Promotions

Source: Adopted from Todaro & Smith, 2006.

This was done for both KUPPET and KNUT representing CPG and SoS approaches respectively in an attempt to compare and determine the difference in inequalities in award of grade promotions between them based on the predictor variables.

A perfectly equitable distribution in promotions would be depicted by a straight diagonal line, shown in Figure 1.1 by line AB while inequalities in award of teacher promotions would be depicted by the deviation (sagging) from this straight diagonal line by the line of concentration known as the Lorenz curve, depicted in the figure by AEDCB. The bigger the area below the parity line, the more unequal the distribution of teacher promotions would be taken to be and vice versa. The actual Gini coefficient is established

from the Lorenz curve outputs. Gini coefficients are aggregate inequality measures and vary from 0 for perfect equality to 1 for perfect inequality (Todaro & Smith, 2006).

If both approaches for grade promotions in the CBA are perceived as meritorious criteria equalizing promotions among all teachers, then the aggregate values of Gini coefficient obtained from both approaches should not be statistically significantly different from each other for the two unions. This study therefore endevoured to establish and compare the Gini coefficients of both KUPPET and KNUT in the implementation of the CBA on grade promotions of post-primary teachers in Kakamega County.

1.11 Conceptual Framework

This study was guided by a conceptual framework that depicts the effect of the explanatory variables (approaches in CBA implementation based on years of service, academic qualification, and TPAD performance) on the outcome variable (equity in grade promotion measured by gini coefficient) controlling for teacher and school variables.

Figure 1.2 presents the interaction of the variables.

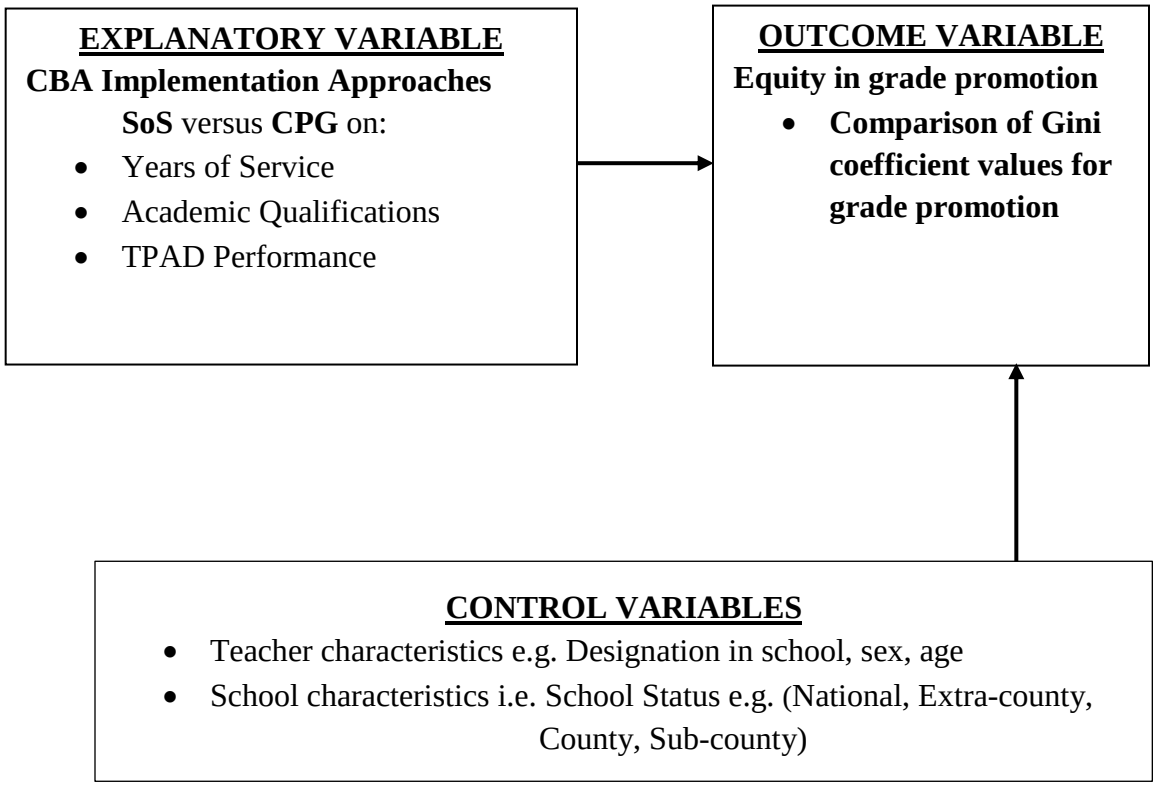

Figure 1. 2 : Relationship between CBA Implementation Approaches and Equity in Grade Promotion

Source: Researcher, 2021

Being a comparative study, the explanatory variable is the approaches used in implementing the CBA on grade promotion of teachers in PPE institutions based on Years of Service, academic qualification and TPAD score (for teacher performance). For the 2017-2021 CBA, the approaches are the Career Progression Guidelines and the Scheme of Service for teachers affiliated to KUPPET and KNUT unions respectively. Since the CBA anticipated grade promotions to be in tandem with years of service, academic qualifications and TPAD performance of teachers, the three indicators therefore

formed the sub-variables of the explanatory variable of the study. This is in line with Walton and Mckersie (1991) work on behavioural theory that recommended for a multi sub-variable approach on indicators of equity in grade promotions (or salaries) of workers. On the other hand, the outcome variable is equity in grade promotion of teachers which was expected to be achievable through the criteria outlined in the CBA, measured using gini coefficient outputs. Both explanatory and outcome variables were measured on interval scale since they accumulate for the entire period of service from the date of recruitment.

The study had two Control Variables which were Teacher characteristics and School characteristics. Teacher characteristics include personal attributes of teachers which are normally examined during promotional interviews as shown in Appendix VI as the promotional interview scoring schedule. They include the current designation of the teacher, age, sex and level of integrity while the school characteristics were the categories of schools being either national schools, extra-county, county or sub-county schools.

1.12 Definition of Operational Terms

Academic Qualification: The highest academic certificate attained by a teacher in studies

Access: The proportion of teachers awarded grade promotion compared to the qualified applicants.

Career Progression Guidelines: An approach preferred by KUPPET in award of grade promotion to its members for the period 2017-2021.

Collective Bargaining Agreement: The 2017-2021 agreement signed by KNUT and KUPPET with TSC to guide award of grade promotion to teachers.

Equity in Grade Promotion: The distribution of promotions for KNUT and KUPPET teachers based on the 2017-2021 CBA as measured by the Gini Coefficient, 0-1.

Scheme of Service: An approach preferred by KNUT in award of grade promotion to its members for the period 2017-2021.

TPAD Performance: The percentage rating of teachers in terms of their learners outcomes in their respective teaching subjects during appraisal.

Years of Service: The period of time in years that a teacher has served in teaching from the date of being employed by TSC in the profession

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed related literature on: The genesis and operationalization of CBAs for equity in career progression of teachers; Trends in equity of grade promotions of teachers based on years of service; Equity in grade promotion of teachers based on academic qualifications; and Equity in grade promotion based on teacher performance.

The literature, where possible, attempted to compare and contrast sampled cases in both developed and developing countries, critiqued them, related them with Kenyan situation and finally identified the gaps per section. A summary of the literature reviewed was finally made with an aim of bringing out the overall gap of the study.

2.2 The Genesis and Operationalization of CBAs for Teachers Career Progression

Labour unions began and rose because of exploitative labour practices by employers after the industrial revolution (Hipp & Givan, 2015; Levi, Melo, Weigast, & Zlotnick, 2015). Labour unions were established to aid workers in identifying, airing and solving work related grievances such as low wages & salaries, unsafe working conditions, long working hours and career progression through CBAs. These issues set the stage for the formation of labour unions, with the Working Man's party being the world's first labour party to be formed in 1828 (Jensen, 1956).

For example, in the 19th century, workers, especially those in blue collar jobs, were subjected to terrible working conditions, threatened with legal action and could be fired at any time for joining labor unions (Compa, 2014). As a result, workers went on strike and participated in other forms of mass action to protest their oppressive working conditions. After years of fighting for constitutional safeguards, labor unions finally succeeded in the law in the 1920s with the introduction of collective bargaining agreements (CBAs) as a long-term, sustainable solution (Lichtenstein, 2013).

To anchor this solution into international obligation as law, the International Labour Organization (ILO) came up with three conventions linked to the need for enhancement of peace and harmony in industrial labour relations. These are, Freedom of Association and Protection of the Right to organize Convention, 1948 (No. 87), Right to organize Collective Bargaining Convention, 1949 (No. 98) and the Collective Bargaining Agreement Convention, 1981 (No. 154). The conventions bore a common milestone resolution between employers and labour unions of adopting the right to bargain collectively and have legally binding CBAs that would be addressing issues of career progression of workers through grade promotions.

In the teaching sector, labour unionism was first effected worldwide in America when the National Education Association was founded in 1857 by 43 educators in Philadelphia. Its focus was on raising teacher salaries, award of promotions to tutors, child labour laws, educating emancipated slaves as well as looking at how the forced assimilation of Native Americans affected their education. One of the early successes of the union was lobbying

congress to establish a federal department of education in 1867 through CBAs (Mader, 2012), which took the role of grade promotions to the educators.

In Africa, the concept of teacher trade unionism was first traced in South Africa in the years prior to the 1900s. Initially the unions were stratified along the lines of race, language and provincial boundaries. The Native Education Association (NEA) was the first black teachers' union established in 1879 tasked with not only dealing with educational issues like progression of teachers in career, but also with social and political issues of the day. One of the specific issues that the association faced and dealt with was the discriminatory nature of the salaries paid to white teachers as opposed to those of their black counter parts who held similar positions (Heystek, Lethoko, 2001). Such issues made the black teachers feel that a joint effort through mass action to push for collective bargaining would go further and be affirmative in bearing fruits than individual effort.

In Kenya, teacher trade unionism cropped up in 1950s, fuelled and motivated by similar issues like the rest of the world but with a special interest in salaries and grade promotions (Akelo and Onyando, 2020). By then, teachers were being paid different salaries depending on the type of employer that they had. For instance, teachers in missionary schools were the highly paid and fastly promoted in job groups and ranks followed by their counterparts in public government schools, followed by those employed by the local authorities despite the fact that they all had similar academic qualifications with similar job descriptions. Hence, teachers all over the country saw the need to have

unified terms and conditions of service and this became a reason to warm up to agitation and unionism.

As a result, in 1957, an umbrella teachers' grouping as KNUT was allowed by the colonial government to form and officially got registered as a trade union in 1959. Like in America where the union's earliest achievement was the establishment of a federal department of education (Mader, 2012), one of the earliest remarkable achievements of KNUT in Kenya was the demand for a single employer for all teachers whether in public, local authority or mission schools. The union's collective negotiations with the government led to the formation of TSC in 1967 as the sole employer of all teachers in Kenya (Eshiwani, 1993).

Resultantly, other teacher unions came up in the country motivated by KNUT's achievement to continue advocating for the specific grievances of their members, with grade promotion topping the list. Notably, KUPPET union was registered in 1998 for teachers in PPE institutions like secondary schools and other tertiary institutions whose employer was TSC (Akelo and Onyando, 2020). They include Technical Training Institutes (TTIs) and Teacher Training colleges (TTCs).

The Kenya Union of Special Needs Education Teachers (KUSNET) signed a recognition agreement with TSC as the third union on 3rd March 2021 and therefore did not take part in the operationalization of the 2017-2021 CBA. Its first CBA was to be the 2021-2025 CBA. Its mandate was to address matters regarding the welfare of special needs education teachers and teachers with special needs. Further, the Universities Academic

Staff Union (UASU) was registered in 2003 as a trade union for lecturers teaching in public universities in Kenya (Republic of Kenya, 2004).

The philosophies and ideals behind the formations of these teacher trade unions in Kenya were deeply rooted in the challenges, successes and lessons learnt by the early labour movement organizations, especially in the western world with the main focus on better remuneration and career progression through collective bargaining processes (Jensen, 1956).

Before the advent of CBAs in Kenya, grade promotions were effected through ministerial policy papers which could be implemented at the will of the government and could therefore be easily legally challenged by anyone on any ground like inequity. However, with the adoption of CBAs in Kenya, career progressions in teaching sector took a new and different trajectory with the use of a single tool of CBA implementation as a requirement for grade promotion of teachers in the service (Lindy, 2011; Labour Relations Act, 2007).

Hence, beginning the year 2005, the scheme of service for teachers (2005) was a tool that was used in the teaching profession to operationalize CBAs for career progression. Under this approach, there were three specific schemes which included the scheme of service for non-Graduate teachers, the one for Graduate teachers, and the third one for Technical teachers and Lecturers. All these were spread in SoS approach in ten Job Groups ranging from G to R as shown in Table 2.1.

According to this SoS approach, there was automatic grade promotion to the subsequent grade every after three years in service up to job grade L for those in PPE institutions irrespective of the grade of entry in the teaching profession. At job grade L, and upon a mandatory three year stay in it, a teacher qualified for application for further grade promotions on annual basis through competitive interview processes whenever advertisements were made for them (CBA Reference Manual, 2018). For instance, whereas Diploma holders would go through two automatic grade promotions of three-year intervals each (implying after a cumulative six years) from the initial entry grade of J to K then K to L, their degree counterparts would, on the other hand, begin in K and undergo only one automatic promotion to grade L after a three-year length of stay in K. Once in grade L and upon completion of another three years in it, they would both be eligible for competitive interviews for other grade promotions to subsequent grades every year as long as advertisements were made until the last grade R of exiting the profession.

Despite the fact that advertisements for grade promotions higher than L were made on annual basis under SoS for competitive interview process, the exact number of slots and specific grades of consideration for promotion per year were not obvious nor pre-determined in the CBAs. It was a preserve of TSC to advertise particular grade(s) based on the availability of funds and balancing options. Additionally, the salary difference associated with each grade promotion was significantly larger for all the ten grades under SoS (KNUT Strike notice for 2nd January 2019; TSC petition no. 151 of 2018).

However, in 2016, the Salaries and Remuneration Commission (SRC) and the TSC collaborated on a new job appraisal exercise in Kenya's public teaching sector in response to a string of disturbances, threats, and collective industrial actions by teacher unions advocating for higher pay and more opportunities for advancement. Job-related elements such as content, teacher assignments, academic and professional requirements, and projected levels of discretionary power were considered in this experiment. The extent to which administrators are held to account, the significance of the services they provide, the aptitude with which they can solve problems, the depth of their knowledge of the field, their managerial and interpersonal skills, the quality of their workplace, their ability to exercise independent judgment, and their skill at managing financial resources prudently were also taken into account.

Its report findings recommended for an inevitable paradigm shift in policy from the "scheme of service" approach to a "career based strategy" approach. The new Job Evaluation (JE) introduced a new grading structure in which the ten job grades were elongated to eleven levels based on the relative worth and responsibilities attached to each of the job category through a conversion system shown in Table 2.1.

Table 2. 1 Conversion of Grading Structure of Teachers Based on Job Evaluation

T-Scale	SoS Grade	SoS Job Title	JE Grade
5	G	P1Teacher	B5
6	H & J	Ordinary Diploma III & Senior Ordinary Diploma Teacher	C1
7	K	Untrained Graduate Teacher/Graduate Teacher II/Ordinary Diploma Teacher II	C2
8	L	Ordinary Diploma Teacher I/Graduate Teacher I	C3
9	New		C4
10	M	Senior Ordinary Diploma Teacher/Senior Graduate Teacher/Principal Graduate Teacher II	C5
11	N	Senior Graduate Teacher/Principal Graduate Teacher II/Principal Ordinary Diploma II	D1
12	New		D2
13	New		D3
14	P	Principal Graduate Teacher I	D4
15	Q & R	Senior Principal Graduate Teacher & Chief Principal Graduate Teacher	D5

Source: CBA Reference Manual, 2018.

Under the CPG approach, the minimum entry into the teaching profession for PPE institutions was maintained at Grade J for Diploma holders and K for Degree holders like in SoS approach but were renamed C1 and C2 respectively under the new CPG approach.

Moreover, a teacher in CPG was expected to undergo only one automatic grade promotion after three years of initial entry in teaching service, after which any other promotion to subsequent grade was to be after a mandatory competitive interview process. Hence, there was no provision for automatic promotions to an equalization grade for C1 and C2 in CPG as was the case in SoS to the common grade L, but instead a teacher was eligible to apply for competitive promotions to subsequent grades when such interviews were advertised. Further, there was no guarantee of regular advertisements for grade promotions on annual basis under CPG as was the case in SoS (Rau, 2012).

However, whenever advertisements for promotion would be made under CPG, any teacher would be eligible to apply without the mandatory requirement of having a three-year stay in the former grade as was the case in SoS. A teacher would therefore be eligible for grade promotion under CPG even with a single year of stay in his/her current job grade (CBA Reference Manual, 2018).

Furthermore, under CPG more salary points/levels were created within each grade whose amounts were to be automatically payable to teachers each year in the month of July for all the grades so that a teacher would enjoy some salary increaments on annual basis called phases even without any grade promotion as he/she awaits for one.

Since the new “career based strategy” was aimed at embracing the principles of performance management that integrate performance contracting and appraisal system with a teacher’s career progression path, the Career Progression Guidelines (2018) were developed by TSC as a new tool to operationalize the new 2017-2021 CBA replacing the

Scheme of Service (2005) approach with effect from 8th November 2017. The guidelines provided standardized policies, criteria and procedures for effective career growth.

In developing the CPG, TSC was guided by the provisions of the Code of Regulations for Teachers (2015) and the Kenya National Qualifications Framework (KNQF). Under the guidelines, the career paths of school administrators were clearly distinguished from those of teachers and properly re-defined.

The TSC while coming up with the Career Progression Guidelines (2018) adopted the JE grades and renamed them as CPG grades for the sake of implementation of the CBA, subsequently requiring a new criteria for the categorization of all the job titles to be in tandem with the new grades as shown in Table 2.2.

Table 2. 2 Categorization of Job Titles Based on CPG for Post-Primary Institutions

Institution	Category	New Designation title	CPG grade
Secondary	Secondary Teacher	Secondary Teacher III	C1
		Secondary Teacher II	C2
	Senior Master	Secondary Teacher I	C3
		Senior Master IV	C4
		Senior Master III	C5
		Senior Master II	D1
		Senior Master I	D2
	Deputy Principal	Deputy Principal IV	C5
		Deputy Principal III	D1
		Deputy Principal II	D2
		Deputy Principal I	D3
	Principal	Principal	D3
		Senior Principal	D4
		Chief Principal	D5
Tertiary	Lecturer	Lecturer III	C1
		Lecturer II	C2
		Lecturer I	C3
	Senior Lecturer	Senior Lecturer IV	C4
		Senior Lecturer III	C5
		Senior Lecturer II	D1
		Senior Lecturer I	D2
	Deputy Principal	Deputy Principal IV	C5
		Deputy Principal III	D1
		Deputy Principal II	D2
		Deputy Principal I	D3
	Principal	Principal	D3
		Senior Principal	D4
		Chief Principal	D5

Source: Career Progression Guidelines, 2018.

In Table 2.2, the job titles for PPE institutions underwent complete transformation with the introduction of senior masters and senior lecturers in the PPE institutions at secondary

school level and tertiary institutions level respectively. Each level per category was further broken down to either three or four sub-levels and allocated new designation titles for ease of reference and smooth transition from one level to another. This was clearly intended to show a well-defined and streamlined career progression path for teachers.

The CPG gave the basic job descriptions, personal qualities, and core competencies required for each job grade. The intention was to guide the recruitment, retention, development, training and promotion of teachers to ensure that they meet the standards set for career progression. The guidelines further outlined the skills and competencies required for career advancement. Whereas one's qualifications determined the entry point in the profession, his or her career progression and final exit from the profession was clearly defined by the new approach in which any acquisition of an extra academic or professional qualification and improvement in performance with reference to both TPAD and subject mean scores in national examinations was intended to accelerate grade promotions. TPAD was introduced by the 2017-2021 CBA as a tool to measure the teacher's performance on annual basis. The score on the TPAD is expressed in percentage after evaluation on key areas that total to 100%. The change of the CBA implementation approach from SoS to CPG had to undergo harmonization of grades and titles in order to cater for the variations in the initial salary points of the many categories of the PPE institutions that were introduced in the CPG approach as shown in Table 2.3.

Table 2.3: Harmonization of SoS with CPG

T-Scale	SoS	SoS Job Title	CPG Job Title	CPG
15	R	Chief Principal Graduate Teacher	Chief Principal	D5
	Q	Senior Principal Graduate Teacher		
14	P	Principal Graduate Teacher I	Senior Principal	D4
13	M	Principal Graduate Teacher II	Deputy Principal I Principal	D3
	N	Senior Graduate Teacher	Deputy Principal II	
12	N	Principal Graduate Teacher II	Deputy Principal III Senior Master I Senior Lecturer I	D2
11	M	Principal Graduate Teacher II	Deputy Principal IV	D1
	N	Senior Graduate Teacher Principal Ordinary Diploma II	Senior Master II	
10	G	Senior Ordinary Diploma	Senior Head Teacher Senior Lecturer II Senior Master III	C5
	H	Teacher	Senior Lecturer III	
	J		Senior Master – SNE	
	K		(Post-Primary)	
	L	Senior Graduate Teacher	Head Teacher	
	M		Deputy Head Teacher 1	

Table 2.3: Harmonization of SoS with CPG ***(Continued)***

T-Scale	SoS	SoS Job Title	CPG Job Title	CPG
9	G	New	Senior Master IV	C4
	H		Senior Lecturer IV	
	J		Deputy Head teacher II	
	K		Senior Special Needs	
	L		Teacher – secondary	
			Senior Teacher –SNE	
			(Primary)	
8	L	Ordinary Diploma	Senior Teacher I	C3
		Teacher I	Secondary Teacher I	
			Lecturer I	
			Senior Special Needs	
		Graduate Teacher I	Teacher-Primary	
			Special Needs Teacher-secondary	
			ICT Programme	
			Coordinator CEMASTEA	
			National Trainer – CEMASTEA	
7	G	Untrained Graduate	Senior Teacher II	C2
	H	Teacher	Secondary Teacher II	
	J		Secondary Teacher II UT	
	K	Graduate Teacher II	Graduate	
			Lecturer II	
		Ordinary Diploma	Special Needs Teacher-	
		Teacher II	Primary	
6	H	Ordinary Diploma III	Primary Teacher I	C1
	J		Secondary Teacher III	
			Lecturer III	

Source: CBA Reference Manual, 2018; Career Progression Guidelines, 2018.

According to Table 2.3, grades established for each category of institutions were such that; Eight of them would be for primary school teachers; Ten grades for secondary

school teachers; Six grades for those in Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA); Eight grades for those in Technical and Vocational Education Training (TVET) institutions; Seven grades for teachers in TTCs; Eight grades for teachers in Kenya Institute of Special Education (KISE) and Twenty one grades for Special Needs Education (SNE) institutions which were further distributed to have five in Primary, eight in Secondary and the remaining eight in TVET institutions.

The grades under SoS indicated as "New" were non-existent in the SoS but introduced under CPG approach for purposes of enhancing smooth and defined progression in career path in the new implementation approach of the CBA. They include promotion to Deputy Principal I, Deputy Principal IV, Senior Master I and Senior Master IV.

Moreover, apart from renaming the teaching grades from SoS system to CPG system, each grade was further expanded under CPG to have many salary points/levels. This was to be enhanced independently alongside the actual annual grade promotions of teachers for various grades within the lifespan of the CBA. The many salary points' increaments within a given teaching grade together with the anticipated grade promotions were factored in the CBA at a total cost of Ksh. 54 Billion payable within the lifespan of the CBA between 2017-2021 and was approved by Parliament for implementation. Phase 1 and 2 of the CBA implementation was to cost Ksh. 13 Billion each while phase 3 and 4 was to be at a cost of Ksh. 14 Billion each (Republic of Kenya, 2019b).

The difference in the allocations was to account for the many administrators and teachers in higher grades whose salary increaments were relatively higher than their counterparts

in lower grades whose perks were lower and were to be effected in two phases only. Hence, the salary conversions of two phases were to be from T-scale 5 to T-scale 7 while the ones for four phases were to be from T-scale 8 up to T-scale 15.

The annual salary adjustments for the various salary points in all the grades were to be enhanced through an implementation matrix whose salary conversions were to be effected in twelve distinct tables, each for each of the job titles. Each appendix addresses each job grade and the respective job title embedded in the CPG approach of the CBA implementation. Each of the salary conversion tables has a number of salary points representing the variations in salaries from where the CPG took over from the SoS approach. However, the CPG was to ensure that by the end of the CBA period, all the variations are well harmonized (CBA Reference Manual, 2018).

Table 2.4 summarizes the implementation matrix of all the grades by giving the lowest and highest salary points only per grade for comparison purposes. For PPE institutions, the grades begin at C1 up to D5 effectively covering a total of eleven grades.

Table 2.4: Salary Upgrading for the 2017-2021 CBA per Phase

CPG Grade	No. of salary points	Level of Salary point	Initial 30.6.17	Phase 1 1.7.2017	Phase 2 1.7.2018	Phase 3 1.7.2019	Phase 4 1.7.2020
D5	14	Lowest	89,748	102,807	111,201	121,814	131,380
		Highest	144,928	148,360	152,937	157,656	157,656
D4	7	Lowest	77,527	87,900	99,730	109,249	118,242
		Highest	103,894	109,249	114,632	118,169	121,890
D3	14	Lowest	41,590	59,286	77,840	93,850	104,644
		Highest	65,290	77,840	90,612	102,807	104,644
D2	7	Lowest	48,190	59,286	71,565	82,717	91,041
		Highest	65,290	77,840	85,269	87,900	91,041
D1	13	Lowest	41,590	55,231	66,177	74,703	77,840
		Highest	65,290	77,840	80,242	82,717	85,269
C5	37	Lowest	16,692	29,427	40,849	51,632	62,272
		Highest	55,840	58,226	60,613	62,272	64,631
C4	6	Lowest	35,910	37,721	39,532	41,343	43,154
		Highest	45,880	47,896	49,912	51,927	53,943
C3	17	Lowest	16,692	21,719	27,325	31,242	34,955
		Highest	29,918	32,004	32,988	33,971	34,955
C2	7	Lowest	31,020	32,988	34,955	-	-
		Highest	41,590	42,642	43,694	-	-
C1	11	Lowest	19,323	25,929	27,195	-	-
		Highest	29,918	31,956	33,994	-	-
B5	6	Lowest	16,692	19,224	21,756	-	-
		Highest	21,304	24,250	27,195	-	-

Source: Addendum to the CBA Implementation Matrix (CA No. 296), 2016.

Table 2.4 shows that by the end of the CBA implementation, the lowest earner in the teaching profession would be at Ksh. 33,994 per month while the highest earner would be at Ksh. 157,656 per month for teachers in PPE institutions.

However, before the lapse of the CBA period, teachers affiliated to KNUT successfully protested on the use of the CPG in implementing the CBA citing career stagnation (KNUT Strike notice for 2nd January 2019; TSC petition 151 of 2018 dated 31st Dec 2018). The court ruling (ELRC, 2019) sought to have the 2017-2021 CBA also aligned to the former scheme of service (2015) for teachers registered in KNUT subsequently leading to the creation of two independent and parallel payrolls by the same employer with one aligned to SoS for KNUT members while the other one aligned to CPG for the non-KNUT members in the same teaching profession. This implied that the two independent tools implementing the same CBA for the same teachers could have been serving different interests in achieving different levels of equity in grade promotions. This scenario casts doubts on the effectiveness of the 2017-2021 CBA in enhancing similar equity levels in grade promotion of teachers hence requiring a study to assess it by comparing the levels of equity achieved by the two tools implementing the different approaches for the same CBA.

2.3 Equity in Grade Promotion of Teachers Based on Years of Service

Past empirical studies have attempted to measure the impact of teachers' unions on their work performances (Posthuma, Campion, Malika, and Campion , 2013), (Agola, 2016) and (Gyesie, 2017) while other researchers have attempted to assess the influence of

teachers' unions on the students' educational outcomes (Zhu, 2019). However, little has been done on the role of CBAs on the career progression of teachers based on their years of service.

Initially, the unions negotiated contracts through CBAs that laid much emphasis on years of service of teachers using seniority and teaching experience as determinants of promotion to higher job groups within the system, opening up ladders for upward mobility in pubic teaching sector (Han, 2012). Teachers' strikes were highly avoided, by ensuring that both unions and education managers deliberately negotiate collectively using the length of stay in a certain grade as the main yardstick for promotion to subsequent grades.

Over years, teachers' unions in the United States managed to progressively restrain management's ability to singlehandedly select staff, promote them to higher grades, deploy, discipline, train, and let staff go when they had not been performing well. Noting that the public school teachers in the United States make up the single largest group of unionized public sector workers, teacher unions in United States had been blamed for raising pays far beyond what teachers might have earned in other jobs basing on their length of stay in profession, and for creating an inflexible and inefficient education system (Gyesie, 2017).

Anecdotal evidence, like the case of Los Angeles public school teachers, would seem to suggest that teachers' unions through the collective bargaining roles and agreements had a positive effect on grade promotions of tutors based on the duration one stayed in a

single grade (Tucker, 2012). The study reveals that over the years, since the establishment of the first teachers' unions, their role and significance in promoting the tutors' wages through promotions had continually and consistently increased as a result of the use of years of service as the main criteria for promotion. Credible research has shown that top ten countries in student performance have the strongest teachers' unions with effective CBAs anchored on years of service as the implementation approach on promotion (Visser, 2016).

In the United States, CBAs are used by labor unions to dictate a framework for working conditions, which includes productivity and output (Rolfsen, 2013). However, Bennett (2014) finds both productivity and output as being functions of years of service of teachers whose maximization leads to more wages as a result of promotions to higher grades within the teaching profession.

Using test scores of 14,000 fourth graders out of 100,000 study population, Eberts and Stone (1984) made one of the first attempts to empirically evaluate the impact of unionization on career and performance, controlling for socioeconomic status factor. Their study found that scores were 7% higher in upgrading teachers' professional cadres but were insignificant based on their years of service. However, cross-sectional findings are often affected by unobserved or unmeasured variables that bias results.

Instead, Kleiner and Petree (1988) created a longitudinal study of the impact of unionization on test results by using state-level data from 1972-1982. In line with the findings of Eberts and Stone (1984), their study showed that unionization had a beneficial

effect on test scores but an uncertain effect on the rates at which teachers move from one cadre to another according to the length of their tenure in that group.

Hoxby's (1996) research is among the most extensive ever done on the topic. She distinguishes between rent-seeking and efficiency-enhancing teacher unions. The goal of rent-seeking unions is to maximize benefits for the teachers they represent, while the goal of efficiency-enhancing unions is to optimize student learning outcomes through optimal use of available resources. Hoxby utilizes data collected through the Census of Governments (CoG) with an instrumental variable and difference-in-differences methodology. She avoids potentially missing variables that may skew results in cross-sectional analysis by focusing on the years of service of teachers as the sole variable in her study, and by instrumenting for unionization using the passing of statewide laws in formulation and implementation of CBAs. The research concluded that CBAs negotiated by teacher unions improve educational resources and lead to higher salaries and better working conditions for educators. She finds that union pressure on state machinery to promote teachers based on their years of service has a net negative effect on student performance but a highly good effect on teachers' grade promotions, which runs counter to previous literature.

Frandsen (2016) employs a panel data approach from the Current Population Survey (CPS) of the Census Bureau's database on government finances, based on the National Bureau of Educational Research (NBER) Public Sector CBA on Law Data Set developed by Valletta and Freeman (1988) and revised by Kim and Rueben (1996). In contrast to

what Hoxby (1996) discovered for teachers, he finds that collective bargaining rights and agreements enhance union membership but have negligible impact on career progression depending on length of stay in a specific job category.

Grissom and Strunk's (2010) research takes unions' strategies in collective bargaining systems into account to compare and contrast their relative strengths. They discovered that more powerful unions are able to affect policymaking in comparison to weaker unions. They can influence lawmakers by limiting their discretion, and as a result, they may help craft CBAs with better implementation tools for fair approaches to teacher promotions based on demonstrated competence and professional growth. The study measures experience in terms of the years of service of teachers in a particular grade in the profession.

Brunner, Hyman, and Ju's (2019) research takes into account these variants in union strength. Based on Frandsen's (2016) NBER Public Sector CBA on Law Dataset, they employ a school financial data approach using surveys from the National Center for Education Statistics (NCES). They conclude that teachers' unions played a major impact in deciding how much state aid would be spent on education and how much of that money would be used to promote teachers from lower to higher grades based on length of service. Since teachers' unions have a tendency to boost grade promotions at a nationwide crude rate of 12% compared to the 2% of their efficiency-enhancing unions through their different CBAs, their actions appear to resemble the rent-seeking conduct described by Hoxby (1996). These upgrades were then allocated by district budgets to higher-ranking

teachers, which is in line with Hoxby (1996) but goes against the findings of Frandsen (2016).

Using a combination of CoG data and hand-collected data on teacher union election certifications in Iowa, Indiana, and Minnesota, Lovenheim (2009) draws conclusions. He disagrees with Hoxby (1996) in that union-negotiated CBAs have no effect on teachers' advancement in rank and have only a small, beneficial effect on student-teacher ratios. In a similar vein, Lovenheim found that teacher unions improved student achievement marginally. This runs counter to the consensus in the academic literature. Lovenheim attempts to duplicate Hoxby's (1996) work on CBAs and discovers that the CoG Labor Relations Survey technique has a mis-classification rate of up to 47%. He proposes that this inaccuracy is linked to the outcome variables, which would increase the estimations. Using the American Federation of Teachers (AFT), Coulson (2010) tries to extrapolate Lovenheim's findings beyond the three states indicated. He notes that the practice of increasing teachers' salaries through promotions to higher pay grades began in the 1950s, and that the economic slump of the 1970s was likely a contributing factor. Possibly, as suggested by Coulson (2010) and further demonstrated by Grissom and Strunk (2010), there were larger differences in the ways in which the NEA and the AFT approached collective bargaining processes with regards to grade promotions, with the NEA's influence on political action affording it the ability to bring about greater levels of equity in teachers' career progression through grade promotions.

Paglayan (2018) employs a custom longitudinal data collection to get around the shortcomings of the CoG data set. She employs the NBER Public Sector CBA on Law Dataset, like Frandsen (2016) and Brunner et al. (2019), but mixes it with digitized education statistics. Using a difference-in-differences methodology similar to that of previous authors, Paglayan concludes that the introduction of mandatory collective bargaining laws did not increase the level of resources for educational infrastructure, but rather significantly contributed to lower student-teacher ratios and enhanced higher teacher salaries based on years of service.

However, it does not consider the degree of fairness in teachers' promotions to higher grades, instead concluding that the discrepancies in question predated the implementation of modifications mandated by collective bargaining proposals and final agreements.

Perry and Willman (1970) looked at the effects of professional unionism on some urban, medium, and small rural schools in California and found that CBAs negotiated by unions tend to increase both the absolute number of and the relative amount of resources allocated to teacher promotions. Unions have a substantial impact on salaries in both the short and long terms, as Khan (1979) discovered. He came to the conclusion that union CBAs have a substantial impact on whether or not teachers are promoted and paid more than their non-represented counterparts. However, the analyses ignore the role that teachers' lengths of service play in determining their pay raises.

Because of its novel legal climate, New Mexico serves as a natural experiment in Lindy's (2011) study. This is because in 1993 the country mandated collective bargaining. The

Governor vetoed a bill in 1999 that would have made collective bargaining mandatory again; the practice was de facto voluntary until 2003, when the new Governor reinstated it under the condition that only a single tool be used to implement any given CBA at any given time. The single instrument would always give more weight to experience level than any other aspect. Lindy compares New Mexico to the rest of the US and finds that states with obligatory collective bargaining had higher SAT scores, lower teacher turnover rates, and unclear effects on per-pupil spending. He speculates that the difference in impact on SAT scores and graduation rates is not due to the influence of union CBAs, but rather to the fact that any good effect on student progress comes at the expense of lower performing pupils.

Overall, Mulkeen (2000) observed that when countries improve economically, the average wage provided to teachers decreases as a multiple of country per capita income. The study also finds a minimal effect of career progression of teachers through grade promotions on economic growth based on their years of service as African countries develop when compared to their per capita incomes.

According to research conducted in Nigeria by Akinwunmi (2000) and Ejiogu (1990), a significant grade advancement that assures wage gain is the number one aspiration of low-income teachers. If a CBA is signed aiming for parity in grade advancements of teachers based on years of service, their study concludes that the payment of higher compensation would greatly improve their performance. If instructors in Nigeria are promoted to higher grades in direct correlation with more years of experience, this

tendency may have multiple causes, as suggested by research by Bruns, Mingat, and Rakotomalala (2003).

It has been documented that teacher trade unionism in the form of CBAs in South Africa dates back to the turn of the century. Historically, the unions had different tiers based on factors such as ethnicity, language, and location within a province. In 1879, the first black teachers' organization, the Native Education Association (NEA), was formed. The union's mandate included addressing not only educational but also social and political concerns. Specifically, the organization had to contend with the discriminatory nature of the pay paid to white teachers in comparison to those paid to their black counter parts who held similar positions, as well as the stagnation in job groups by blacks despite their many years of service. Because of this, the black educators felt that working together would yield better results than acting alone in securing the advancements they deserved after so many years of service (Heystek, Lethoko, 2001).

Hollup (2004) observed that teacher unions in Mauritius lacked significant authority and room for collective bargaining. The unions could try to have their 'voice' heard by making proposals, submitting memoranda, and protesting decisions that lessen or aggravate their terms of service. Nonetheless, they persisted in their efforts to protect their members' rights and benefits, such as paid time off, input into the transfer exercise, workload, length of service in a job group required for promotion, promotion eligibility, promotion equity, and funding for teachers' post-degree education. The study established that without CBAs the unions were ineffective in negotiating for career progression of their

members based on their years of service. Instead, grade promotion was found to be in preference to seniority of membership to unions through nepotism.

In Kenya, the issue of teacher remuneration and career progression through grade promotion has persisted and in some instances led to strikes or petitions to the government to act. There are researchers who have attempted and to some extent succeeded in pinpointing the role or impact of Kenyan trade unions on education issues especially on career progression.

A study by Agola (2016) in unpublished Master's Thesis on the effect of teachers trade union activities on performance of teachers in selected public primary schools in Nairobi county showed that one of the key objectives of teachers' trade unions was to fight for grade promotions of teachers which was in turn seen to improve the professional output of teachers by 68.1% in reference to the scheme of service approach for teachers.

Another study by Nabibya (2013) in Kamukunji district of Nairobi County established that majority of the teachers commended their union for a CBA that enhanced job security, status of teaching profession, sense of achievement and advancement of equity in promotional opportunities amongst teachers. The study, however, restricted itself on the role of KNUT alone in the CBA since all teachers in primary schools belong to it only. The study was hence based on the scheme of service approach only in establishing promotions by interviewing teachers as well as head teachers in primary schools.

The study revealed that majority of the head teachers agreed with the fact that the KNUT union enhanced teachers' promotions based on their respective length of stay in each grade. Career advancement through equity in promotions was established to be leading with 95.0 %, Professional growth at 88.9% and in-service training at 61.1%. The study further revealed that KNUT helps in agitating for equity in promotions of teachers through SoS based on years of service criteria than any other at steadily increasing rates.

Given that the research by Nabibya (2013) concentrated on the CBA for primary school teachers which was based on the single tool of implementation called the scheme of service approach as preferred by KNUT, this study will endevour to determine the characteristic differences in trends of such equity in grade promotions based on the two approaches that operationalized the 2017-2021 CBA in PPE institutions based on the years of service.

This study concentrates on post primary institutions because their teachers are in both KUPPET and KNUT and hence their CBA is operationalized by both CPG and SoS respectively. This is owing to the fact that all the studies in the literature reviewed on years of service for teachers, except Franden (2016) and Lovenheim (2009), established that CBAs have an effect on the trend exhibited in equity in grade promotion of teachers, either positively or negatively.

Furthermore, both Hoxby (1996) and Figlio et al. (2007) suffered from two major flaws. Both studies, first, investigated the role of labor unions in benefit acquisition, and second, evaluated classroom teachers' effectiveness in terms of their students' academic growth.

Although test scores are a reflection of instructors' efforts, other factors such as family income, parental education, kids' entering behaviors, school characteristics, and disparities in socioeconomic backgrounds have a significant impact.

Since this study is dealing with a CBA that has been implemented by two different approaches on grade promotions of teachers in the same institutions, the difference in the levels of equity established based on years of service will help to unravel the uncertainty created by the two approaches.

The findings further helps to ascertain whether the increasing rates of 68.1% in professional output and 95% in equity in promotional opportunities due to a single approach in CBA implementation as established by Agola (2016) and Nabibya (2013) respectively still exist for KNUT even though it was among primary school teachers only.

2.4 Equity in Grade Promotion of Teachers Based on Academic Qualifications

In public teaching sector, CBAs are meant to safeguard fairness in award of grade promotions to teachers amongst other roles. The consideration of one's academic qualifications is a key determining factor in enhancement of fairness depending on the tool used in operationalizing CBA as its approach. However, in the world over, it has not been easy to ascertain the exact levels of equity in career progression based on academic qualifications because of the diverse interests accrued from work–related preferences and prejudices especially on lucrative job cadres, salary attachments, grade promotions and higher appointments.

According to various studies, unions have historically and significantly reduced inequality in the distribution of wages and grade promotions based on academic qualifications in preference for work-hours and job worthiness by narrowing the gap of salary attachments between the highly-educated versus the scantly-educated with a variance of promotions for teachers in the public sectors by 30% - 40% (Han, 2012).

Unions worry that their long-standing, broadly-beneficial methods will be undermined if they introduce an equity dimension into collective bargaining. When seen in a broader framework, encompassing the rights of job seekers as well as job holders, practices like seniority at work overshadow everything and close internal selection procedures that defend the interests of current employees, and are thus perceived as implicitly discriminatory. The Italian case study (Bergamaschi, 1998) exemplifies this point well by showing how unions had to deal with competing equity concerns, such as protecting current employees (current members) while also ensuring the rights of prospective employees (potential members).

In the west, specifically the United States, teachers' trade unions have worked through negotiated CBAs to achieve objectives of growing the share of the public school labour force that they represent and minimize competition from non-union shops by ensuring equity in career progression of their workforce is through academic qualifications on resolutions reached during collective bargaining processes (Han, 2012).

A study on the effect of Teachers' Unions on Educational Outcomes by Zhu (2019) in USA found no effect of participation in teachers' unions on student outcomes but rather a

significant effect on career progression of teachers based on their professional and academic qualifications. Given that the study further recommended for a scientific study to investigate the aspect of teachers' participation in the unions on their career progression through CBAs based on academic and professional qualifications, this study intends to fill this gap by looking at the effect of teachers' CBA on the specific levels of equity achieved in grade promotions based on the academic qualifications of teachers.

In Portugal, CBAs often merely reproduce relevant legal texts (Lince, 1998) where equity issues are pursued based on academic qualifications of the tutors in education sector. This is through the agenda-setting role of both national and European equality law (including soft law such as Codes) as often evidence. The emergence of strict adherence to academic qualifications as the main factor of consideration for equity in promotions of teachers during CBA negotiations in Portugal, Ireland, Greece and Spain following European initiatives provides the justification for preferential promotions of the highly educated counterparts, who are majorly males at the expense of their scarcely educated females in these patriarchal-dominated nations (Browne, Karamessini & Alemany, 1998). In providing the minimum academic standards, legislation sets not only a safety-net but also a lever to be used in bargaining for common agreements that are unanimously and easily accepted on academic qualifications or achievements.

However, many studies in public teaching sector in Africa reveal varying and increasing degrees of inequalities in access to grade promotions based on academic qualifications (Eshiwani, 1993). This is attributed to the fact that education, which is supposed to

produce academic qualifications, is in itself inequitably allocated in favour of the rich at the expense of the poor, hence grade promotions consequently favour those from higher socio-economic status than those from lower status due to background causes (Republic of Kenya, 2020a).

In some countries it appears that detailed legal regulations have overtaken academic achievements in addressing equity issues in job markets and workers' grade promotions. In other cases, the criteria on use of academic qualifications has led to inertia in the bargaining process for equity in grade promotions on legal allegations that it encourages segregations in social classes at the expense of service at workplaces (Kravaritou, 1997).

A research study by Zvobgo (2019) on the Southern African Development Community (SADC) in Africa, observes that international conventions as well as regional constitutional establishments of countries come in strongly to supplement the respective CBAs of both public and private entities in individual countries for equity in career progressions of its workforce sidestepping the strict requirements of academic achievements for teachers. While focusing on the current member states of the SADC which include Angola, Botswana, Comoros, Democratic Republic of Congo, Kingdom of Eswatini (Swaziland), the Kingdom of Lesotho, Madagascar, Malawi, Republic of Mauritius, Mozambique, Namibia, Seychelles, Republic of South Africa, United Republic of Tanzania, Zambia and Zimbabwe, which adopted a Social Charter in 2003 whose overall objective was to facilitate equity in career progression of all sectors of the economy including the teaching profession by adopting career development based on

socio-harmonious labour relations within the region rather than emphasis on academic standards of the individual cases. The study concluded that CBAs are highly significant in enhancement of career progression of its workers if focus on regional integration and economic empowerment is embedded on a common social charter rather than on private intellectual traits of individuals.

However, the study further reveals that CBAs cannot on their own guarantee equity in promotions of their workforce but requires additional support of other regional or international legal conventions or charters whose legal frameworks also affirms the right to free association, professional development and advancement in career such as the African Charter on Human and Peoples' rights. Under Article 1520 of the Charter, every individual has the right to "work under equitable and progressively satisfactory conditions" which can be achieved through collective bargaining.

Whilst most of the African countries have either legislations or Constitutions that commit to collective bargaining, the levels of implementation differ as per the levels of political development or prevailing economic conditions of the countries and the involvement of the international donor community which tend to put less emphasis on private rates of returns in preference to social rates of returns to equity in grade promotions. It is on this same basis that the constitution of Kenya (2010) automatically anchored all international conventions, including ILO conventions, into domestic law like the Collective Bargaining Agreements Convention, 1981 (No. 154) which ensures that collective bargaining provides sufficient amplitude to compass all facets of equity in promotional working with

dignity under any economic conditions through the 3-year maximum ultimatum for any grade stagnation.

Another study by Otoo (2017) established that teachers' trade unions in Africa have continually and persistently struggled through CBAs for the protection and improvement of annual-based salary increaments emanating from cadre promotions of teachers based on their academic qualifications. It further reveals that through the same collective negotiations, security of tenure in the work place is enhanced by shielding members against unfair dismissals as well as safety and healthy working environment for members who are permanently employed.

However, the condition for permanency in employments is anchored on certain minimum academic qualifications beyond which career progression is equitably guaranteed until retire. It concludes that African teachers' trade unions have over the years increasingly lobbied governments and their agencies for legislations that favour equity in grade promotions through CBAs based on academic qualifications. The study finds unions through CBA implementations to have had significant effect on equality, fairness, respect for human and workers' rights, and social justice on the education sector based on the academic achievements of the tutors.

Further findings from studies by Kirton and Healy (1999) and Pocock (1997) on the role of CBAs on equity in career progression in Africa, have advocated for a proportional presence of women and proper representation of women's concerns in collective bargaining processes as a matter of democratic principle while basing on the fact that

most of them are unfairly discriminated in lucrative appointments in senior job cadres despite having higher academic qualifications than their male counterparts. The underrepresentation of women, and the suppression of women's concerns, can be seen as keeping with democracy only if one assumes that individuals are gender neutral. They go further to note that, women's presence among union office-holders, decision-makers and negotiators is important as a link in ensuring equity in promotions of their gender to higher job categories based on their intellectual capabilities as reflected in higher academic qualification as a motivation and an internal capacity of unions seeking to promote equity through CBAs.

In Kenya, any extra higher academic qualification obtained by a teacher automatically led to an incremental credit by TSC based on the level of education attained up to the year 2014 when it seized being implemented. This was however, during the SoS era of CBA implementation on grade promotions. The stoppage was pegged on the ballooning wage bill of TSC out of the many teachers that were pursuing and achieving higher academic qualifications in anticipation of more grade promotions.

After the stoppage, the alternative route of enhancing grade promotions in teaching sector slightly shifted in favour of experience (years of service) and performance at the expense of individual academic qualifications (Akelo and Onyando, 2020). Unions sought to have CBAs that would specifically influence wages and grade promotions of teachers but left the choice on the methodology of award of the promotions to TSC. This resulted in the

non-union versus union pay gap of grade promotions estimated at 12% - 22% (Republic of Kenya, 2020c).

However, the exact levels of achievement of equity in grade promotions of teachers through CBAs cannot currently be easily ascertained. Little is revealed on grade promotions of teachers based on their academic qualifications through CBAs. Instead, minimum academic qualifications are best utilized during the initial recruitment of teachers into the profession as a basic requirement after which no study has endeavored to establish the level of significance of the qualifications in subsequent years nor grade promotions.

While the minimum entry into the teaching profession was set at grade J and K for Diploma and Degree holders respectively, the two approaches in implementation of the 2017-2021 CBA had different methodologies for grade promotions of teachers in PPE institutions based on academic qualifications. This is further complicated by the marking scheme of interviews for grade promotions of PPE teachers (Appendix VI) which tends to give a paltry difference of two marks between each level of education. Such a small difference, for instance between a PhD and Master's degrees, or Master's and Bachelor's degrees tend to be demeaning and discourages further pursuit of higher education qualifications for grade promotions. The situation is further worsened in the same marking scheme by the one-mark difference between diploma and degree qualifications.

This implies that upon one spending another three or four years to acquire a degree from a diploma, the amount of money and duration of time that would be spent is equivalent to

one mark in pursuit of grade promotions. This disadvantages those who enroll for further studies thus weakening the relevance of academic qualifications for promotions.

Given that the two independent approaches in Kenya had different ways of effecting grade promotions to teachers based on the two academic qualifications (diploma and degree) at post-primary level controlling for years of service, this study endeavored to establish which of the two approaches was more equitable in award of grade promotion based on it. This is owing to the fact that under SoS, a teacher who joined the profession with a diploma qualification had to undergo two automatic promotions in grade to be at the same level of a degree counterpart who only underwent one such automatic promotion. However, under CPG both diploma and degree holders were entitled to only one automatic promotion each, followed by competitive promotions through interviews.

Therefore, this study endevoured to establish whether academic qualifications of teachers play any significant role in their grade promotions beyond determining the initial point of entry in the profession. This was done based on the two approaches of CBA implementation with an aim of establishing the one that is more equitable in accruing grade promotions based on the highest academic qualification of teachers.

2.5 Equity in Grade Promotions Based on Teacher Performance

Grade promotions in the teaching sector is basically supposed to be naturally and mainly determined by teacher performance as a reward for hard work (Urbanski, 2001). However, the rate and size of promotions is influenced by the CBAs depending on how they are negotiated between the employer and employees through their labour unions

(Colling, 1997). A number of case studies (Dahlberg 1998, Alemany 1998, Brumlop 1997, Bleijenbergh 1998, Colling 1997) note that although teacher promotions are mainly anchored on teachers' professional performance, CBAs normally introduce other parameters of consideration with an aim of championing for equity in grade promotions of their members thus diluting the influence of teacher performance as the sole indicator.

For example, Brumlop (1997) underscores the importance of the nature of collective bargaining processes between parties as a factor of securing an agreement of promoting teachers based on their subject performance. The study observes that levels of union density vary but the unions are firmly based and sufficiently confident with CBAs as a mechanism for resolving and achieving diverse objectives in career progression with more emphasis on teacher performance. Bringing equal opportunity into collective bargaining seemed to be associated in various case studies with a high trust on teachers' performances in terms of the scores obtained by their students. This appeared to be so in the case studies undertaken in Sweden, Spain, Germany, Netherlands and UK which strongly connected CBAs and career progression of teachers through TPAD tool ratings and Performance Contracting (PC) scoring for principals of secondary and head teachers of primary schools for purposes of establishing teacher performance as a panacea for grade promotions.

According to Zhavoronkov (2015), unions primarily negotiate CBAs to protect and enhance the rights of their members to receive better pay and workplace protections based on their performance. However, some of the approaches used in the

implementation of the CBAs measure teacher performance in terms of their professional development ranging from the egregious to trivial (Jordhus-Lier, 2012). In seeking equity in career progression, such CBAs become critical in the labour unions' use of professional development as a significant yardstick in determining grade promotions of teachers (Jordhus-Lier, 2012; Boniface & Rashmi, 2013 and Compa, 2014).

Joo (2012) defines professional performance as the means by which teachers can enhance their own proficiency in the classroom. Teachers can expand their expertise with the use of these materials, which also facilitates mentoring and the development of new pedagogical skills. According to the study, which established a strong positive relationship between teachers' performance as a result of professional development and the learners' academic performance, the latters' academic performance was directly influenced by the quantity and quality of professional development gathered by the instructors. However, by associating the instructors' performance with the learners' academic outcome, the study fails to identify and account for the relationship between the instructors' performance and their grade promotions.

On the other hand, although quite a number of studies directly associate learners' academic performance and their teachers' grade promotion, the role of teacher performance in them largely lacks. Further, whereas both Adelberg (2008) and Sergiovanni et.al (1980) observe that the learners' positive deviation in academic performance is a strong indicator of teachers' grade promotions, Kim et al., (2015) strongly contradicts this with an establishment that there is no direct relationship between

learners’ performance and grade promotions of teachers while citing a number of other contributing factors such as teachers’ own professional development.

Indeed, the general assumption among many scholars that the teacher performance through their own professional development has an effect on the learners’ academic performance which in turn impacts on the teachers’ grade promotions has to be investigated. This pegs for investigation into the direct contribution of the professional development of teachers on their performance. This is further complicated by Zengele (2013) who opposes the use of the learners’ academic performance as a measure of the teachers’ performance.

Although certain scholars view teachers' unions negatively due to union resistance to popular school reform ideals and programs, previous research (Aguinis, Gottfredson, & Joo, 2012; Rau, 2012) has shown that teachers' unions can be a positive force in improving the professional performance of their members.

According to Bascia (2003) and Mundy et al. (2008), unions have always been at odds with the idea that their efforts should increase teacher productivity in a way that benefits students' learning. Instead, unions have focused on the idea that their efforts should increase teachers' professional performance so that they can advance in their careers. The lack of empirical data on the impact of teachers' CBAs on the outcome of their grade advancement is confirmed by the review's findings.

Jones-White (2004), Fuller et al. (2000), and Terry (2010), among others, found a direct correlation between professional teacher performance and negotiated CBAs that focused

on teachers' progression in teaching cadres. These studies were conducted in Europe and some specific states in the USA. However, since Kenya is a poor nation with weak systems for teacher performance, it would be impossible to duplicate such findings and accept them as genuine in the Kenyan circumstances without a research being conducted on it in Kenya.

In Asia, and particularly in Philippine, emphasis for career progression through grade promotions of tutors is majorly attributed to the numerosity, frequency and quality of professional output that favour academic qualification of the tutor. They hold the view that initial academic qualification is for knowledge acquisition and merit for joining the profession but teacher performance is for skill-based expertise in perfecting teacher outputs. As a result, Philippine enjoys one of the highest rates of career progressions in teaching profession because grade promotion is largely controlled and influenced by CBAs through the implementation approach that favours short term courses rather than the academic achievement of the teachers at the point of entry in the teaching profession.

The more the number of short-term refresher courses attended by a teacher which boosts his/her performance in learners' results, the faster is the rate of movement from one grade to another. However, emphasis is put on attendance to public training institutions at the expense of private ones in professional development since the unions easily enter into memoranda of understanding with them after registration of the negotiated CBAs.

In Australia, there is no mandatory nor universal countrywide collective bargaining processes by unions despite there being unions. Instead, there is a provision for a two-way approach in grade promotions. One is industry-wide or occupation-wide regulations,

called Modern Awards, which set industry-specific wage floors that vary by skill level. The Modern Awards is affiliated to the small-scale sectorial bargaining agreements whose grade promotions are determined purely by performance of the workers.

The second one is the external regulator approach that is state-controlled without involvement of the unions. Around three-fifths of employees have wages and grade promotions that are not determined by the employer but rather by the government's policy paper that gives guidelines through the relevant ministry.

Awards in Australia set sectoral minimum wages that vary according to the skill level of the job, with provisions for night and weekend premiums ("penalty rates"), overtime pay, working time and cadre promotions in workplaces. Modern Awards cover a whole sector like the entire teaching profession in most states and territories. Australia also has a "national minimum wage", but this is usually fixed at the lowest rate in any award and adjusted every year at the same time to the rest of the award pay structure cognizance of the subject performance of the teachers.

Awards are set by a federal tribunal, the Fair Work Commission, whose members are drawn from backgrounds with skills in teacher performance and professional development initiatives for promotion. The Commission is also tasked with revising, after consultations, wage rates and those to be promoted at every four years depending on the number and level of output by teachers within the period of the agreements. Outside these reviews, the relationship between grade promotions and teacher performance is determined and jointly reviewed in the subsequent agreements. This arrangement

produces grade promotions in Australia whose equity is not guaranteed due to the two-way approach in implementation.

Similarly, such a system has been in place for several decades with the same organizational structure in New Zealand until 1991 (Peetz and Rasmussen, 2018) when concerns arose about grade promotions due to lack of clear structures on CBAs. A detailed comparison analysis of the 'teacher performance' approach versus the 'length of service' approach in grade promotions ensued resulting into adoption of CBAs as a methodology for determination of grade promotions. This led to the formulation of a single hybrid tool that incorporated both approaches for CBA implementation favouring the latter more than the former on realization that it is relatively fair and more equitable in accruing more levels of equity (Visser, 2016). However, the 'teacher performance' approach seemed to have been initially favoured by the state during the non-CBA era of promotions in New Zealand (Oberfichtner and Schnabel, 2017).

In Germany, open clauses are usually contingent upon an initial agreement between the signatory social partners in the industry, sector or region. In teaching sector, there is some leeway in designing the clause on career progression in the CBAs to allow for time to time negotiations whenever there is any concern on grade promotions of teachers. This system of CBA negotiation creates room for adjustments and variations in factors to be considered while awarding grade promotions to teachers due to the emerging and substantive issues to be considered. This enhances procedures of derogation to be made in wages, working time, employment offers and grade promotions.

There are three primary elements that Schulten and Bispinck (2017) say constantly changing their attempt to assess whether or not instructors should be promoted to higher pay grades. Annual rates of 65%, 20%, and 15% are assigned to teacher effectiveness, student achievement (a proxy for teacher effectiveness), and years of experience in the field, respectively.

Amlinger and Bispinck (2016) found that the majority of teacher derogation agreements (10%) dealt with salary, allowances, annual bonuses, and/or apprenticeship compensation, whereas 14% dealt with working time. Sectoral agreement clauses specify the norms and conditions under which the deviation can be made, with an emphasis on teacher advancement based on student performance.

Such internal union procedures have helped ensure a controlled usage of opt-outs, claim Haipeter and Lehndorff (2014) and Schulten and Bispinck (2017). However, Baccaro and Benassi (2017) are pessimists, arguing that internal mechanisms for enforcing discipline and rewarding good performance are only effective in a select few industries, most notably the education sector where unions have historically prioritized this approach.

Reforms to expand the flexibility of collective bargaining mechanisms for grade promotions through performance along the lines of the German model have been implemented in several countries, particularly in Southern Europe in the wake of the euro currency crisis. OECD cites Spain (2014), Portugal (2017), and Greece (2016) as three such countries. Careful evaluation of opening clause insertion in CBAs for implementations of grade promotion of teachers based on examination meanscores was given special focus in these nations.

In France and Italy, having sectoral or firm-level agreements are designed to follow the guidelines fixed by peak-level implementation approaches on grade promotions which consider performance as a key factor. This is referred to as “pattern bargaining” in teaching profession and it tends to attach more importance on the promotion of the lower cadre teachers in an attempt to help them push through the system faster and attain peak levels in the career. According to these peak-level CBAs, its binding for one to enjoy automatic grade promotions in the initial stages upon acquisition of certain threshold results in examinations as the sole determining factor.

This mode of CBA implementation is also shared in Denmark and Sweden for grade promotions in teaching where peak-level unions or employer organizations are relatively strong and centralized. However, in these countries, social pacts or comprehensive policy packages are negotiated annually between the government, trade unions and employer organizations to review the effect of performance of the teachers on grade promotion as regular checks and balances to the four-year CBAs (Ibsen, 2016).

However, this was as a result of the use of a single approach that was guiding CBA implementations on grade promotions which used performance as the only criteria for qualification of promotion. This is unlike this study which deals with a CBA that uses two approaches that are different and independent from each other on the same factor of teacher performance in implementation of grade promotions. Moreover, the 2017-2021 CBA had more than one criteria of consideration for equity in grade promotion through the two approaches namely, the years of service, academic qualification and teacher performance through TPAD scores.

In Africa, unionism has laid emphasis on collective and team-based promotions of teachers through automatic promotions from one grade to another based mainly on years of service with some measured focus on teacher performance. They justify this approach with a claim that teacher performance cannot be solely measured in terms of the learners' academic outcomes since they are influenced by other intrinsic and extrinsic factors (Zengele, 2013). The study established that more consideration was put on experience rather than performance in grade promotions turning them into collective rather than individualistic promotion.

In South Africa, teacher absenteeism which has been attributed to advocacy for industrial action by the labour unions has been significantly and strongly associated with poor performance of both learners and teachers and directly linked to low rates of grade promotions. Adverse impacts of teachers' strikes have rippled throughout the education sector specifically affecting and disrupting teaching programmes as well as getting responsible for numerous school closures. South Africa has also had to deal with violent teachers' strikes and riots with unionized teachers intimidating schools that remain open during such industrial actions causing low teacher performance and stagnation in job groups (Willis, 2014).

Adelberg (2008) used a descriptive approach to investigate how educators regarded the part played by union leadership in debates of education reform and career advancement as measured by educators' mean student test results. According to the results, educators see themselves as champions for their kids. But they worried that this duty would

undermine the union's more established roles. This meant that the union faced an uphill battle in trying to persuade its members and the general public that its CBA mandating promotion for all teachers with positive deviations in student performance was important.

According to the functionalist argument presented by Barber (1992), experts possess special, secret information. Teachers who demonstrate notable improvement in their abilities and are rewarded with frequent advancements in pay and position acquire these skills and knowledge over time. These eventually lead to promotion in cadres.

According to Sergiovanni et al. (1980), when teachers are promoted based on their performance, the public develops a lot more faith in the education system as a whole. According to the research, there are two major benefits to the union's ability to push for professionalism in the teaching profession: elevating the status of the profession through performance, and ensuring that the public receives service from the most qualified individuals through regular grade promotions based on performance.

Teachers' unions emerged in Kenya, as they do in most developing nations, since teachers' salaries and professional statuses had remained unchanged despite their extensive efforts. Collective bargaining, according to Avers (1992), is more important than working for egalitarianism when it comes to the job of a teachers' union. According to his study, many educators feel they are underpaid because of lack of merit concerns. He says that despite being treated as professionals, educators are never included in the policy making or evaluation processes that result in the educational legislation and school rules that they must apply.

To further isolate the educators from the promotion process, external factors govern both the procedure and the outcome of their CBAs. Therefore, unions representing educators emerge to help their members exercise their democratic rights to participate in collective bargaining processes. The methods used to execute CBAs put unions under pressure to encourage professionalism throughout promotion processes. In developing a strategy for implementing a CBA on grade promotion, the study favors focusing on teachers' individual performance. An obvious option to take when planning how to implement a CBA is to focus on teachers' individual performance. This is based on the belief that a teacher's effectiveness in the classroom is the most important factor in determining students' final grades.

Ibrahim (2007) argues that teachers should be promoted to higher positions if their union succeeds in creating better working conditions, increased teacher agency, and greater job satisfaction. The study concludes that teacher unions are frequently cited as a safeguard for performance evaluations based on results. Kenyan teacher unions have a long history of advocating for teachers' rights on topics including understaffing and welfare (Akelo & Onyando, 2020). However, there is a dearth of data on how they actually affect job performance and chances for advancement. According to the research, the CBA implementation technique is the key to breaking through career plateaus in the education sector, leading to considerable professional growth and development and improved student outcomes. The study concludes that instructor effectiveness, which is itself a product of ongoing training, is an important consideration for deciding which students to promote.

While policy formulation in most countries, including Kenya, involves several stakeholders (such as government, business sector, university researchers, NGOs, and donors), Chisholm and Ngobe (2003) found that teachers were generally less active than other stakeholders. Notably, when policy frameworks are transformed into funding frameworks, only government departments, donors, and their technical advisors are involved. There was no discussion of how these results related to teachers' production or performance, or how unions had a role in improving teachers' chances of getting promoted because of their performance.

Musyoka (2012) investigated the impact of the KNUT's welfare programs on primary school teachers in Kenya's Mwingi District. The research confirmed that teachers benefit from their unions' social and economic programs. The study's author also noted that Kenyan teachers' unions play an important role in advancing their members' well-being by organizing various income-generating activities and welfare programs like savings and credit initiatives, burial and benevolent fund, children's education schemes, enterprise and housing schemes, and more. The research shows that these social initiatives inspire educators to improve their performance in the classroom. The study aimed to connect teacher effectiveness with salary increases and promotion opportunities. However it falls short in doing so because of the many limiting factors that controlled its outcome.

The inability to evaluate instructors only on their own performance, rather than using the performance of their pupils/students as performance, is a major flaw in most studies of teacher performance in Kenya (Kim and Loadman, 1994). In the majority of instances, the performance of the students in their final national examinations, expressed in terms of

mean scores and grades, is selected as the teachers' performance, despite the differences in the entry behavior of the students in the initial stages of the education cycle and the varying socio-economic backgrounds of the learners, which have a direct impact on their performance (Kim et al., 2015).

Researchers have found no correlation between student success on standardized tests and teachers' pay increases or promotions (Zengele, 2013). Most studies instead associate teachers' rises in rank with their own efforts, such as continuing their education and building their network within the profession.

As Dickens (2004) further uncovers, trade union CBAs are often used to promote gender equality in the workplace. The emphasis on gender equality in promotions continues to exceed the importance of teachers' actual performance in the classroom. The study concludes that in most important areas of teaching, the dependence on teacher performance as a crucial indication for grade promotions is eroded by affirmative actions in favor of female gender.

Prioritizing teachers from marginalized, hardship, and Arid and Semi-Arid Lands (ASALs) during grade promotion tends to offset teacher performance more than any other predictor of grade promotions, according to research by Ruhukya (2014). They dampen the ambition of educators who hope to advance in rank. It also shows that such incentives, when combined with hardship allowances, make an already complicated career path even more so. This compromises performance as a panacea for promotion.

According to Guthrie (2002), labor unions have expanded their focus to include areas like school reform and training, national politics, and the provision of loans to members in order to enable the latter to pursue professional development in preparation for grade promotions through individualized teacher performance in the courses.

According to the study, the union connection to teacher performance in primary schools through collective negotiations created a powerful systemic effect on promotions in grades of the teachers by connecting performance with grade promotions. Teacher performance was enhanced through trainings and induction, assessment of learners and the curriculum implementation while grade promotions was enhanced through teacher proficiency tests that were recognized by both teachers' employer and the teacher unions.

They used the scheme of service approach to award automatic grade promotions upon satisfactory performance in teacher proficiency examinations in form of short trainings hence creating a strong close relationship between automatic collective bargained grade promotions and teacher performance. This is due to the fact that upon any teacher passing a proficiency test, he/she automatically qualified for upgrading to the next job group. The study further established that promotions due to professional development through teacher proficiency tests were not only automatic but also life-long among primary school teachers up to the last job group under SoS approach (grade R). This study takes place when the approach is no longer SoS only but both SoS and CPG.

According to Nyambala (2001), partnership with educational local and international donor organizations by trade unions was meant to boost teacher performance. The study shows that the union carried out education programmes focusing on areas such as

performance empowerment of teachers, job satisfaction topics, child labour, and employer and Education Bills. It further establishes that excelling in subject examinations by students was meant to boost promotion of teachers in the various grades.

However, the study fell short of investigating the specific degree of equity advanced in grade promotions due to the teachers' professional performance versus learners' performance which is consequently also a measure of teacher performance. Whereas the CBAs preceding the 2017-2021 one strongly used the length of service as a critical yardstick in promotion, this one intended to shift its approach in favour of teacher performance as a criterion for grade promotion. However, the levels of equity in grade promotion attainable through it remain uncertain due to its implementation by two approaches instead of a single one. Hence, the need to establish the specific levels of equity achievable through performance-based CPG approach versus the period of service-based SoS approach operationalizing the same CBA for the teachers at the same level.

2.6 Summary of the Literature Reviewed

The reviewed literature illustrates that CBAs in labour unions emerge to occupy a gap that is necessary in the linkage of the teacher's career progression and the implementing approach of the CBAs based on the equity parameters enshrined in such CBAs on grade promotions. Indeed, most of the scholars in the literature reviewed on CBAs have attempted to look at either effects, relationships or correlations of the CBAs with various aspects of teacher characteristics or education systems for access in promotions.

However, the aspect of measurement of differences has not been ventured in by researchers because all the CBAs have characteristically been being operationalized by only one approach in implementation. In Kenya, ever since CBAs became the criteria of consideration for grade promotions in teaching since 2005, there has been only one approach for implementation of the CBAs known as the Scheme of Service for teachers. The single approach was operationalizing the CBAs for both KNUT and KUPPET unions in both primary and post primary institutions. It is the 2017-2021 CBA that was the first one to be implemented by two different and independent approaches for grade promotions of teachers in the same institutions based on the same parameters in the CBA for different unions, majorly KUPPET and KNUT.

This study therefore focused on the aspect of measurement of differences as a statistical procedure in its attempt to determine the difference in levels of equity attained by the two approaches based on the 2017-2021 CBA. It was carried out at post primary level because it is at this level in teaching that teachers belonged to any of the two unions.

Scholars have addressed the changing economic landscape for labor unions (Nowak, 2015), the role of CBAs and interest-based bargaining (Boniface & Rashmi, 2013), the link between CBAs and their impact on creating high performance work practices (Gyesie, 2017), an analysis on how unions can create high performance (Posthuma, Campion, Malika, and Campion , 2013) and the criticality of CBAs to unions (Kochan, 2012) and (Jordhus-Lier, 2012) but there is no study that has specifically evaluated the CBAs effect on career progression based on the respective implementation approaches.

Some studies have looked at the effect of teacher characteristics on grade promotions without specifically putting into consideration the influence of CBAs in such promotions.

In essence therefore, the researchers have not explored the critical analysis of the efficiency of the tools/approaches that implement CBAs on grade promotions. In an attempt to fill this gap, this study focused on two approaches that uniquely implemented a single CBA serving two different unions in determining the differences in the grade promotions of teachers that accrue from their combined use. Hence this study endevoured to determine the difference in equity in grade promotion of post primary teachers in the application of the SoS and CPG approaches that operationalized the 2017-2021 CBA based on the three parameters that were intended to depict equity in the promotions.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methods that were employed in this study. It covers the research design, area of the study, study population, sample size and sampling procedure, research instruments, ethical considerations, data collection and data analysis.

3.2 Research Design

This study adopted a comparative research design since the design essentially compares two different groups to determine either similarities or differences between them for revelations on a common phenomenon (Lodico et al., 2006) which in this case were the two different approaches used in CBA implementation and their contribution to equity in grade promotions of teachers respectively. Both quantitative and qualitative aspects were used to explore how the 2017-2021 CBA has either hindered or enhanced equity in grade promotions of teachers based on SoS versus CPG approaches of its implementation.

3.3 Study Location

This study was carried out in Kakamega County which is located in the former Western Province of Kenya and borders Vihiga County to the South, Siaya County to the West, Bungoma and Trans Nzoia Counties to the North and Nandi and Uasin Gishu Counties to the East. The constitution of Kenya (2010) established 13 sub-counties in the county as administrative units while the 2019 census established the county to be the second largest

county in population after Nairobi County with a total population of 1,867,579 people on an approximate area of 3,033.8 km^2 and a population density of 618 people per km^2 (Republic of Kenya, 2019a). The study was done in Kakamega county because despite it being in the lowest category of access to promotion in secondary schools nationally with a stagnation index of 15.7 years (Appendix II), it was the one leading in the number of unionized teachers in both KUPPET and KNUT at PPE level nationally (Appendix I).

On educational institutions, the county has a total of 1,238 Early Childhood Development (ECD) centres, 1,129 primary schools and 408 secondary schools. It also has 4 Teacher Training Colleges, 51 Youth Polytechnics, 3 Technical Training Institutes, 6 university campuses and 1 chartered university, as shown in Table 3.1.

Table 3. 1: Summary of Education Institutions in Kakamega County

Category	Public	Private	Total	Enrolment
ECD Centres	883	355	1238	105,426
Primary schools	876	253	1129	557,107
Secondary schools	397	11	408	116,732
Youth Polytechnics	47	4	51	102
Technical Training Institutes	3	0	3	2381
Teachers Training Colleges	2	2	4	812
University Campuses	5	1	6	10,657
Universities	1	0	1	
Adult Education Centres	195	0	195	16,542

Source: 2019 Kenya National population and Housing census

For purposes of this study, the educational institutions that were used are the post-primary ones that have their tutors normally recruited and posted by TSC only. They include the public secondary schools (397), TTIs (3) and TTCs (2) totaling to 402 public

PPE institutions in Kakamega county. The teachers in these PPE institutions have been distributed in the county by gender, school category and union status per Sub County as shown in Table 3.2.

Table 3. 2: Categorization of PPE Teachers by School Type, Union Membership, Sub-County & Gender in Kakamega County

Sub-County	School Category	KNUT Members			KUPPET Members			Both unions			Non-Union	Total
		M	F	Total	M	F	Total	**M**	**F**	**Total**		
Butere	National	3	4	7	7	7	14	10	11	21	0	21
	E.C	10	10	20	31	20	51	41	30	71	2	73
	County	10	10	20	35	23	58	45	33	78	5	83
	S.C.	17	11	28	70	81	151	87	92	179	3	182
	Total	**40**	**35**	**75**	**143**	**131**	**274**	**183**	**166**	**349**	**10**	**359**
Kak Central	National	3	13	16	29	19	48	32	32	64	2	66
	E.C	11	19	30	61	51	112	72	70	142	1	143
	County	17	16	33	27	36	63	44	52	96	1	97
	S.C.	12	21	33	82	89	171	94	110	204	3	207
	Total	**43**	**69**	**112**	**199**	**195**	**394**	**242**	**264**	**506**	**7**	**513**
Kak East	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	19	22	41	29	36	65	48	58	106	5	111
	County	16	21	37	108	107	215	124	128	252	8	260
	S.C.	11	23	34	153	92	245	164	115	279	2	281
	Total	**46**	**66**	**112**	**290**	**235**	**525**	**336**	**301**	**637**	**15**	**652**
Kak North	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	17	21	38	87	71	158	104	92	196	7	203
	County	13	18	31	113	106	219	126	124	250	6	256
	S.C.	29	29	58	141	109	250	170	138	308	3	311
	Total	**59**	**68**	**127**	**341**	**286**	**627**	**400**	**354**	**754**	**16**	**770**
Kak South	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	11	21	32	91	99	190	102	120	222	2	224
	County	13	23	36	93	73	166	106	96	202	6	208
	S.C.	17	24	41	77	67	144	94	91	185	3	188
	Total	**41**	**68**	**109**	**261**	**239**	**500**	**302**	**307**	**609**	**11**	**620**

Table 3.2: Categorization of PPE Teachers by School Type, Union Membership, Sub-County & Gender in Kakamega County *(Continued)*

Sub-County	School Category	KNUT Members			KUPPET Members			Both unions			Non-Union	Total
		M	F	Total	M	F	Total	M	F	Total		
Khwisero	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	8	11	19	43	31	74	51	42	93	2	95
	County	16	12	28	32	39	71	48	51	99	2	101
	S.C.	18	15	33	45	35	80	63	50	113	2	115
	Total	**42**	**38**	**80**	**120**	**105**	**225**	**162**	**143**	**305**	**6**	**311**
Likuyani	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	10	9	19	23	28	51	33	37	70	3	73
	County	14	13	27	24	39	63	38	52	90	2	92
	S.C.	15	10	25	45	63	108	60	73	133	1	134
	Total	**39**	**32**	**71**	**92**	**130**	**222**	**131**	**162**	**293**	**6**	**299**
Lugari	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	9	7	16	29	37	66	38	44	82	1	83
	County	12	12	24	52	47	99	64	59	123	1	124
	S.C.	18	19	37	73	64	137	91	83	174	1	175
	Total	**39**	**38**	**77**	**154**	**148**	**302**	**193**	**186**	**379**	**3**	**382**
Matete	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	10	9	19	21	29	50	31	38	69	1	70
	County	12	11	23	21	41	62	33	52	85	2	87
	S.C.	19	18	37	34	28	62	53	46	99	3	102
	Total	**41**	**38**	**79**	**76**	**98**	**174**	**117**	**136**	**253**	**6**	**259**
Matungu	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	15	13	28	47	43	90	62	56	118	2	120
	County	9	6	15	67	61	128	76	67	143	1	144
	S.C.	15	15	30	30	35	65	45	50	95	1	96
	Total	**39**	**34**	**73**	**144**	**139**	**283**	**183**	**173**	**356**	**4**	**360**
Mumias East	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	6	7	13	42	47	89	48	54	102	6	108
	County	9	6	15	57	51	108	66	57	123	7	130
	S.C.	16	18	34	96	74	170	112	92	204	4	208
	Total	**31**	**31**	**62**	**195**	**172**	**367**	**226**	**203**	**429**	**17**	**446**
Mumias West	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	8	6	14	22	28	50	30	34	64	2	66
	County	15	17	32	23	27	50	38	44	82	3	85
	S.C.	19	18	37	48	43	91	67	61	128	4	132
	Total	**42**	**41**	**83**	**93**	**98**	**191**	**135**	**139**	**274**	**9**	**283**
Navakholo	National	0	0	0	0	0	0	0	0	0	0	0
	E.C	8	9	17	29	39	68	37	48	85	2	87
	County	17	7	24	37	31	68	54	38	92	1	93
	S.C.	19	8	27	76	82	158	95	90	185	4	189
	Total	**44**	**24**	**68**	**142**	**152**	**294**	**186**	**176**	**362**	**7**	**369**
Grand-Total		**546**	**582**	**1, 128**	**2, 250**	**2, 128**	**4, 378**	**2, 796**	**2, 710**	**5, 506**	**117**	**5, 623**

Note. E.C= Extra County; S.C= Sub County

Source: Kakamega county TSC Human Resource Department (as at 30th June 2021)

3.4 Study Population

The study had a total population of 5,923. These comprised of 5,506 unionized teachers posted by TSC in PPE institutions in Kakamega County (where 4,378 teachers were registered in KUPPET and 1,128 were registered in KNUT), 402 administrators in public PPE institutions in the county, 13 sub-county TSC directors of education and 2 union County Executive secretaries (one for KUPPET and the other one for KNUT).

The Ministry of Education has registered 402 public PPE institutions in the county. The unions have an established structure with two administrative levels, the first at county and the other one at national level. The county level has an elected Executive secretary as the chief executive officer who is also the official spokesman of each union at this level.

3.5 Sample Size and Sampling Procedure

The sample for the study was 1,569 respondents, which comprised the 2 County Executive secretaries of unions (one per union), 13 sub-county TSC directors of education, 134 administrators in PPE institutions in Kakamega county which is approximately a third of the total 402 duly registered PPE institutions in the county as recommended by Gay (1987) and 1,420 unionised teachers posted by TSC in the PPE institutions in Kakamega county out of the total 5,506 unionized teachers in the population as obtained using the formula prescribed by Cochran (1977) as follows:

$$\boldsymbol{n} = \frac{Z^2 pq}{e^2}$$

Where: n = sample size required

Z (based on confidence level) = 1.644 for 90%, 1.96 for 95%, and 2.5758 for 99% (found on statistical table)

P = the estimated proportion of the population which has the attributes in question, as a decimal: (0.5 for 50% conservative figure)

q = 1-p

e = the desired level of precision (i.e. the margin of error)

This was calculated separately for KUPPET and KNUT as follows:

Given that 5,623 are the total number of teachers (both unionised and non-unionised) in PPE institutions in the county while 4,378 are the ones registered in KUPPET, then for:

KUPPET; $p = \frac{4378}{5623} = 0.7786$

q = 1-p

= 1 – 0.7786

= 0.2214

$$n = \frac{(1.96)^2 * 0.7786 * 0.2214}{0.03^2}$$

$$= \frac{0.6622}{0.0009}$$

= 736 teachers

For KNUT, the total number of teachers registered in PPE institutions in Kakamega county were 1,128 against the same total number of 5,623 teachers (both unionised and non-unionised) in the institutions, the calculation for the sample was hence as follows;

KNUT; $p = \frac{1128}{5623} = 0.2006$

$q = 1\text{-}p$

$= 1 - 0.2006$

$= 0.\ 7994$

$$n = \frac{(1.96)^2 * 0.2006 * 0.7994}{0.03^2}$$

$$= \frac{0.6160}{0.0009}$$

= 684 teachers

For both KNUT and KUPPET = 736 + 684 = 1,420 teachers

This gave a total sample of 1,420 unionised teachers in PPE in Kakamega County (both KNUT and KUPPET). This would ensure that there is no bias in comparisons between the two approaches in the two unions since the sample is representative of the population.

Therefore, the study sample frame as underscored by Ngechu (2004) was as summarized in Table 3.3.

Table 3.3: Sample Size Frame

Category	Respondents	Population	Sample	Percentage
PPE Institutions	Teachers	5,506	1,420	25.8 %
	Principals	402	134	33.3%
TSC	Sub-County Directors	13	13	100 %
Unions	County Executive Secretaries	2	2	100 %
Total		**5, 923**	**1,569**	**26.5 %**

Source: Researcher, 2021

Whereas saturated sampling was used to select the County Executive secretaries of KUPPET and KNUT as well as all the 13 sub-county TSC directors of education, Purposive sampling was used to select the 134 administrators of PPE institutions to ensure all the four categories of schools are included. However, Systematic random sampling was used for selecting teachers both in KNUT and KUPPET based on the chronological order of their TSC numbers as retrieved from their respective sub-county TSC directors of education, using an appropriate sampling interval from the least TSC number to the greatest one, which is actually the latest TSC number in the sample.

3.6 Research Instruments

Primary data was collected using questionnaires and interview schedules while secondary data was collected using the document analysis guide as guided by the Addendum to the Collective Bargaining Agreement (CA NO. 296 of 2016) which is annexed in the CBA outlining the anticipated movement from one grade to another and the associated perks and allowances attached to every grade of promotion of teachers (Appendix VII).

3.6.1 Questionnaires

Questionnaires were administered to the teachers and principals totaling to 1,554 research respondents which was the target sample for data analysis since the remaining group of respondents would be considered for qualitative source of data. For both teachers and principals, the questionnaires were specifically meant to gather information on their qualifications for promotions between 2017-2021 based on the criteria outlined in the CBA (as reflected in the conceptual framework), the number of times they had attended promotional interviews, the number of grade promotions that they had undergone (if any) within the study period, the data on their years of service, academic qualification and TPAD annual scores for each of the year within the study period. The questionnaires further gathered information on their current job grades/designation and the category of school they were in.

3.6.2 Proforma for Document Analysis

Proforma for document analysis were administered as secondary sources of data in the study to the research respondents. They contained checklists for determination of trends in award of grade promotions between 2017-2021.

However, the addendum to the CBA which shows the implementation matrix per phase for both approaches was used to guide its preparation because it elaborates the procedures and phased intervals of promotions and the expected mode of movements from one grade to another between 2017-2021 (Appendix VII).

3.6.3 Interview Schedules

Interview schedules were the major source of qualitative data where 13 were administered to the sub-county TSC directors and 2 to unions' executive secretaries. To sub-county TSC directors, the interview schedules gathered information on the identity of the schools in which the teachers of various TSC numbers were, the number of times TSC had advertised for grade promotions per year for the study period, the exact number of applicants per grade, the shortlisted, those interviewed and those eventually promoted per year as well as the criteria used for grade promotion. For County Executive Secretaries, the interview schedules gathered information on the union membership, the approach used in the union for CBA implementation on grade promotion and the effect of the approach on trend and frequency of teacher promotions.

3.7 Piloting

3.7.1 Validity of the Instruments

The study adopted content validity which was enhanced through the questionnaires that were individually filled by the research respondents and counter-checked with the addendum to the CBA. Both of them were to ensure the validity of the information gathered on teacher qualifications and award of promotions to them in the CBA.

To enhance this validity, pilot study was done by randomly sampling 10% of the schools in the largest sub-county for teachers while ensuring that the sampled teachers will not be included in the final sample of the study. Their findings were presented to an expert in

the Department of Educational Planning and Management of Masinde Muliro University of Science and Technology (MMUST) to establish their appropriateness in addressing the objectives of the study.

3.7.2 Reliability of the Instruments

Internal consistency method was used to test the reliability of the questionnaires. The average inter-item correlation of all the items in the questionnaire was done since the same kind of construct was being measured whether in SoS approach or CPG approach. In effect, the reliability of the questionnaires was judged by estimating how well the items reflected the same construct in yielding similar results. Its formula is;

$$r_{xx'} = \frac{2r_{hh'}}{1 + r_{hh'}}$$

Where: x = Scores on Scheme of Service (**SoS**)

$x`$ = Scores on Career Progression Guideline (**CPG**)

$r_{xx'}$ = The Internal consistency reliability

$r_{hh'}$ = Inter-item correlation of scores of SoS with CPG statements on the same construct

Hence, the internal consistency reliability of the questionnaires obtained a Cronbach alpha co-efficient of 0.877 which was sufficient for the study to be undertaken.

3.8 Ethical Considerations and Informed Consent

The researcher was guided in research by the sole aim of contributing to the development of systematic and verifiable knowledge. This would ensure that the researcher strictly adheres to the procedures in research design during data collection and analysis. The researcher was under obligation to ensure that the research participants' rights and welfare were not violated before, during and after conducting the research.

To enhance informed consent, participants were briefed beforehand on the research problem, the need for a scientific research on the problem, the reasons for the choice of the area of study and the benefits of the study. The rights and risks associated with their participation in the study were clarified beforehand hence permitting their voluntary involvement in the research with an aim of wanting them to provide honest, valid and reliable information. The confidentiality of the information given was strictly observed in the study by the researcher. Great care was taken to avoid identification of real participants in the study.

3.9 Data Collection Procedures

A research permit was sought from the National Council of Science and Technology (NACOSTI/P/21/13433) through the Directorate of Postgraduate Studies (DPS) of Masinde Muliro University of Science and Technology. The County Education Office

was notified about the research beforehand and permission granted (KAKA/C/GA/29/17/VOL.V/162) as well as the County Commissioner's office (ED12/1/VOL.V/196). Introductory letters were sent to principals of the sampled schools of teachers as well as the administrators of the PPE institutions which had been sampled for the study. Questionnaires were given out, filled within the sessions conducted by the research assistants and picked up immediately after completion at the end of the sessions within a school visit.

3.10 Data Analysis

This study generated both qualitative and quantitative data. Both qualitative and quantitative techniques were used to analyze the data. Qualitative data was analyzed thematically, while quantitative data was analyzed both descriptively and inferentially.

Prior to analysis, the quantitative data collected was checked and entered into the STATA software version 11 program. Data cleaning and management was then undertaken.

The explanatory variable of this comparative study was the approaches used in the CBA implementation which in this case were the Scheme of Service (SOS) and the Career Progression Guideline (CPG) approaches. Since each of these were considered along years of service, academic qualification (measured in years of schooling) and teacher performance (measured in TPAD scores) for purposes of comparing the outcome variable (equity in grade promotion), the three became the sub-variables of the two approaches and were hence regarded as the explanatory variables for the first, second and third objective of the study respectively. They were all measured on the interval scale as was

the outcome variable. This is because years of service, years of schooling, and TPAD scores were quantifiable in specific real-valued digits as was the gini coefficient values measuring for the equity in grade promotions as the outcome variable.

A multinomial logistic regression analysis was then performed for all the three objectives of the study, consequently requiring three sequential regression models to be developed per objective. In the first objective, the first model fitted years of service (explanatory variable) against grade promotion (outcome variable) per union, with the second model controlling for teacher-level characteristics and the third model controlling for both teacher-level and school-level characteristics. In the second objective, the same three sequential regression models were developed but by fitting years of schooling as the explanatory variable against the same outcome variable (grade promotion) while in the third objective, the same three sequential regression models were developed while fitting TPAD scores for 2017-2021 years as the explanatory variable against the same outcome variable (grade promotion). A comparison could then be drawn based on the models developed for the two unions per objective.

The Logistic regression model was preferred per objective to predict the odds (likelihood) of grade promotion among the two unions for comparisons because the study was dealing with possible outcomes of two level categorically distributed outcome variable, given a set of explanatory variables which were either real-valued, binary valued, or categorical-valued (Greene, 2012; Sturdivant, 2013). Hence, whereas logistic regression models were used in the study to depict the odds (likelihood) of a teacher getting promoted by virtue of belonging to a particular union (either KUPPET or KNUT) per variable in each objective,

gini coefficient on the other hand was used to measure and determine the aggregate values of equity accruable in grade promotion for the two unions.

On the other hand, Equity in grade promotion as the outcome variable, was measured on the interval scale. It was measured using gini coefficients in specific aggregate indexed-values since it is binary-valued between 0 and 1. The Lorenz curve was used to show or depict the graphical representation of the two promotion distributions for the two unions. The gini correlation coefficients are interpreted as 0-0.35 for Weak correlation; 0.36-0.67 for Moderate correlation; 0.68-0.89 for Strong correlation; 0.90-1.0 for Very strong correlation (Taylor, 1990) while the more closer the gini coefficient moves to 1, the more the inequitable a distribution becomes while the closer it is to 0, the more equitable the distribution is regarded to be (Todaro & Smith, 2006).

This information on the methods used in data analysis is summarized in Table 3.4.

Table 3.4: Summary of Methods of Data Analysis

Objectiv	Variable	Variable Label	Min	Max	Measurement Scale	Method of Analysis	Inferential Statistic
1	E.V.	Years of Service	3	40	Interval scale	Pairwise Correlation & Logistic Regression Analysis	Gini Permutation Test Statistic
2	E.V.	Years of Schooling	15	21	Interval scale		
3	E.V.	Mean TPAD scores	70.4	73.3	Interval scale		
1-3	O.V.	Equity in Promotion	0	1	Interval scale		

Note. E.V. = Explanatory Variable; O.V. = Outcome Variable

CHAPTER FOUR

PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter covers presentation, interpretation and discussions on the Implementation of the Collective Bargaining Agreement and Equity in grade promotion of post-primary teachers in Kakamega County, Kenya. The chapter is divided into the following six sections: Sample Distribution; Description of variable used in the study; Descriptive statistics of variables used in the study; Difference in equity in grade promotion of teachers between KUPPET and KNUT based on years of service; Difference in equity in grade promotion of teachers between KUPPET and KNUT based on academic qualifications; and, Difference in equity in grade promotion of teachers between KUPPET and KNUT based on teacher performance in TPAD.

4.2 Sample Distribution

Data for this study was collected in post-primary education institutions in Kakamega County from unionized teachers with the aid of Questionnaires. A total of 1,452 out of 1,554 questionnaires administered were returned providing a response rate of 93.44 % which was considered adequate for data analysis (Oso & Onen, 2005) while Interview schedules and proforma for document analysis gave 100% response rate. Table 4.1 presents the distribution of the sample by gender and sub county.

Table 4.1: Distribution of Respondents by Gender and Sub County

Sub County	Respondents' Gender			Total	Percent	Cum
	Female	Male	Not Indicated	(Freq.)		
Butere	83	76	7	166	11.43	11.43
Kakamega Central	60	67	-	127	8.75	20.18
Kakamega East	52	64	-	116	7.99	28.17
Kakamega North	63	89	14	166	11.43	39.60
Kakamega South	48	84	3	135	9.30	48.90
Khwisero	25	36	3	64	4.41	53.31
Likuyani	40	42	1	83	5.72	59.02
Lugari	59	79	8	146	10.06	69.08
Matete	19	39	1	59	4.06	73.14
Matungu	38	53	5	96	6.61	79.75
Mumias East	38	45	6	89	6.13	85.88
Mumias West	32	53	4	89	6.13	92.01
Navakholo	33	36	3	72	4.96	96.97
Not Indicated	6	18	20	44	3.03	100.00
Total	596	781	75	1,452	100.00	

Data in Table 4.1 shows that a total of 1,452 teachers completed the questionnaires of which 596 (41.05 %) were female while 781 (53.79%) were male.

4.3 Description of Variables Used in the Study

All the variables used in this study analysis were coded and entered for analysis on either interval, ordinal or nominal scale depending on the nature of the data collected. A summary explanation of all the variables used in the analysis are provided in Table 4.2.

Table 4.2: Description of Variables Used in the Analysis of the Data

Variable	Variable label	Storage type	Scale	Display Format
t23	#Promotion interviews	Byte	Interval	%10.0g
t24d	Interview outcome	Byte	Nominal	%22.0g
t24dx	1=Promoted twice ½	Byte	Nominal	%14.0g
t24dy	1=Promoted once 0/1	Byte	Nominal	%14.0g
t24e	Years to promotion	Float	Interval	%9.0g
t29x	1=KUPPET 0/1	Byte	Nominal	%9.0g
t29xy	1=KUPPET ½	Byte	Nominal	%9.0g
t42ax	Years of schooling	Byte	Interval	%9.0g
t51a2017	2017 tpad score	Byte	Interval	%10.0g
t51b2018	2018 tpad score	Int	Interval	%10.0g
t51c2019	2019 tpad score	Int	Interval	%10.0g
t51d2020	2020 tpad score	Int	Interval	%10.0g
t51e2021	2021 tpad score	Int	Interval	%10.0g
t62	Male teacher	Byte	Nominal	%8.0g
t65	Designation grade	Byte	Nominal	%8.0g
t69	Sub county	Byte	Nominal	%19.0g
t610b	School category	Byte	Ordinal	%14.0g
t610c	Designation in school	Byte	Ordinal	%11.0g
t98	Term	Byte	Nominal	%8.0g
t99	Year	Byte	Nominal	%8.0g

Source: Researcher, 2021

As shown in Table 4.2, only two variables were measured on the ordinal scale (t610b and t610c) for school category and Designation in the school. The rest of the variables were measured on either nominal or interval scale.

4.4 Descriptive Statistics of Variables Used in the Study

All variables used in this study were analyzed descriptively using frequency distributions, percentages, means and standard deviations. The findings are summarized in Table 4.3.

Table 4.3: Descriptive Statistics for Variables Used in the Analysis of the Data

Variable	Obs	Mean	Std. Dev.	Min	Max
t23	7,120	.850	.844	0	4
t24d	2,531	1.867	.348	1	3
t24dx	2,531	1.864	.343	1	2
t24dy	2,531	.136	.343	0	1
t24e	2,667	16.798	6.402	3.16	36.45
t29x	7,115	.498	.500	0	1
t29xy	7,115	1.502	.500	1	2
t42ax	7,240	16.004	.458	15	19
t51a2017	7,230	70.421	8.668	4	99
t51b2018	7,227	72.768	96.011	4	8181
t51c2019	7,226	72.430	11.464	6	766
t51d2020	7,223	74.455	94.378	45	7972
t51e2021	2,975	73.258	9.695	7	381
t62	6,885	.567	.496	0	1
t69	7,040	6.189	3.738	1	13
t610b	7,062	1.766	1.128	1	4
t610c	6,959	4.575	1.365	1	10
t98	7,260	2.4	.800	1	3
t99	7,260	3	1.414	1	5

Note. Min=Minimum; Max=Maximum; Std.Dev.=Standard Deviation; Obs=Observation

Data in Table 4.3 indicate that the average number of years of service of the teachers sampled was 16.8 (mean for t24e) implying that majority of the teachers should have been in grade D2 in case of a streamlined grade promotion criteria. It also shows that the mean for years of schooling for the sampled teachers was 16.0 (mean for t42ax) translating in to the likelihood of the majority of them being holders of an undergraduate degree as the highest academic qualification. Further, the Table also shows that the mean score for teacher performance in TPAD rating were generally in 70's for the entire study period (mean 70.42, 72.77, 72.43, 74.46 and 73.26 for 2017, 2018, 2019, 2020 and 2021 respectively). Furthermore, the TPAD scores further depicted a marginally fairly increasing trend in performance as years increased from 2017 to 2021.

4.5 Difference in Equity in Grade Promotion of Post-Primary Unionized Teachers Based on Years of Service

The first objective of this study was to determine the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and career progression guideline approaches of the 2017-2021 Collective Bargaining Agreement, based on years of service. In order to effectively address this study objective, respondents were requested to indicate their union, years of service in the profession and the grade promotion(s) they had undergone, if any, between 2017-2021. The results are presented in sections 4.5.1, 4.5.2, 4.5.3 and 4.5.4.

4.5.1 Descriptive Statistics of the Respondents

Findings on respondents' union membership, grade promotion and years of service were as provided in Table 4.4.

Table 4.4: Descriptive Statistics of Grade Promotion and Years of Service

Variable	Variable Label	Frequency	Percentage	Cum.
Union membership	KUPPET	709	48.8	48.8
	KNUT	685	47.2	96.0
	Others	8	0.6	96.6
	None	50	3.4	100.0
	Total	1,452	100.00	
Grade Promotion	Promoted	424	29.2	29.2
	Not Promoted	1,028	70.8	100.0
	Total	1,452	100.0	
Years of service	≤ 5	32	2.2	2.2
	6-10	93	6.4	8.6
	11-15	221	15.2	23.8
	16-20	250	17.2	41.0
	21-25	353	24.3	65.3
	26-30	363	25.0	78.3
	31-35	303	20.9	97.4
	36-40	38	2.6	100.0
	Total	1,452	100.0	

Note. OTHERS=Other unions i.e. KUSNET and KUTT; NONE= Not in any union

Table 4.4 shows that on union membership, a relatively higher proportion of the unionized teachers belonged to KUPPET (48.83%) as compared to KNUT (47.18%). On grade promotion, the Table shows that most of the respondents (70.8%) had not been

promoted from one grade to another between 2017-2021. The Table further reveals that the largest proportion of the respondents (25%) had an experience of between 26-30 years of service in the profession.

4.5.2 Pairwise Correlation Between Union Membership, Grade Promotion and Years of Service

Since modeling was necessary for purposes of comparing the odds of promotion between the two unions, it was therefore important to first of all carry out pairwise correlation with the view of determining which plausible interactions (association between variables) can be pursued in the regression models. The outcome variable underwent correlation with union membership and years of service at alpha=.05 and gave results in Table 4.5.

Table 4.5: Correlation Matrix Between Grade Promotion and Years of Service

Variable	t24dy	t24e	t29x
t24dy	1.000		
t24e	-0.037	1.000	
	0.063		
t29x	-0.045*	-0.025	1.000
	0.025	0.194	

Note. t24dy=grade promotion; t24e=years of service; t29x=union membership

From Table 4.5, results show that Union membership was statistically significant to grade promotion ($p \leq .05$) hence pursued further in the regression analysis.

4.5.3 Logistic Regression Analysis for Grade Promotion and Years of Service

Consequently, three sequential regression models were developed. The first model fitted years of service (Explanatory variable) against grade promotions (Outcome variable). The second model fitted years of service against grade promotion while controlling for teacher-level characteristics. The third model fitted years of service against grade promotion while controlling for both the teacher-level and school-level characteristics. The results of the three models are presented as model 1.3.1, model 1.3.2 and model 1.3.3 respectively in the summarised Table 4.6.

Table 4.6: Logistic Regression Odds for Years of Service and Grade Promotion

Variable	Variable label	Model 1.3.1 (t24dy) OR (Std. Err)	*P*	Model 1.3.2 (t24dy) OR (Std. Err)	*P*	Model 1.3.3 (t24dy) OR (Std. Err)	*p*
t29x	1=KP,0=KN	.77 (.09)	0.023	1.17 (.16)	0.240	1.00 (.127)	0.989
t24e	Y.o.S	.98 (.01)	0.039	.95 (.01)	0.000	.96 (.009)	0.000
t65	3=C3 grade			.01 (.01)	0.003	.08 (.056)	0.000
	4=C4 grade			.03 (.05)	0.016	.236 (.03)	0.000
t610b	3=EC school					.52 (.11)	0.003
	4=N school					.61 (.13)	0.019
Constant		.23 (.04)	0.000		0.007	.78 (.15)	0.197
N		2,495		2,420		2,408	
LRchi2(df); Value		(2) 8.69	0.013	(14) 240.62	0.000	(6) 159.53	0.00
Pseudo R^2		0.0043		0.1232		0.0827	

Note. KP=KUPPET; KN=KNUT; Y.o.S=Years of Service; t24dy=Grade Promotion; t24e=Years to Promotion; t29x=Union Membership; t65=Designation; t610b= School Category

From Table 4.6, the first model (1.3.1) reveals that KUPPET union was statistically significant (p=0.023) with membership in KUPPET reducing the odds of promotion by

up to 23.46% based on years of service. Whereas this is in line with the overall model (p=0.013), the Pseudo R^2=0.0043 implies that the model only explained 0.43% of variations in KUPPET membership in Kakamega county.

In the second model (1.3.2) while controlling for teacher-level variables, KUPPET membership was statistically insignificant (p=0.240) with a Pseudo R^2=0.1232 showing that the model explained 12.32% variations in the KUPPET promotions in the county.

In the third model (1.3.3) while controlling for both teacher-level and school-level characteristics, findings show that KUPPET membership was statistically insignificant (p=0.989) implying that the membership in KUPPET was insignificant on teacher promotions. However, the Pseudo R^2=0.0827 implies that the model explained 8.27% variations in KUPPET membership in the county.

Hence, the logistic regression analysis while controlling for both teacher-level and school-level characteristics for this objective show that union membership is insignificant on grade promotion and all significant variables reduce the odds of promotion.

4.5.4 Gini Permutation Test for Union Membership and Grade Promotion Based on Years of Service

In order for the Gini Permutation test to be conducted for the first objective, a more summarized Table was established for the two unions which specifically narrowed down to promotions only viz-a-viz categorized years of service as shown in Table 4.7.

Table 4.7: Distribution of Sample by Grade Promotion Based on Years of Service

Years of Service	Union Membership of Promoted Teachers for 2017-2021					
	KUPPET			KNUT		
	Freq.	Percent	Cum.	Freq.	Percent	Cum.
≤ 5	3	0.87	0.87	2	2.63	2.63
6-10	4	1.16	2.03	32	42.11	44.74
11-15	6	1.74	3.77	20	26.32	71.06
16-20	15	4.36	8.13	16	21.05	92.11
21-25	92	26.74	34.87	3	3.95	96.06
26-30	100	29.07	63.94	2	2.63	98.69
31-35	112	32.56	96.50	1	1.32	100.00
36-40	12	3.49	100.00	0	0	0
Total	344	100.00		76	100.00	

Obs	Mean	Std. Dev.	Min	Max
420	16.798	6.402	3.157	36.452

From Table 4.7, the mean for years of service was 16.8 years. The minimum number of years of service was 3.16 while the maximum number of years of service for the teachers was 36.45 years, with a standard deviation from the mean of 6.4.

The Table further reveals that out of the total number of 420 teachers who got promotions in post primary institutions between 2017-2021, a larger proportion of the promotions (344) were in KUPPET representing 81.90% as compared to KNUT (76) representing 18.10%. The Table further shows that a bigger proportion of the KUPPET promotions (32.56%) were for those in advanced years of service (31-35 years) while the promotions

in KNUT were majorly for those in relatively fewer years of service (6-10 years). This comparison suggests that there could be a difference in grade promotion of post primary teachers between KUPPET and KNUT, based on years of service as a result of the two different approaches used to implement grade promotions for the two unions.

In addition, the same Table 4.7 shows that as years of service increased, KUPPET depicted a gradually increasing trend in promotions while KNUT showed a steadily decreasing trend, further suggesting that there could be a difference in equity in grade promotion between the two unions, based on years of service of their members.

Therefore, the null hypothesis that was used to test this objective was;

$\boldsymbol{H_O1}$: There is no statistically significant difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches, based on years of service.

Using the data provided in Table 4.7 on union membership and grade promotion, the Gini coefficient values were generated for the entire period of study 2017-2021 based on years of service for the two unions giving the results shown in Table 4.8.

Table 4. 8: Gini Permutation Test Results for Unions on Years of Service

Union	Gini coefficient
0=KNUT	0.0601
1=KUPPET	0.0519

From Table 4.8, the graphical presentation of the tabulation for the gini coefficients of the two unions is shown in the Lorenz curves represented in Figure 4.1.

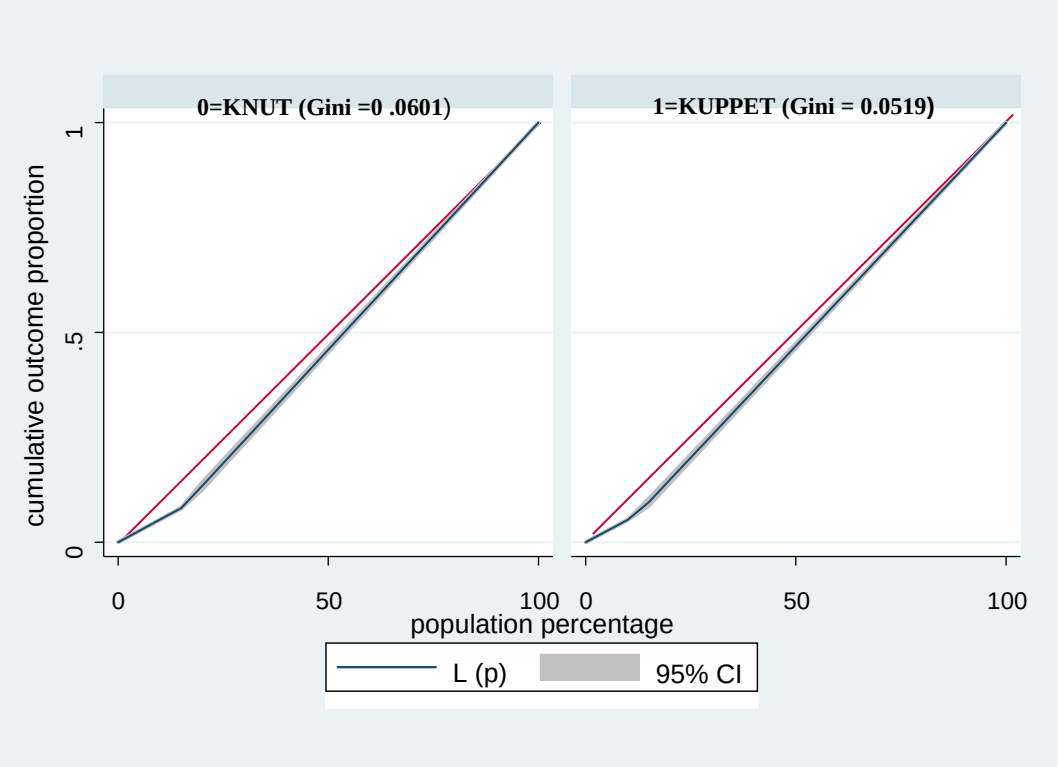

Figure 4.1: Lorenz Curves of Grade Promotion Based on Years of Service

Figure 4.1 Compares the Lorenz curves for the grade promotion in the two unions side by side showing that promotions in KUPPET (gini=0.0519) appears marginally more equitable than in KNUT (gini=0.0601) based on years of service.

The Gini Permutation Test was therefore performed for grade promotions based on years of service with the set seed 344 for KUPPET and set seed 76 for KNUT. From the results (p = .194), since $p \geq .05$ we fail to reject the null hypothesis of equality of the two promotion distributions.

This means that there is no statistically significance difference in equity in grade promotion of post-primary teachers between the application of CPG for those in KUPPET and the application of SoS for those in KNUT based on years of service of the teachers. This means that years of service of a teacher do not have meaningful influence on the possibilities of getting grade promotion irrespective of the union a teacher belongs to. This is attributed to the fact that years of service as a variable cannot be improved upon by the teacher through any individual-based effort unlike academic qualification that can be raised through further studies by the teacher or teacher performances that can be improved through better TPAD scores by the teacher. Therefore, years of service as a variable behaves more like a constant irrespective of the union a teacher belongs to and the approach used for grade promotion by such a union.

This finding was corroborated with the findings from the interview schedules administered to the sub-county TSC directors who stated as follows:

> *Years of service to the profession by a teacher starts when one is recruited and varies from teacher to teacher unless recruited on the same date. After that, it behaves like a constant since one cannot reduce nor increase it for purposes of improving it for promotion irrespective of the approach used by his/her union.*

The finding of this study agrees with many other study findings in Africa and beyond despite the general fact that these other studies specialised on the use of only one tool at a time in the operationalization of the CBAs on grade promotions. A study case in point where grade promotion do not differ significantly when it comes to the use of years of

service as a yardstick for teacher promotions is in USA for instance, where Visser (2016) compares grade promotions in the top ten states with strongest teacher unions and establishes that they were all anchored on years of service as the main criteria. The strengths in unionism was measured in terms of effective CBAs on implementation of grade promotions and the study found that the trend in award of the promotions along years of study did not attract nor accrue any significant inequalities nor meaningful differences in equity from one state to another since all the progressive CBAs were always being implemented by a single approach.

This study finding is further supported by Tucker (2012) whose study in USA revealed that over the years, since the establishment of the first teachers' unions, their role and significance in promoting the tutors' wages through promotions had continually and consistently increased as a result of the use of years of service as the main criteria for promotion irrespective of the various CBAs exchanged. Han (2012) and Gyesie (2017) also found no difference in variations in award of grade promotions to tutors in USA when using years of study as an indicator irrespective of the changes in CBAs offered by different trade unions that came into place from time to time. Perhaps the 7% score difference in grade promotion established by Eberts and Stone (1984) between the two types of unions identified by Hoxby (1996) as rent-seeking and efficiency-enhancing unions could have watered down this finding. However, this difference in grade promotion was found to be statistically insignificant when considered along the years of service of the tutors given that the study found the parameter to be relatively equitably allocated.

In Africa, this study finding agrees with Mulkeen (2000) who established that as African countries developed in line with their per capita incomes, a minimal effect of career progression through grade promotion of teachers was discovered to be insignificant in relation to their years of service. For instance, in Mauritius, Hollup (2004) established that grade promotion was in preference to seniority of membership to unions and/or the profession but insignificant to the mode of application of the implementing instrument of the CBA on the promotions. In other words, promotions were so streamlined towards years of teaching that it did not matter which CBA was in force at any given time.

In Kenya, it is rare to find a study that accounts for any difference in equity in award of grade promotions to teachers since there is no other period prior to 2017-2021 CBA, that a CBA was implemented by more than one approach at a time. Perhaps, a study that seems to edge closer to agreeing with this finding based on years of service is by Agola (2016) in unpublished Master's Thesis which establishes that CBAs improve professional output of teachers by 68.1% which eventually improves the odds of grade promotion during promotional interviews in primary schools.

However, another study with findings relatively in line with this study finding is by Nabibya (2013) which established that majority of the teachers enjoyed equitable advancement in promotional opportunities in Kamukunji district of Nairobi County through a negotiated CBA, as a motivation for guaranteed membership in KNUT since it was the only union applicable in primary schools. The study was hence based on the scheme of service approach alone with years of service of the teachers being the

promotional yardstick. Career advancement through equity in promotions was established to be leading with 95.0 % success and a conclusion drawn that KNUT helps in agitating for equity in promotions of teachers through SoS based on years of service.

In all the above cases where studies tend to agree with the finding of this study finding where the difference in equity in grade promotions were insignificant to years of service, only one implementation tool was being applied at any given time unlike the current study where more than one approach implemented the same CBA. The differences were in view of the different times or regimes that the CBAs were in use for the promotions.

However, the findings in this study are equally at variance with a number of other studies worldwide. For instance, Frandsen (2016) used the panel data approach in the other smaller states of USA and established that there was significantly minimal impact of CBAs on career progression of teachers based on their length of stay in a particular grade.

The finding strongly disagree with Lovenheim (2009) who established that CBAs have an effect on the trend exhibited in equity in grade promotion of teachers, either positively or negatively depending on the strengths or weaknesses of a trade union. His study finds mis-classification rates of up to 47% in equity in grade promotions of tutors in the CoG Labor Relations Survey approach on CBAs, which were significant based on the length of stay in a particular job cadre.

A wide variation to this study finding is found in a study by Brunner, Hyman and Ju (2019) which considers the differences in the strength of unions by assessing their

strategies in collective bargaining systems on grade promotion. They found that stronger unions have greater influence over policy on equity in grade promotion compared to weaker unions. The study established information on CBAs that has more effective tools of implementation for statistically significant equitable allocations of grade promotions based on teachers experience. The study measures experience in terms of years of service in a particular grade and further utilizes the assistance of Grissom and Strunk (2010) to account for these differences by employing school financial data approach from National Center for Education Statistics (NCES) surveys. The study obtained statistically significant differences in equity in the promotions through the approach.

Another key deviation from this finding is in comparing New Mexico to national averages where Lindy (2011) finds that CBAs leads to higher School Assessment Test (SAT) scores and lower graduation rates of teachers from one grade to another which were statistically significant in relation to the years of service. Khan (1979) additionally concludes that unions' CBAs make a significant difference in grade promotions as well as salary levels of teachers who are represented in unions as opposed to those who are not. However, by studying unionized against non-unionized teachers, the study fails to account for the specific contribution of years of service to the teaching profession to their grade promotions but simply looks at the impact of the two groups' approaches.

In Africa, a study in South Africa that sharply differs with this finding is Coulson (2010) which compares the NEA and AFT approaches of CBA implementation and finds that they had greater disparities on grade promotion with NEA approach being more

statistically significant. Moreover, in Nigeria studies by Akinwunmi (2000) and Ejiogu (1990) found that what the typical low-income earning teacher yearns for is a sizeable grade promotion that guarantees salary increase. The study establishes that higher salaries are significantly strongly associated with powerful CBAs that enhance equity in grade promotions along years of service. According to Bruns, Mingat and Rakotomalala (2003), this trend of promotions in Nigeria increases in direct proportions to years of service of teachers, thus opposing the finding in this study.

From the above cases where more studies agree with the findings while relatively fewer studies disagree, the difference in equity in grade promotion of teachers is conclusively considered not to be statistically significant in relation to years of study making the variable to behave like an equalizer in grade promotion irrespective of the union.

4.6 Difference in Equity in Grade Promotion of Post-Primary Unionized Teachers Based on Academic Qualifications

The second objective of this study was to determine the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and career progression guideline approaches of the 2017-2021 Collective Bargaining Agreement, based on academic qualifications. In this study, academic qualification was quantified in terms of years of schooling.

4.6.1 Descriptive Statistics for the Years of Schooling

In order to effectively address this study objective, the respondents were asked to indicate their highest academic qualification and the period of time they took to attain it. This information was collected and distributed into intervals of years as shown in Table 4.9.

Table 4.9: Distribution of the Respondents in Years of Schooling

Academic Qualification	Years of schooling	KUPPET Freq.	KNUT Freq.	Total Freq.	Percent
2=Diploma	15	70	300	370	5.10
3=Degree	16	587	326	913	92.58
4=PGDE	17	2	22	24	0.33
5=Masters	18	94	31	125	1.72
6=PhD & Others	More than 18	15	5	20	0.28
	Total	768	684	1,452	100.00

Source: Researcher, 2021

The results in Table 4.9 show that majority of the post-primary teachers (92.58%) had 16 years of schooling which translates to majority of them being holders of undergraduate degrees as the highest academic qualification, implying they should have undergone at least a grade promotion within the study period which is not the case.

4.6.2 Pairwise Correlation Between Union Membership, Grade Promotion and Years of schooling

In order to determine the plausible interactions (association between variables) that can be pursued further in the regression models, pairwise correlation was done between promotion, union membership and years of schooling at alpha= .05 and it gave the results shown in Table 4.10.

Table 4.10: Correlation Matrix Between Union Membership, Grade Promotion and Years of Schooling

Variable	t24dy	t29x	t42ax
t24dy	1.000		
t29x	-0.045*	1.000	
	0.025		
t42ax	0.004	-0.020	1.000
	0.824	0.087	

Note. t24dy=grade promotion; t29x=union membership; t42ax=years of schooling

The results in Table 4.10 show that union membership was statistically significant to teacher promotion ($p \leq .05$) hence pursued further in the regression analysis.

4.6.3 Logistic Regression Analysis for Promotion and Years of Schooling

Consequently, three sequential regression models were developed. The first model fitted years of schooling (Explanatory variable) against grade promotion (Outcome variable). The second model fitted years of schooling against grade promotion while controlling for teacher-level variables. The third model fitted years of schooling against grade promotion while controlling for both the teacher-level and school-level variables.

The results of the three models are presented as model 2.3.1, model 2.3.2 and model 2.3.3 respectively in the summarised Table 4.11.

Table 4.11: Logistic Regression Odds for the Association Between Years of Schooling, Union Membership and Grade Promotion

		Model 2.3.1 (t24dy)			Model 2.3.2 (t24dy)			Model 2.3.3 (t24dy)		
Variable	Variable label	OR	(Std.Err)	*P*	OR	(Std.Err)	*P*	OR	(Std.Err)	*P*
t29x	1=KP, 0=KN	.77	(.09)	0.030	1.10	(.14)	0.474	.85	(.10)	0.189
t42ax	Y.o.S	1.03	(.12)	0.780	1.22	(.14)	0.075	1.19	(.14)	0.123
t51a2017	Tpad score				.97	(.01)	0.004	.96	(.01)	0.000
t51c2019	Tpad score				.98	(.01)	0.040	.98	(.01)	0.037
t65	3=C3 grade				.02	(.03)	0.023	.14	(.14)	0.054
t610b	3=EC school							.63	(.13)	0.028
	4=N school							.65	(.13)	0.036
Constant		.11	(.20)	0.218	1.109	(2.54)	0.964	.56	(1.04)	0.752
N		2,493			2,419			2,403		
LR chi2(df);value		(2) 4.85		0.088	(14) 219.99		0.0000	(7) 79.45		0.000
PseudoR^2		0.0024			0.1126			0.0414		

Note. KP=KUPPET; KN=KNUT; Y.o.S=Years of Service; t24dy=grade promotion; t29x=union membership; t42ax=years of schooling; t51a2017=2017 tpad score; t51c2019=2019 tpad score; t65=designation; t610b= school category

Based on Table 4.11, the first Model (2.3.1) reveals that KUPPET union was statistically significant (p=0.030) with membership in KUPPET reducing the odds of promotion by up to 22.58%. However, a Pseudo R^2=0.0024 implies that the model explained for only 0.24 % of variations in the KUPPET membership.

In the second model (2.3.2) while controlling for teacher-level variables, membership in KUPPET was statistically insignificant (p=0.474) with a Pseudo R^2=0.1126 showing that the model was accountable for 11.26% variations in the KUPPET membership.

In the third model (1.3.3) while controlling for both teacher-level and school-level variables, findings show that KUPPET membership was statistically insignificant (p=0.189) implying that the membership in KUPPET is insignificant on teacher promotions with the Pseudo R^2=0.0414 implying that the model explained for only 4.14% of the variations in KUPPET membership.

However, the second and third models surprisingly show that an extra year of schooling reduced the odds of promotion to the next grade in 2017 and 2019 for those in extra county (p=0.004, p=0.000) and national schools (p=0.040, p=0.037) respectively.

4.6.4: Gini Permutation Test for Union Membership and Grade Promotion Based on Years of Schooling

Based on Table 4.9 which established that majority of the post-primary teachers (92.58%) had 16 years of schooling which translated in to majority of them being holders of undergraduate degrees as their highest academic qualifications, those with the lowest academic qualification of Diploma were majorly in KNUT while those with higher academic qualifications were all majorly in KUPPET. This may suggest that there could be a significant difference in equity levels of grade promotion accrued in favour of KUPPET at the expense of KNUT if they operate under two different implementation approaches at the same level of post-primary education.

Therefore, the null hypothesis for this objective was;

H_O2: There is no statistically significant difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches, based on academic qualifications.

Using the data provided in Table 4.7 on union membership and grade promotion for 2017-2021 and the data provided in Table 4.9, the Gini coefficient values were generated based on years of schooling for the two unions giving the results shown in Table 4.12.

Table 4.12: Gini Permutation Test Results for Unions on Years of Schooling

Union	Gini coefficient
0=KNUT	0.0624
1=KUPPET	0.0557

From Table 4.12, the graphical presentation of the tabulation for the gini coefficients of the two unions is shown in the Lorenz curve represented in Figure 4.2.

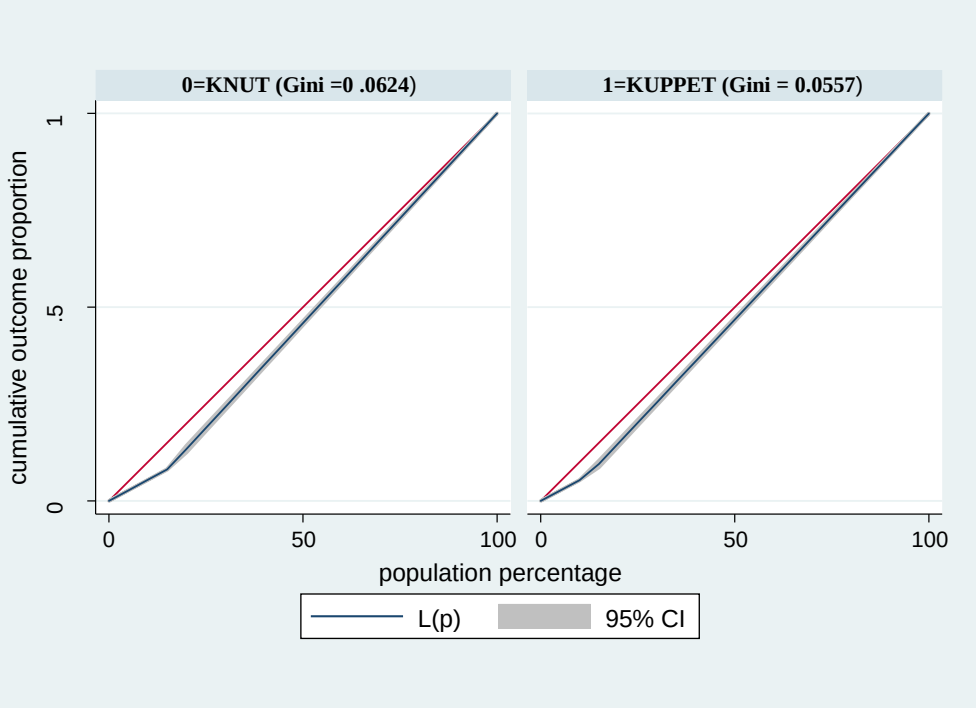

Figure 4.2: Lorenz Curves of Grade Promotion Based on Academic Qualifications

Figure 4.2 Compares the Lorenz curves for the grade promotion in the two unions side by side showing that promotions in KUPPET (gini=0.0519) appears marginally more equitable than KNUT (gini=0.0601) based on years of schooling (for academic qualifications).

The Gini Permutation Test was therefore performed for grade promotions based on years of schooling with the set seed 344 for KUPPET and set seed 76 for KNUT whose results (p = 0.034) show that since $p \leq .05$, we reject the null hypothesis that there is no statistically significance difference in equity in grade promotion between the two unions.

This means that the difference in equity in grade promotion of post-primary teachers between those in KUPPET and those in KNUT is statistically significant based on academic qualifications. This finding was corroborated by those from interviews with the Union County Executive Secretaries of both KUPPET and KNUT who alluded to the fact that the two approaches treat academic qualifications distinctively different in grade promotion. For instance, the KUPPET Executive Secretary said:

> *The Career Progression Guideline approach is affiliated to KUPPET, hence by virtue of the union being a post-primary one, it directly attracts teachers who newly get employed in post-primary institutions from the initial entry into service and progresses with its approach in career. It ensures that the teacher enjoys only one automatic promotion from the entry grade to the next and competitive promotional interviews in the subsequent grade promotions which can only be applied after staying in the current grade a minimum of three years as a basic requirement. Whereas Diploma holders enter the service at grade C1 and enjoy only one automatic promotion to C2 after three years, their Bachelor degree holders join the same service at grade C2 and enjoy one automatic promotion to C3 after three years. The rest of the grade promotions can only be applied for*

competitively through interviews every after three years from one grade to another incase and whenever promotional advertisements are made by TSC.

On the other hand, the KNUT County Executive Secretary stated:

The Scheme of Service approach is affiliated to KNUT, a union which is general in scope of eligibility for membership and therefore attract all teachers in primary schools as well as in post primary level. At the latter, it will mostly attract those teachers who tend to upgrade their academic qualifications through further studies having been initially recruited in inferior grades at primary school level and/or those who mostly join with Diploma qualifications at post-primary level. This is owing to the fact that the minimum requirement for recruitment to teach in post-primary institution is a Diploma. The scheme of service approach will guarantee such Diploma holders two automatic grade promotions from the grade they join with, C1 to the next grade C2 after three years, and another automatic one from C2 to C3 after another three years, before they then begin applying for promotional interviews every time they are advertised without any further requirement of minimum length of stay in a grade. This implies that one can be applying for grade promotion every year and be promoted as long as the promotions are advertised by TSC.

Hence, teachers affiliated to KNUT at post-primary level may tend to climb the promotional ladder faster if TSC advertises promotions on annual basis unlike their counterparts in KUPPET who may be forced to be waiting for a minimum stay of three

years in a grade before applying even if the advertisement by TSC is made on annual basis. This could be disadvantaging KUPPET in grade promotion as compared to KNUT.

The finding of this study is in agreement with quite a number of studies conducted in many countries abroad. Browne, Karamessini & Alemany (1998) found that the emergence of strict adherence to academic qualifications as the main factor of consideration for equity in promotions of teachers during CBA negotiations in Portugal, Ireland, Greece and Spain provides the justification for preferential promotions of the highly educated counterparts, who were coincidentally majorly males at the expense of their scarcely educated females in these patriarchal-dominated nations. The high positivity in significance levels for equity in grade promotions based on academic qualifications was anchored on CBAs just like the Italian case study (Bergamaschi, 1998) where unions had to face sharply conflicting equity issues between equal opportunities and equity questions among the existing employees. The academic qualifications of the tutors were used as the fair most criteria for use due to its high significance levels in grade promotions. The study established that it was rather simpler and easier to ascertain differences in award of promotions based on academic papers that an individual held and to account for them despite variations in union approach promotion implementations.

The study finding further agrees with a study on the effect of Teachers' Unions on Educational Outcomes by Zhu (2019) in USA which found no effect of participation in teachers' unions on student outcomes but rather a significant effect on career progression of teachers based on their professional and academic qualifications. However, the study

did not focus on the aspect of differences between two independent groups on promotion as is the case here.

Furthermore, the finding agrees with many studies in public teaching sector in Africa which reveal varying and increasing degrees of inequalities in access to grade promotions based on academic qualifications (Eshiwani, 1993). This is attributed to the fact that education, which is supposed to produce academic qualifications, is in itself inequitably allocated in favour of the rich at the expense of the poor, hence grade promotions consequently favour those from higher socio-economic status than those from lower status due to background causes (Republic of Kenya, 2020a).

In addition, while focusing on the current member states of the Southern African Development Community (SADC) in Africa which include Angola, Botswana, Comoros, Democratic Republic of Congo, Kingdom of Eswatini (Swaziland), the Kingdom of Lesotho, Madagascar, Malawi, Republic of Mauritius, Mozambique, Namibia, Seychelles, Republic of South Africa, United Republic of Tanzania, Zambia and Zimbabwe, which adopted a Social Charter in 2003 with an overall objective to facilitate equity in career progression, a research study by Zvobgo (2019) adopted career development based on socio-harmonious labour relations within the region rather than emphasis on academic standards of the individual cases. The study concluded that CBAs are highly significant in enhancement of career progression of its workers if focus on regional integration and economic empowerment is embedded on a common social charter rather than on private intellectual traits of individuals. Hence, equity in grade

promotion was found to be significant to union membership in these states based on academic qualifications.

However, the study further reveals that CBAs cannot on their own guarantee equity in promotions of their workforce but requires additional support of other regional or international legal conventions or charters whose legal frameworks also affirms the right to free association, professional development and advancement in career such as the African Charter on Human and Peoples' rights. Under Article 1520 of the Charter, every individual has the right to "work under equitable and progressively satisfactory conditions" which can be achieved through collective bargaining.

In contrast, some studies disagree with this study finding. For instance, a research study by Otoo (2017) found unions through CBA implementations to have had insignificant effect on equality, fairness, respect for human and workers' rights, and social justice on the education sector based on the academic achievements of the tutors.

In Kenya, Eshiwani (1993) found that any extra higher academic qualification obtained by a teacher automatically led to an incremental credit by TSC based on the level of education attained up to the year 2014 when it ceased being implemented. Unions sought to have CBAs that would specifically influence wages and grade promotions of teachers but left the choice on the methodology of award of the promotions to TSC. This resulted in the statistically insignificant gap between non-unionized versus unionized grade promotions estimated at between 12% - 22% (Republic of Kenya, 2020c).

4.7 Difference in Equity in Grade Promotion of Post-Primary Unionized Teachers Based on Teacher Performance in TPAD.

The third objective of this study was to determine the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and career progression guideline approaches of the 2017-2021 Collective Bargaining Agreement, based on teacher performance. Teacher performance was considered in relation to the TPAD scores which are normally used for promotional interviews.

4.7.1 Descriptive Statistics for TPAD Performance of Respondents

In order to address this study objective, the respondents were asked to indicate their annual TPAD score for the years 2017-2021. The study sought to find out the distribution of TPAD scores among the respondents and the results were as shown in Table 4.13.

Table 4.13: Distribution of Respondents' TPAD Scores

Variable	KUPPET	KNUT	Mean	Std. Dev.	Min	Max
t51a2017	71.71027	69.13261	70.42144	8.667917	4	99
t51b2018	76.70353	68.83211	72.76782	96.01121	4	8181
t51c2019	77.17927	67.68123	72.43025	11.46462	6	766
t51d2020	82.78725	66.12345	74.45535	94.37813	45	7972
t51e2021	81.42509	65.09121	73.25815	9.695425	7	381

Note. Obs=Observations; t51a2017=2017 tpad score; t51b2018=2018 tpad score; t51c2019=2019 tpad score; t51d2020=2020 tpad score; t51e2021=2021 tpad score

Table 4.13 shows that the highest mean TPAD score for the respondents was 74.46 in the year 2020 while the lowest mean was 70.42 in the year 2017. However, the highest standard deviation in the TPAD scores was 96.01 in year 2018. It further shows that mean TPAD scores per year in KUPPET was always higher than in KNUT and as the former was increasing per year, the latter was decreasing suggesting that there could be some differences in TPAD scores along union affiliation of teachers in post-primary.

4.7.2 Pairwise Correlation Between Grade Promotion and TPAD Scores

In order to determine the plausible interactions (association between variables) that can be pursued further in the regression models involving TPAD scores, a pairwise correlation between promotion, union membership and TPAD scores for 2017-2021 at alpha = .05 was done and the correlation gave the results in Table 4.14.

Table 4.14: Correlation Matrix Between Promotion, Union Membership and TPAD Scores for 2017-2021

	t24dy	t29x	t51a2017	t51b2018	t51c2019	t51d2020	t51e2021
t24dy	1.000						
t29x	-0.045*	1.000					
	0.025						
t51a2017	-0.149	0.044*	1.000				
	0.000	0.000					
t51b2018	-0.012	-0.009	0.058*	1.000			
	0.555	0.416	0.000				
t51c2019	-0.128*	0.024*	0.454*	0.012	1.000		
	0.000	0.042	0.000	0.301			
t51d2020	-0.061*	0.015	0.039*	0.004	0.038*	1.000	
	0.002	0.209	0.001	0.755	0.001		
t51e2021	-0.072*	0.046*	0.448*	0.037*	0.295*	0.554*	1.000
	0.019	0.014	0.000	0.042	0.000	0.000	

The results in Table 4.14 show that union membership and TPAD scores 2017-2021 were statistically significant to teacher promotion ($p \leq .05$) at alpha = .05.

Consequently, Pairwise correlation was done while controlling for teacher-level and school-level variables and results were as shown in Tables 4.15 and 4.16 respectively.

Table 4.15: Pairwise Correlation Results (Controlling for Teacher-Level Variables)

	t24dy	t62	t65
t24dy	1.000		
t62	-0.002	1.000	
	0.922		
t65	0.181*	-0.009	1.000
	0.000	0.440	

Note. t24dy=grade promotion; t62=gender; t65=designation

Table 4.15 shows that TPAD score was significant to promotion.

Table 4.16: Pairwise Correlation Results (Controlling for School-Level Variables)

	t24dy	t69	t610b	t71
t24dy	1.000			
t69	-0.032	1.000		
	0.111			
t610b	-0.051	-0.216*	1.000	
	0.010	0.000		
t71	0.016	0.021	-0.001	1.000
	0.478	0.112	0.933	

Note. t24dy=grade promotion; t69=sub county; t610b= school category; t71=designation in school

Table 4.16 shows that school category variable was significant to promotion. Since ($p \leq .05$) in both Table 4.15 and Table 4.16, then both union membership and TPAD scores were statistically significant to promotion hence pursued further in the regression.

4.7.3 Logistic Regression Analysis for Grade promotion and TPAD Scores

As a Consequence, three logistic regression models were developed. The first one was model 3.3.1 whose intention was to determine the effect of TPAD scores of 2017-2021 on grade promotion. The second model was model 3.3.2 which sought to find out the effect of TPAD scores 2017-2021 on grade promotion while controlling for teacher-level variables. The third regression model which was model 3.3.3, while controlling for both teacher-level and school-level variables, sought to find out the effect of TPAD scores 2017-2021 on grade promotion of teachers. The results of the three models are presented as model 3.3.1, model 3.3.2 and model 3.3.3 in a summarized format shown in Table 4.17

Table 4.17: Logistic Regression Odds for TPAD Scores and Grade Promotion

		Model 3.3.1 (t24dy)			Model 3.3.2 (t24dy)			Model 3.3.3 (t24dy)		
Variable	Variable label	OR	(Std.Err)	*P*	OR	(Std.Err)	*P*	OR	(Std.Err)	*P*
t29x	1=KP;0=KN	.79	(.15)	0.195	1.08	(.14)	0.553	.84	(.10)	0.148
t51a2017	Tpad score	.97	(.02)	0.047	.96	(.01)	0.000	.95	(.01)	0.000
t65	3=C3 grade				.02	(.04)	0.029	.14	(.15)	0.056
t610b	3=EC school							.63	(.13)	0.031
	4=N school							.65	(.13)	0.037
Constant		3.70	(.34)	0.158	12.82	(19.22)	0.089	5.33	(2.5)	0.000
N		1,032			2,423			2,405		
LR chi2(df); Value		(5) 19.20		0.002	(10) 212.80		0.0000	(5) 73.56		0.000
PseudoR^2		0.0233			0.1089			0.0383		

Note. KP=KUPPET; KN=KNUT; t24dy=grade promotion; t29x=union membership; t51a2017=2017 tpad score; t65=designation; t610b= school category; EC=Extra County; N=National school

Results in Table 4.17 model 3.3.1, model 3.3.2, and model 3.3.3 show that membership in KUPPET was statistically insignificant on promotion while controlling for teacher-level and school-level variables (p>.05) as shown by 0.195, 0.553 and 0.148 respectively.

The final regression model was model 3.3.4 which sought to find out the effect of union membership on promotion while controlling for both teacher-level and school-level variables. The results were as shown in Table 4.18

Table 4.18: Logistic Regression Odds for Unions while Controlling Variables

Logistic regression — Number of obs = 2,405
LR chi2(5) = 73.56
Prob > chi2 = 0.0000
Log likelihood = -923.07469 — Pseudo R2 = 0.0383

Variable	Label	Odds Ratio	Std. Err.	Z	*p*>	|z|	[95% Conf. Interval]
t29x	1=KP;0=KN	.84	.10	-1.45	0.148	.659	1.06
t51a2017	TPAD	.95	.01	-6.88	0.000	.940	.966
t65	3=C3	.14	.15	-1.91	0.056	.019	1.05
t610b	3=EC	.63	.13	-2.15	0.031	.418	.959
	4=N	.65	.13	-2.08	0.037	.435	.975
	Cons	5.32	2.53	3.52	0.000	2.09	13.5

Note. _cons estimates baseline odds; KP=KUPPET; KN=KNUT; t29x=Union Membership; t51a2017=2017 TPAD Score; t65=Designation in school; t610b= School Category; EC=Extra County; N=National School

The results in Table 4.18 further show that surprisingly, an extra score in TPAD in 2017 and teaching in extra county and national schools reduces the odds of promotion.

4.7.4: Gini Permutation Test for Union Membership and Grade Promotion Based on TPAD Scores 2017-2021

Comparing the mean TPAD scores in Table 4.13 for the two unions for 2017-2021, it is clear that mean TPAD scores per year in KUPPET was always higher than in KNUT. Also, as KUPPET's mean TPAD scores were steadily increasing in subsequent years, KNUT's TPAD scores were on the other hand steadily decreasing. These observations

suggest that there could be some differences in equity in grade promotion of teachers at post-primary level as a result of their union affiliations based on the differences in their TPAD scores.

Therefore, the null hypothesis used to test this objective was;

H_O3: There is no statistically significant difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches, based on teacher performance.

Using the data provided in Table 4.7 on union membership and grade promotion for 2017-2021 and the data provided in Table 4.13 on TPAD scores for 2017-2021, the Gini coefficient values were generated for the entire period of study 2017-2021 based on TPAD scores in the two unions giving the results shown in Table 4.19.

Table 4.19: Gini Permutation Test Results for Unions on TPAD scores

Union	Gini coefficient
0=KNUT	0.0698
1=KUPPET	0.0567

From Table 4.19, the graphical presentation of the tabulation for the gini coefficients of the two unions is shown in the Lorenz curve represented in Figure 4.3.

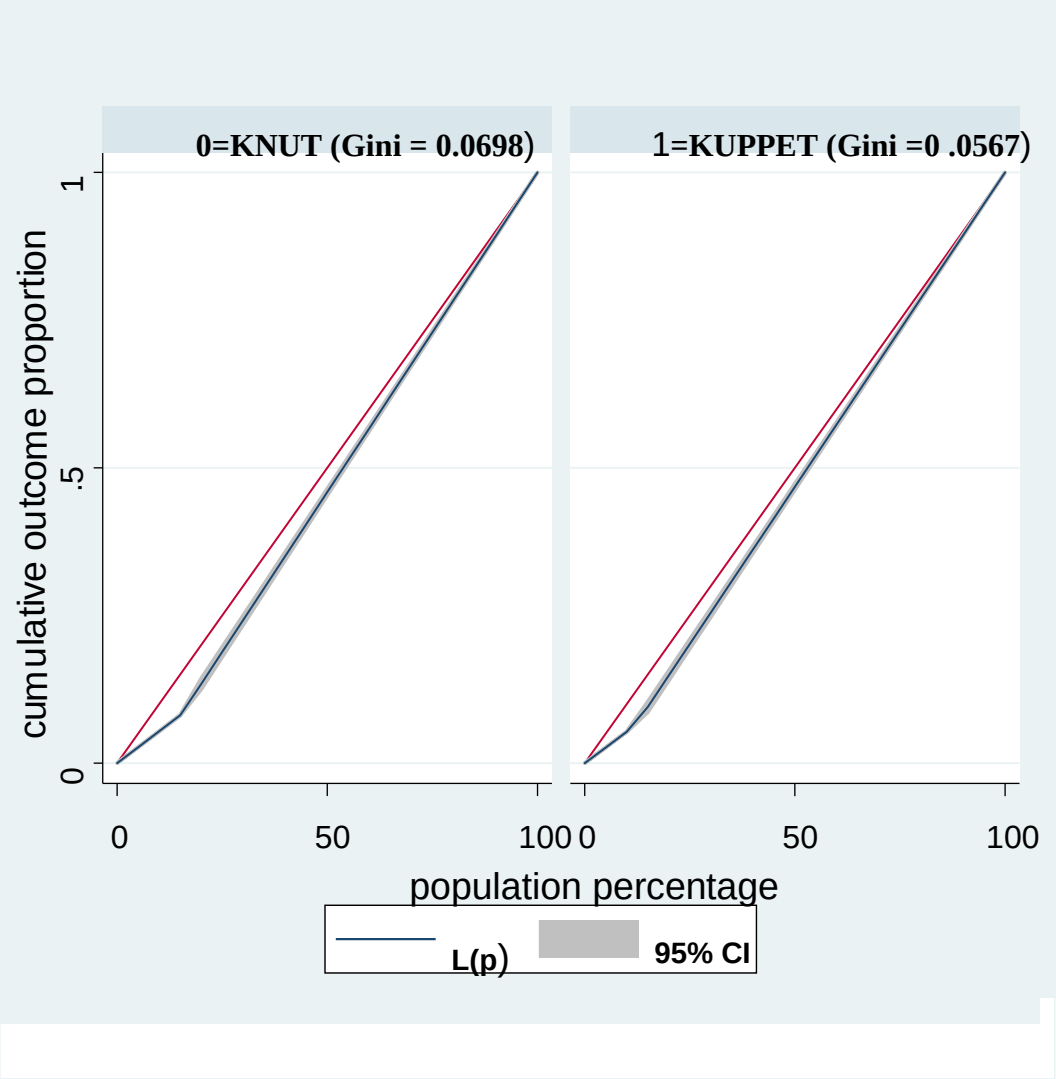

Figure 4.3: Lorenz Curves of Grade Promotion Based on TPAD scores

Figure 4.3 Compares the Lorenz curves for the grade promotion in the two unions side by side, showing that promotions in KUPPET (gini=0.0567) appears marginally more equitable than KNUT (gini=0.0698) based on TPAD scores of teachers for 2017-2021.

The Gini Permutation Test was performed for this objective based on TPAD scores 2017-2021 with the set seed 344 for KUPPET and set seed 76 for KNUT whose results were as shown in Table 4.20.

Table 4.20: Gini Permutation Test Results for Years 2017-2021 Based on TPAD

Variable	*p*GiniPerm 2017	*p*GiniPerm 2018	*p*GiniPerm 2019	*p*GiniPerm 2020	*p*GiniPerm 2021
*P*val	.022	.034	.001	.002	.024
Stat	.0001	.0001	.0001	.0001	.0001

Based on Table 4.20, since $p \leq .05$ for each year for 2017-2021, we reject the null hypothesis of equality of the two promotion distributions.

This means that the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and the career progression guideline approaches is statistically significant based on teacher performance in TPAD ratings. This is attributed to the allocation of the highest number of marks to the TPAD section of the Interview scoring schedule during promotional interviews. This was further corroborated with findings from the interviews with all the sub-county TSC Directors who stated:

> *We coordinate and chair interviews on behalf of the commission at sub-county level and submit the results for grade promotion to the TSC headquarters. In any given panel, TPAD is a critical component in promotional interview scoring. Out of 100 marks, TPAD carries 39 marks, which is the majority sectional marks in the marking scheme (Appendix VI). Emphasis is put on individual effort in line*

with teacher output than collective initiatives. TPAD rating is one form of Performance Contracting for teachers intended to enhance competition, productivity and equity in grade promotion at all cadres.

This finding is in agreement with other case studies undertaken in Sweden, Spain, Germany, Netherlands and UK which significantly strongly connected CBAs and teacher performance as a panacea for grade promotions through TPAD tool ratings and Performance Contracting (PC) scoring for tutors (Dahlberg 1998, Alemany 1998, Brumlop 1997, Bleijenbergh 1998, Colling 1997). Bringing equal opportunity into grade promotion seemed to be associated in these case studies with a high trust on teachers' performances in terms of the scores obtained by their students as a crucial approach in implementation of the CBAs.

Additionally, although quite a number of studies directly associate learners' academic performance and their teachers' grade promotion, the role of teacher performance in them largely lacks (Jordhus-Lier, 2012; Boniface & Rashmi, 2013 and Compa, 2014). But Joo (2012) directly associates the learners' academic performance to teacher performance and professional development as a significant yardstick in determining their grade promotion. Indeed, the study measured such teacher performance ranging from the egregious to trivial and found significant equity variations in grade promotion while using CBAs to implement it.

Nevertheless, some case studies including Jones-White (2004), Fuller, et al (2000) and Terry (2010) carried out in Europe and some specific states in USA found a direct

relationship between professional teacher performance and negotiated CBAs in enhancing cadre promotions. The difference in equity in cadre promotions between union members and non-union members in such studies was not only statistical but also significant in their differences. The two distributions were clearly significantly different.

This study finding also tends to closely agree with the findings of Baccaro and Benassi (2017) who obtained statistically significant differences in grade promotion witnessed in Australia, where there is a provision for a two-way approach in promotions. One is industry-wide or occupation-wide regulations, called Modern Awards, which set industry-specific wage floors that vary by skill level while the second one is the external regulator approach that is state-controlled without involvement of unions. The Modern Awards is affiliated to the small-scale sectorial bargaining agreements whose grade promotions are determined purely by performance of the workers on a performance-contracting scoring scale while the external regulator promotions are free-lance in nature normally effected at will by the government whenever the economy improves and becomes favourable for salary increaments. The awards of promotions to the two approaches are inequitably different in the two distributions with the odds for promotion under Modern Awards being significantly higher than the odds in the external regulator promotions which tend to be non-predictable.

Given that Schulten and Bispinck (2017) established three main factors that keep fluctuating in their quest to determine teachers' grade promotions in Germany which included the teacher performance, learners' academic performance (measuring for teacher performance) and length of service in teaching profession at annual rates of 65%, 20%

and 15% respectively, Amlinger and Bispinck (2016) found that it was only grade promotion in relation to teacher performance that was significantly equitable. Both studies support the finding in this study about the teacher performance variable.

Moreover, there is a strong agreement of this study with Ibsen (2016) who sampled and analyzed grade promotions in peak-level unions in Denmark, France and Italy finding relatively strong and centralized differences per union based on the influence of teacher performance on promotions. However, in these countries, social pacts or comprehensive policy packages are re-negotiated annually between the government, trade unions and employer organizations to review the effect of performance of the teachers on grade promotion as regular checks and balances to the four-year CBAs. The study established that the annual reviews and audits of the CBAs in relation to grade promotion tend to raise and strengthen the significance levels of the differences in equity in the promotions.

However, the finding in this study based on teacher performance is at variance with a number of other studies such as Kim et al., (2015) which strongly contradicts this study finding with the establishment that there is no direct relationship between learners' performance to teacher performance that should lead to grade promotions while citing a number of other contributing factors such as teachers' own professional development.

The study findings further disagree with Peetz and Rasmussen (2018) whose study made a detailed comparison analysis of the 'teacher performance' approach versus the 'length of service' approach in grade promotions in New Zealand when concerns arose about job stagnation due to lack of clear structures on CBAs. This led to the formulation of a single hybrid tool that incorporated both approaches for CBA implementation favouring the

latter more than the former on realization that it is relatively fair and more equitable in accruing more levels of equity. However, the 'teacher performance' approach seemed to have been initially favoured by the state during the non-CBA era of promotions in New Zealand (Oberfichtner and Schnabel, 2017). The difference between the two was found to be statistically insignificant in relation to the equity levels accruable in grade promotion.

In Africa, South Africa is one country in which the finding of this study strongly disagrees with Willis (2014) who found labour unions to be strongly insignificantly associated with poor performance of both learners and teachers and directly linked to low rates of grade promotions. Violent teachers' strikes and riots with unionized teachers intimidating schools that remain open during such industrial actions cause low teacher performance and stagnation in job groups.

The finding contradicts but still disagrees with Sergiovanni et.al (1980) who observes that there is always a high public trust and confidence in the teaching profession when there is statistically highly-scaled grade promotions arising from teacher performance. The study finds the union's ability to press for professionalism in teaching as serving two purposes thus raising the status of the profession through performance as well as enabling the public to get service from the most qualified individuals who undergo regular grade promotions based on their performance.

The finding further disagrees with Avers (1992) who observes that in Kenya, teachers often see themselves as underpaid through lack of performance-based grade promotions. The study establishes that both the process and the outcome of their CBAs are controlled

by external forces to alienate the teachers from grade promotions. However the study fails to give quantitative analysis on equity in grade promotion.

On the contrary, Ibrahim (2007) finds little empirical evidence to be existing in Kenya, on the impact of professional performance and grade promotions. The study instead finds CBA implementation approach as holding a significant key to unlocking career stagnations. The performance of teachers, which in itself is found by the study to be a function of professional development, is considered a key factor contributing to grade promotion.

Nevertheless, Zengele (2013) established that there is no direct relationship between the learners' performance in national evaluation and the teachers' rewards in form of grade promotions in Kenya. Instead, most studies link grade promotions of teachers to their own personal initiatives like advancement in acquisition of higher academic qualifications, professional development and professional connectivity.

One of the obvious disadvantages of most of the studies in Kenya dealing with teacher performance is the inability to evaluate teachers exclusively on their actual performance, but instead use the performance of their pupils/students as their performance (Kim and Loadman, 1994). Given that most studies agree with the finding while few of them differ, then it follows that the difference in equity in grade promotions accruable between the two approaches used in Kenya were indeed statistically significant based on teacher performance in TPAD scores.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the main findings of the study in line with the objectives, hypotheses, research questions and analytical approach. Moreover, conclusions and recommendations are made as well as suggestions for further research. The chapter is sectionalized into the following four parts: summary of the research findings; conclusions; recommendations of the study; and, suggestions for further research.

5.2 Summary of the Research Findings

The purpose of this study was to determine the difference in equity in grade promotion of post-primary teachers between the application of the career progression guideline (for KUPPET) and the scheme of service (for KNUT) approaches of the 2017-2021 CBA in Kakamega County, Kenya. Consequently, three objectives were developed for the study. The summary of findings is therefore presented here in three parts by objectives.

5.2.1 Difference in Equity in Grade Promotion of Unionized Teachers, Based on Years of Service

The first objective of the study was to determine the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and career progression guideline approaches of the 2017-2021 CBA, based on the years of service. Data was collected with the aid of questionnaires from sampled teachers who were members of the two unions in post-primary institutions. Logistic regression analysis was used to measure the odds of getting a promotion between the two unions based on

years of service by modeling the effect of the variable on grade promotion while controlling for teacher-level and school-level variables while the Gini coefficient was used to measure the specific/aggregate values of inequity in grade promotion among the two unions.

It was established that membership in KUPPET union reduced the odds of grade promotion by up to 23.46% based on years of service of a teacher. Thereafter, post estimation test of hypothesis for logistic regression was undertaken and its findings revealed a gini coefficient of 0.0601 for KNUT and 0.0519 for KUPPET, with $p = .194$ which was not statistically significant at alpha 0.05. The researcher therefore failed to reject the null hypothesis of equality of the two promotion distributions for the two unions. These findings point to the fact that, years of service in the profession had no statistically significant effect on grade promotion of teachers in post-primary institutions in Kakamega County irrespective of the union the teacher belonged to. This further implies that membership to any of the two unions is insignificant on grade promotion as far as years of service are concerned.

The findings were attributed to the inability or inadequacy of the two approaches used in the implementation of the 2017-2021 CBA to differentiate years of service of the teachers while awarding grade promotions. This implies that both the Career Progression Guideline approach (used for KUPPET) and the Scheme of Service approach (used for KNUT) in the implementation of the CBA are not differentiated in any way according to the years of service of the teachers in grade promotion. It further implies that the years of

service cannot be improved upon (like the other variables), nor altered or manipulated for purposes of achieving more grade promotion irrespective of the approach in use.

However, the findings of the study showed that teacher-level characteristics such as designation in school, age and gender as well as school-level characteristic such as school category in terms of whether sub-county, county, extra county or national were significant in explaining the award of grade promotions to the teachers in the county.

5.2.2 Difference in Equity in Grade Promotion of Unionized Teachers, Based on Academic Qualification

The second objective of the study was to determine the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and career progression guideline approaches of the 2017-2021 CBA, based on academic qualification. Logistic regression analysis was used to model the effect of years of schooling on grade promotions while controlling for teacher-level and school-level characteristics with an aim of establishing the difference in the odds of promotion between the two unions. Consequently, three sequential models were developed and it was established from the models that membership in KUPPET union reduced the odds of grade promotion by up to 22.58% in comparison to KNUT based on years of schooling.

Thereafter, post estimation test of hypothesis for logistic regression was undertaken and its findings revealed a gini coefficient of 0.0624 for KNUT and 0.0557 for KUPPET, with p = .034 which was statistically significant at alpha 0.05. The researcher therefore rejected the null hypothesis of equality of the two promotion distributions for KUPPET and KNUT. These findings therefore point to the fact that, the difference in equity in

grade promotion of post-primary teachers was statistically significant between the two unions in Kakamega County with membership in KUPPET reducing the odds of promotion by up to 22.58%.

The findings were attributed to the failure by the teachers' employer to attach significant scores on higher academic papers during promotional interviews upon a member acquiring extra academic qualifications in the Career Progression Guideline for KUPPET after further studies. This is in comparison to the Scheme of Service approach traditionally used for KNUT (and others) which has an elaborate scoring schedule per grade upon attainment of such higher academic qualifications anticipated in primary schools through teacher proficiency examinations. This implies that the two approaches used in the implementation of the same CBA on promotion of teachers are differentiated distinctively based on years of schooling for academic qualifications.

However, the findings of the study surprisingly showed that teacher-level characteristics, if not controlled, had an influence on promotions such that an extra score in TPAD in 2017 and 2019 reduced the odds of promotion to the next grade in KUPPET as compared to KNUT. Also, school-level characteristics had an influence on promotions such that teaching in an Extra County and/or national schools reduced the odds of promotion to the next grade at post-primary education level in the county.

5.2.3 Difference in Equity in Grade Promotions of Unionized Teachers, Based on Teacher Performance

The third objective of this study was to determine the difference in equity in grade promotion of post-primary teachers between the application of the scheme of service and

career progression guideline approaches of the 2017-2021 CBA, based on teacher performance in TPAD scores. Logistic regression analysis was used to model the effect of TPAD scores on grade promotions of teachers while controlling for teacher-level and school-level characteristics. Consequently, three sequential models were developed.

Thereafter, post estimation test of hypothesis for logistic regression was undertaken based on TPAD scores and its findings for unions showed that promotions in KUPPET (gini coefficient = .0567) appeared marginally equitable as compared to KNUT (gini coefficient = .0698). Results for gini permutation test for each year (p= .022 for 2017; p=.034 for 2018; p= .001 for 2019; p= .002 for 2020; and p= .024 for 2021) showed that they were all statistically significant to grade promotion at alpha=0.05 since $p \leq .05$ for all the years between 2017-2021. The researcher therefore rejected the null hypothesis of equality of the two promotion distributions for KUPPET and KNUT based on teacher performance for all the years.

These findings point to the fact that, teacher performance in TPAD scoring had statistically significant effect on their grade promotion in post-primary institutions in Kakamega County for both KUPPET and KNUT with promotions in KUPPET appearing marginally more equitable than in KNUT with a gini coefficient difference of about 0.0131 between the two unions.

Additionally, the findings of this study on this objective surprisingly showed that if teacher-level and school-level characteristics are not controlled then an extra score in

TPAD in 2017, and teaching in either extra county or national schools respectively reduced the odds of promotion to the next grade in KUPPET as compared to KNUT.

These findings were attributed to the high academic targets set by extra county and national schools which in most cases miss to be achieved resulting in wide negative deviations during TPAD scoring as established from the open-ended sections of the teachers/principals questionnaires. This means that the missed targets results in relatively lower TPAD scores which could have been the case in the year 2017 for this study.

5.3 Conclusions

The following conclusions were made based on the findings of this study.

With reference to the first objective, the study concluded that there was no statistically significant difference in equity in award of grade promotions to post-primary teachers by using the two different approaches for KUPPET and KNUT while implementing the 2017-2021 CBA based on years of service. This implies that the effect of years of service on grade promotion of teachers at post-primary level was not statistically different between KUPPET and KNUT despite the two unions having different implementation approaches towards operationalization of the grade promotions.

Concerning the second objective, the study concluded that the difference in equity in grade promotion of post-primary teachers created by the use of the two different approaches in award of the promotions for the 2017-2021 CBA was statistically different between KUPPET and KNUT based on academic qualifications. This means that the Career Progression Guideline approach that was implementing for KUPPET and the

Scheme of Service approach that was implementing for KNUT produced different equity levels in grade promotion of post primary teachers that were statistically significant based on their academic qualifications. Hence the establishment that membership in KUPPET reduced the odds of promotion to the next grade by up to 22.58% in comparison to KNUT was statistically significant based on academic qualifications of the teachers at post primary level.

Regarding the third objective, the study concluded that the use of Career Progression guideline approach for KUPPET and the Scheme of Service approach for KNUT in grade promotion of teachers at post primary level produced differences in equity levels in the promotions that were statistically significant based on teacher performance in TPAD scores. This means that the establishment of KUPPET being marginally more equitable in promotion distribution as compared to KNUT with a gini coefficient difference of 0.0131 was statistically significant in relation to the teachers TPAD ratings at post primary level.

This could perhaps be attributed to the Scheme of Service approach used by KNUT being presumably biased in favour of primary schools where KNUT draws majority of their membership hence disadvantaging their post-primary counterparts in the union. The many subjects and lessons at primary school and the subsequent lack of specialization in content delivery contemplated in the Scheme of Service approach could have significantly disadvantaged the TPAD scoring for their counterparts at post primary level in grade promotion, since they tend to specialize in specific subject combinations with set targets for achievement.

5.4 Recommendations

The following recommendations were made based on the findings of this study.

1) The teachers' employer should come up with a single tool or approach for use in implementing any given CBA for grade promotion of teachers that takes into account the different years of service of teachers and the length of stay of a teacher in a particular grade. This will enhance fairness and equity in the allocation of promotions from one grade to another. It will additionally enable teachers to know the exact period of time that they expect or anticipate a promotion after a specific length of stay in a particular grade at any given time in the profession. This will make them motivated to work hard for such promotions.
2) The post-primary teachers who subscribe to KUPPET union should consider raising or improving their academic qualifications from their entry ones in order to increase their odds of getting promoted through their Career Progression Guideline approach. This can be enhanced by enrolling for further studies either through study leaves or school-based learning (holiday learning) programmes.
3) Teachers in post-primary institutions ought to undertake Teacher Development Programmes and/or short term refresher courses as a way of boosting their TPAD scoring mechanism since it carries a lot of odds for promotion in the promotional marking scheme guidelines under the Career progression Guideline approach. They can additionally also devise mechanisms of boosting their learners' performance in their subjects both in internal exams as well as KCSE

examinations as an alternative way of boosting their TPAD scores during the appraisee-appraiser schedule under the Career Progression Guideline policy.

4) Finally, generally the two unions should always ensure that they come up with only one implementation tool/approach to operationalize any given CBA for grade promotions and submit it to the teachers' employer to minimise or avoid any inequalities in award of grade promotions. Alternatively, the unions can ensure that their respective members come from a specific level of education to avoid duplication of approaches in the implementation of CBAs for grade promotion. This can be done by signing demarcation policies with the teachers' employer that binds membership of a certain union to teachers in a particular level of education/institutions. Through such, for instance, all teachers teaching in post primary schools will only be eligible to be members of KUPPET (Kenya Union of Post-Primary Education Teachers) and not both unions.

5.5 Recommendations for Further Research

There are other important issues that this study was unable to address due to its scope. In view of this, the following are suggested for further research.

1) A study on the effect of the Collective Bargaining Agreement Implementation on equity in grade promotion of primary school teachers
2) A similar comparative study on the access and equity in grade promotion between unionized and non-unionized teachers
3) A study on the causes, trends and effects of grade stagnation among teachers on the outcome and output of their learners.

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APPENDICES

Appendix I: Union membership in PPE Institutions Nationwide

Serial number	County	Unionized teachers		**Total**
		KNUT	**KUPPET**	
1	Kakamega	1,128	4,378	**5, 506**
2	Kiambu	1,125	4,361	**5, 486**
3	Murang'a	1,121	4,350	**5, 471**
4	Kisii	1,126	4,344	**5, 470**
5	Nakuru	1,118	4,095	**5, 213**
6	Bungoma	1,111	4,094	**5, 205**
7	Meru	1,108	4,023	**5, 131**
8	Machakos	1,117	3,751	**4, 868**
9	Makueni	1,114	3,234	**4, 348**
10	Nyeri	1,005	3,175	**4, 180**
11	Kitui	1,113	2,888	**4, 001**
12	Homabay	1,112	2,841	**3, 953**
13	Kisumu	1,109	2,512	**3, 621**
14	Migori	1,119	2,474	**3, 593**
15	Nairobi	1,115	2,253	**3, 368**
16	Nandi	1,111	2,242	**3, 353**
17	Embu	1,045	2,297	**3, 342**
18	Siaya	1,109	2,174	**3, 283**
19	Bomet	1,123	2,123	**3, 246**
20	Vihiga	1,004	2,224	**3, 228**
21	Trans Nzoia	1,002	2,133	**3, 135**
22	Kericho	999	2,055	**3, 054**
23	Nyandarua	873	1,980	**2,853**
24	Tharaka Nithi	808	1,917	**2, 725**
25	Uasin Gishu	709	1,878	**2, 587**
26	Nyamira	703	1,860	**2, 563**
27	Kirinyaga	711	1,732	**2, 443**
28	Baringo	707	1,715	**2, 422**
29	Busia	701	1,650	**2, 351**
30	Laikipia	708	1,445	**2, 153**
31	Kilifi	693	1,281	**1, 974**
32	Elgeyo Marakwet	623	1,259	**1, 882**
33	West Pokot	614	1,058	**1, 672**
34	Kajiado	502	1,030	**1, 532**
35	Kwale	503	839	**1, 342**
36	Taita Taveta	519	765	**1, 284**
37	Narok	403	616	**1, 019**
38	Mombasa	319	458	**777**

39	Garissa	211	442	**653**
40	Wajir	103	431	**534**
41	Mandera	111	381	**492**
42	Turkana	097	376	**473**
43	Samburu	088	344	**432**
44	Marsabit	067	334	**401**
45	Lamu	055	289	**344**
46	Tana River	023	273	**296**
47	Isiolo	009	212	**221**
	Total	**34, 894**	**92, 586**	**127, 480**

Source: Registrar of Trade Unions National By-product, as at 30th June 2021

Appendix II: National Access to Career Progression by Secondary School Teachers

Category	County rating order	Annual Teacher Promotion Rate in (%)					Average Grade Stagnation in years
		2016	2017	2018	2019	2020	2017-2021
Highest	1. Kiambu	34.4	31.8	25.5	24.3	25.2	**11.7**
	2. Nairobi	30.8	27.7	21.1	20.7	21.2	**12.4**
	3. Murang'a	33.8	25.8	19.8	19.3	20.6	**13.1**
	4. Nyeri	35.2	21.3	15.9	18.5	17.6	**13.2**
	5. Kisii	29.7	18.1	13.4	18.8	19.8	**13.3**
	6. Laikipia	31.8	20.2	12.7	10.1	8.8	**13.3**
	7. Nyamira	29.7	19.9	11.9	9.9	7.7	**13.5**
	8. Nyandarua	28.9	10.8	10.9	8.7	6.7	**13.7**
	9. Tharaka Nithi	26.1	12.3	9.8	7.2	6.2	**13.8**
Upper Quartile	10. Meru	23.9	11.4	8.8	7.3	6.3	**13.8**
	11. Embu	20.7	10.1	8.3	7.1	6.1	**13.9**
	12. Baringo	19.3	10.3	7.9	6.5	6.0	**13.9**
	13. Kirinyaga	17.3	10.2	7.8	6.3	5.9	**14.0**
	14. Machakos	16.6	9.1	7.7	6.2	5.7	**14.0**
	15. Nandi	14.0	8.9	7.6	6.1	5.4	**14.0**
	16. Nakuru	19.9	7.8	7.5	6.0	5.3	**14.0**
	17. Migori	18.9	6.9	6.7	5.7	4.8	**14.0**
	18. Bomet	17.8	5.9	5.9	5.5	3.9	**14.1**
Median	19. Homa Bay	17.4	5.8	5.5	5.2	3.7	**14.1**
	20. Trans Nzoia	16.9	5.2	4.9	5.1	2.9	**14.1**
	21. Uasin Gishu	11.4	5.6	4.1	4.9	3.6	**14.1**
	22. Kisumu	11.4	5.5	4.2	4.3	3.5	**14.1**
	23. Kajiado	11.5	5.5	4.3	4.2	3.3	**14.1**
	24. Kericho	9.9	5.4	4.5	3.1	3.1	**14.1**
	25. Bungoma	9.7	5.3	3.9	3.0	2.5	**14.2**

	26. Makueni	8.5	4.4	3.7	3.1	2.6	**14.2**
	27. Siaya	7.3	3.5	3.3	3.2	2.7	**14.2**
Lower Quartile	28. Samburu	6.1	2.3	2.2	3.5	3.8	**14.2**
	29. E. Marakwet	5.9	2.4	3.0	3.6	2.9	**14.2**
	30. Kitui	4.7	3.1	2.9	3.3	2.4	**14.3**
	31. Mombasa	4.3	2.9	2.3	3.1	2.5	**14.3**
	32. West Pokot	3.3	2.7	2.5	2.9	2.3	**14.3**
	33. Kilifi	2.1	2.5	2.2	3.1	1.7	**14.3**
	34. Busia	2.4	2.5	2.2	2.7	1.7	**14.3**
	35. Taita Taveta	2.8	2.4	2.3	2.3	1.7	**14.5**
	36. Kwale	2.9	2.3	2.3	2.1	1.7	**14.6**
	37. Turkana	2.2	2.2	2.3	1.6	1.7	**14.7**
Lowest	38. Vihiga	2.4	2.1	2.3	1.4	1.9	**14.8**
	39. Marsabit	1.9	2.2	1.7	1.2	1.8	**14.8**
	40. Mandera	1.9	2.0	1.5	1.2	1.7	**15.0**
	41. Tana River	1.7	1.8	2.3	1.1	1.7	**15.1**
	42. Narok	1.7	1.6	1.9	0.8	1.3	**15.1**
	43. Isiolo	1.6	1.9	1.5	0.9	1.0	**15.2**
	44. Garissa	1.6	1.9	1.3	0.9	1.0	**15.3**
	45. Kakamega	1.7	1.5	1.1	0.7	0.9	**15.7**
	46. Wajir	1.7	1.1	1.1	0.4	0.8	**16.8**
	47. Lamu	1.3	1.0	1.1	0.3	0.5	**17.9**
Average (National)		**12.9**	**7.6**	**6.1**	**5.7**	**5.2**	**7.5**

Source : MOE Report on Basic Education Statistics, 2020

Appendix III: Questionnaire for Teachers/Principals

SECTION 1: BACKGROUND AND CONSENT

Good morning/afternoon/evening Sir/Madam. My name is Ronald Livanze Mwani. I am a PhD student in Masinde Muliro University of science and technology carrying out an academic research in economics of education. My research is on Collective Bargaining Agreement Implementation and Equity in Grade Promotion of Post-Primary Teachers in Kakamega County. The study is a comparative research seeking to determine the difference in equity in grade promotions between the application of the scheme of service and the career progression guideline approaches of the 2017-2021 CBA. This questionnaire is therefore aimed at establishing some facts about the grade promotions of unionized teachers in public post-primary education institutions.

You have been randomly sampled from 5,923 teachers in post-primary institutions in Kakamega County to participate in this study. The responses provided will be held with utmost confidentiality and will only be privy to the researcher for accomplishing the purpose of the study. Summary statistics will be used and no names nor identities of respondents or institutions will be made public. Any benefits of the research will be policy oriented intended at improving career progression of teachers through grade promotions. The research will therefore not accrue any monetary benefits but will help in enriching the body of knowledge on grade promotion of teachers through their negotiated CBAs.

In case you accept to participate in the study, you are kindly required to voluntarily respond to the given questions as honestly as possible. You will be expected to write your responses within the spaces provided per question or in case of choices, pick the digit associated with your most desired response and write it within the given box. In such cases, the choices have been given after the question and its response box.

In case of any issue or concern, please contact the principal researcher on 0721333098.

Would you therefore like to participate in this study? ☐ 1=YES 2=NO

If your response is **1**, thank you and welcome. Proceed to section 2.

However, if your response is **2**, I respect your decision and kindly request you to give a reason(s) for your decline to participate in the study_____

SECTION 2: GRADE PROMOTION

a) GRADES:

FOR GRADES, USE: 1=C1 2=C2 3=C3 4=C4 5=C5 6=D1 7=D2 8=D3 9=D4 10=D5

FOR ENTRIES ON DATES, USE THE FORMAT: DD/MM/YYYY

2.1 What was your Job Grade as at 30th June 2021? ☐

2.2 What was your Job Grade as at 1st July 2017? ☐

b) INTERVIEWS FOR GRADE PROMOTIONS

2.3 How many interviews for promotion have you attended between the period 1st July 2017 to 30th June 2021? ☐ [WRITE **00** IF YOU HAVE NOT]

2.4 For the number of interviews indicated in part 2.3, please specify the exact date(s), Grade and outcome of the interview as guided by the table below:

Year	Date of interview ***(DD/MM/YYYY)***	Grade as at date of interview	Grade for promotion	Outcome of the interview
2017	☐☐☐☐☐☐☐☐	☐	☐	☐
2018	☐☐☐☐☐☐☐☐	☐	☐	☐
2019	☐☐☐☐☐☐☐☐	☐	☐	☐
2020	☐☐☐☐☐☐☐☐	☐	☐	☐
2021	☐☐☐☐☐☐☐☐	☐	☐	☐

FOR OUTCOME: 1=PROMOTED 2=NOT PROMOTED 3=RESULTS NEVER RELEASED

2.5 If **00** in part 2.3, indicate the reason for not attending any interview for grade promotion between the period 1st July 2017 to 30th June 2021? ☐

1= VACANCIES OF PROMOTION WERE NEVER ADVERTISED BY TSC

2= FAILED TO APPLY FOR GRADE PROMOTION WHEN THE ADVERTISEMENT WAS DONE

3= DID NOT MEET THE MINIMUM REQUIREMENTS FOR APPLYING FOR PROMOTION TO THE SUBSEQUENT GRADE

96= OTHER [SPECIFY] _____

a) AWARD OF GRADE PROMOTIONS

2.6 Were you ever awarded a grade promotion by TSC between the period 1st July 2017 to 30th June 2021? ☐ 1=YES 2=NO 3= DON'T KNOW 96=OTHER [SPECIFY] _____

2.7 If **1** in part 2.6, please indicate the exact date of promotion as guided by the table:

Year	Date of grade promotion ***(DD/MM/YYYY)***	Previous grade	Grade promoted to
2017	☐☐☐☐☐☐☐☐	☐	☐
2018	☐☐☐☐☐☐☐☐	☐	☐
2019	☐☐☐☐☐☐☐☐	☐	☐
2020	☐☐☐☐☐☐☐☐	☐	☐
2021	☐☐☐☐☐☐☐☐	☐	☐

2.8 If **2** in part 2.6, indicate the possible reason for not having been awarded a grade promotion between the period 1st July 2017 to 30th June 2021 ☐

1= VACANCIES OF PROMOTION WERE NEVER ADVERTISED BY TSC

2= DID NOT APPLY WHEN THE ADVERTISEMENT FOR PROMOTION WAS DONE

3= WAS NOT SHORTLISTED FOR THE INTERVIEW AFTER APPLYING

4= WAS NOT SUCCESSFUL AFTER APPEARING FOR THE INTERVIEW

5= RESULTS FOR THE INTERVIEW WERE NEVER RELEASED

96= OTHER [SPECIFY] _____

d) UNION MEMBERSHIP

2.9 Which Union do you belong to: ☐ 1 = KNUT 2 = KUPPET 3 = KUSNET 4 = NOT IN ANY

2.10 Which date did you join the union in part 2.9? ☐☐☐☐☐☐☐☐

SECTION 3: YEARS OF SERVICE IN TEACHING PROFESSION

3.1 Which date were you first employed by TSC ☐☐☐☐☐☐☐☐

3.2 Have you ever had any break(s) in teaching service between the date indicated in part 3.1 and 30th June 2021? ☐ 1=YES 2=NO 96= NOT SURE

3.3 If **1** in part 3.2, please specify the year, type and duration of break(s) in service?

Year	**Type of break**	**Date of commencement** ***(DD/MM/YYYY)***	**Date of termination** ***(DD/MM/YYYY)***
2017	☐	☐☐☐☐☐☐☐☐	☐☐☐☐☐☐☐☐
2018	☐	☐☐☐☐☐☐☐☐	☐☐☐☐☐☐☐☐
2019	☐	☐☐☐☐☐☐☐☐	☐☐☐☐☐☐☐☐
2020	☐	☐☐☐☐☐☐☐☐	☐☐☐☐☐☐☐☐
2021	☐	☐☐☐☐☐☐☐☐	☐☐☐☐☐

FOR BREAKS IN SERVICE:

1= ANNUAL LEAVE 2= MATERNITY LEAVE

3= PATERNITY LEAVE 4= COMPASSIONATE LEAVE

5= SICK LEAVE 6= STUDY LEAVE

7=SPECIAL LEAVE 8= LEAVE FOR OVERSEA TRAVEL

9= INTERDICTION 10= SUSPENSION FROM DUTY

11= OTHER [SPECIFY] _____

SECTION 4: ACADEMIC QUALIFICATIONS

4.1 What was your highest level of academic qualification as at 30th June 2017? ☐

1= CERTIFICATE 2= DIPLOMA 3=BACHELOR'S DEGREE

4=PGDE 5=MASTER'S DEGREE 6= PHD

4.2 Please indicate any other academic qualification you may have attained between 1st July 2017 and 30th June 2021 using the table below:

Year	Academic qualification	Date of graduation ***(DD/MM/YYYY)***
2017	☐	☐☐☐☐☐☐☐☐
2018	☐	☐☐☐☐☐☐☐☐
2019	☐	☐☐☐☐☐☐☐☐
2020	☐	☐☐☐☐☐☐☐☐

1= CERTIFICATE 2= DIPLOMA 3=BACHELOR'S DEGREE

4=PGDE 5=MASTER'S DEGREE 6= PHD

SECTION 5: TEACHER PERFORMANCE

5.1 Please give your TPAD score for the following years in percentages (%):

Year	2017	2018	2019	2020	2021
Term 1					
Term 2					
Term 3					

SECTION 6: OTHER INFORMATION

a) PERSONAL INFORMATION

6.1 State your TSC no.

6.2 State your gender 1=Male 2=Female

6.3 State your date of birth

6.4 State your contact [mobile number]

6.5 State your current designation in the Institution

1= SECONDARY TEACHER III/LECTURER III (GRADE C1)

2= SECONDARY TEACHER II/SECONDARY TEACHER II UT GRADUATE/LECTURER II (GRADE C2)

3= SECONDARY TEACHER I /LECTURER I (GRADE C3)

4= SENIOR MASTER IV/SENIOR LECTURER IV (GRADE C4)

5= SENIOR MASTER III/SENIOR LECTURER III (GRADE C5)

6= SENIOR MASTER II/DEPUTY PRINCIPAL IV/SENIOR LECTURER II (GRADE D1)

7= DEPUTY PRINCIPAL III/SENIOR MASTER 1/SENIOR LECTURER I (GRADE D2)

8= PRINCIPAL/DEPUTY PRINCIPAL II (GRADE D3)

9= SENIOR PRINCIPAL/DEPUTY PRINCIPAL I (GRADE D4)

10= CHIEF PRINCIPAL (GRADE D5)

96=OTHER [SPECIFY] _____

6.6 Which date were you appointed to the designation | | | | | | | | |

6.7 Which date were you posted in the current station | | | | | | | | |

b) SCHOOL CHARACTERISTICS

6.8 State the name of the school _____

6.9 State the sub-county in which the school is located_____

6.10 Indicate the category of the school in which you were teaching between 1st July 2017 and 30th June 2021 using the given choices in the following table:

Year	Name of school	Category of school	Designation in school
2017			
2018			
2019			
2020			
2021			

CATEGORY: 1=SUB-COUNTY 2=COUNTY 3=EXTRA COUNTY 4=NATIONAL

FOR DESIGNATION/JOB TITLE IN SCHOOL:

1= SECONDARY TEACHER III/LECTURER III (GRADE C1)

2= SECONDARY TEACHER II/SECONDARY TEACHER II UT GRADUATE/LECTURER II (GRADE C2)

3= SECONDARY TEACHER I /LECTURER I (GRADE C3)

4= SENIOR MASTER IV/SENIOR LECTURER IV (GRADE C4)

5= SENIOR MASTER III/SENIOR LECTURER III (GRADE C5)

6= SENIOR MASTER II/DEPUTY PRINCIPAL IV/SENIOR LECTURER II (GRADE D1)

7= DEPUTY PRINCIPAL III/SENIOR MASTER 1/SENIOR LECTURER I (GRADE D2)

8= PRINCIPAL/DEPUTY PRINCIPAL II (GRADE D3)

9= SENIOR PRINCIPAL/DEPUTY PRINCIPAL I (GRADE D4)

10= CHIEF PRINCIPAL (GRADE D5)

SECTION 7: DEMOGRAPHIC INFORMATION

7.1 What was the approximate student population of the school(s) you were teaching between 1st July 2017 to 30th June 2021as at end of each year:

Year	School student population
2017	☐☐☐☐☐
2018	☐☐☐☐☐
2019	☐☐☐☐☐
2020	☐☐☐☐☐
2021	☐☐☐☐☐

SECTION 8: CONCLUSION

8.1 Please record any other information about grade promotion of teachers in post-primary education that may not have been captured in the questionnaire?

_____

8.2 Record any other general comment(s) about the interview

_____

8.3 Write the date of interview *[DD/MM/YYYY]* ☐☐☐☐☐☐☐☐

8.4 Research Assistant's name and code (if applicable) _____

Thank you for your cooperation

Appendix IV: Interview schedule for Sub-County TSC Directors
SECTION 1: PRELIMINARIES AND CONSENT

1.1 Introduction: Interviewer introduces himself by name, University and Course of study, states the topic of study and justifies the choice of location and the purpose of the interview before justifying the choice of interviewee.

1.2 Assures the respondent of confidentiality of the information provided

1.3 Explanation of the process and asks for consent to tape/record the session. If consent not granted, then settles for note taking.

SECTION 2: INTERVIEW ITEMS/QUESTIONS

2.1 How many post-primary school does your sub-county have?

2.2 Could you please provide the names of schools that teachers with the following TSC numbers teach and the contact of the principals of the schools?

2.3 How many times did TSC advertise for promotions between 2017-2021?

2.4 What has been the trend of promotions in the sub-county in terms of the number of applicants, shortlisted, interviewed and promoted?

2.5 Which criteria does TSC use to promote teachers in the sub-county

2.6 Could you please provide any other information/comment about teachers promotion?

2.7 What recommendation would you give towards improving teacher promotion?

SECTION 3: CLOSING SESSION

Thank the interviewee for the cooperation in giving responses and leave mobile contact with him/her for any further clarification in case need arises.

Appendix V: Interview Schedule for Union Executive Secretaries

SECTION 1: PRELIMINARIES AND CONSENT

1.1 Introduction: Interviewer introduces himself by name, University and Course of study, states the topic of study and justifies the choice of location and the purpose of the interview before justifying the choice of interviewee.

1.2 Assures the respondent of confidentiality of the information provided

1.3 Explanation of the process and asks for consent to tape/record the session. If consent not granted, then settles for note taking.

SECTION 2: INTERVIEW ITEMS/QUESTIONS

2.1 How many teachers are members of the union at post-primary level in the county?

2.2 Which approach does the union subscribe to for use in its CBA implementation on grade promotion?

2.3 In your opinion, what is the effect of the approach on trend and frequency of teacher promotions in the county?

2.4 Could you please provide any other information/comment about teachers' promotion at post primary level?

2.5 What recommendation would you give towards improving teacher promotion?

SECTION 3: CLOSING SESSION

Thank the interviewee for the cooperation in giving responses and leave mobile contact with him/her for any further clarification in case need arises.

Appendix VI: Marking Scheme for Grade Promotion of Post-Primary Teachers
(Revised 2017)

Interview Subject Area	Marks
1. ACADEMIC AND PROFESSIONAL QUALIFICATIONS	
(a) Education Qualification	
▪ PhD degree	08
▪ Master's degree	06
▪ Bachelor's degree/Higher Diploma	04
▪ Diploma degree	03
(b) Professional Development	
▪ PhD in management/Professional course	07
▪ Masters in Management/Professional course	06
▪ Degree in Management/Professional course	05
▪ Diploma in Management/Professional course	04
▪ Certificate in Management/Professional course	03
▪ Relevant Workshops/Seminars (minimum of three)	02
Sub-Total	**15**
2. TECHNICAL AREAS	
(a) Teachers Service Commission	
▪ Knowledge of structure, function and policies of the TSC	02
▪ Knowledge of the code of Regulations for Teachers	02
▪ Knowledge of code of conduct and Ethics	02
(b) Curriculum Development, Implementation and Evaluation	
▪ Knowledge of curriculum development, Implementation, Supervision and Evaluation with reference to SAGA's	06
(c) Understanding of the Education Policies	
▪ The role of other stakeholders in the education sector (including the county governments)	05
▪ Trends in education and Institutional Administration and Management (including Financial management and Resource utilization & chapter 6 of the constitution)	05
Sub-Total	**22**
3. MANAGEMENT AND LEADERSHIP SKILLS	
(a) Responsibilities	
▪ Principal	04
▪ Deputy Principal	03
▪ Senior Master/Head of Department	02

	01
(b) Teacher Performance and Appraisal Development (TPAD) score	
▪ 90-100	
▪ 80-89	10
▪ 70-79	09
▪ 60-69	08
▪ 50-59	07
▪ 40-49	06
▪ 30-39	05
▪ 20-29	04
▪ 10-19	03
▪ 00-09	02
	01
(c) Performance for the last three years	
▪ Mean score performance	
11.0 and above	
9.0 - 9.9	20
8.0 – 8.9	18
7.0 – 7.9	16
6.0 – 6.9	14
5.0 – 5.9	12
4.0 – 4.9	10
3.0 – 3.9	08
2.0 – 2.9	06
1.0 – 1.9	04
▪ Improvement Index	02
2 and above	01
1.70 – 1.89	
1.50 – 1.69	
1.30 – 1.49	20
1.10 – 1.29	18
0.90 – 1.09	16
0.70 – 0.89	14
0.50 – 0.69	12
0.30 – 0.49	10
0.10 – 0.29	08
0.09 – 0.01	06
	04
NB. The analyzed results should be validated by the principal. Score shall be awarded based on either subject mean score or Improvement Index (not both), whichever is higher	02 01
(d) Performance in Co-Curricular activities (in the last 5 years) (NB. Either as an official, coach or Referee)	

▪ At National level ▪ At Regional level ▪ At County level ▪ At Sub-county level ▪ At School level ***Sub-Total***	 05 04 03 02 01 **39**
4. PERIOD OF SERVICE IN THE PROFESSION ▪ 21 years and above ▪ 20 years ▪ 19 years ▪ 18 years ▪ 17 years ▪ 16 years ▪ 15 years ▪ 14 years ▪ 13 years ▪ 12 years ▪ 11 years ▪ 10 years ▪ 9 years ▪ 6-8 ▪ 3-5 ***Sub-Total***	 20 19 18 17 16 15 14 13 12 11 10 09 08 07 06 **20**
5. GENERAL KNOWLEDGE AND CURRENT AFFAIRS Deportment ▪ Behavioural Attributes ▪ Communication ***Sub-Total***	 02 02 **04**
GRAND-TOTAL MARKS	**100**

Source: TSC County Human Resource Department, 2021

Appendix VII: Addendum to the 2017-2021 CBA (CA NO. 296 OF 2016)

a. Salary Implementation Matrix for Teachers in Grade D5

Job Groups and Salary Attachments				Salary Increments (Kshs.)			
Salary points	SOS Job Grade	CPG Job grade	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018	Phase 3 1.7.2019	Phase 4 1.7.2020
1	Q	D5	89,748	102,807	111,201	121,814	131,380
2	Q	D5	94,235	104,644	114,632	125,573	131,380
3	Q	D5	98,947	107,873	118,169	125,573	131,380
4	Q	D5	103,894	111,201	121,814	125,573	131,380
5	Q	D5	109,089	118,169	125,573	129,528	131,380
6	Q	D5	114,543	121,814	129,528	129,528	131,380
7	Q	D5	120,270	125,573	121,814	129,528	131,380
1	R	D5	109,089	118,169	125,573	129,528	131,380
2	R	D5	114,543	121,814	129,528	129,528	131,380
3	R	D5	120,270	125,573	129,528	129,528	131,380
4	R	D5	126,172	129,528	141,891	129,528	131,380
5	R	D5	132,249	137,644	148,360	148,360	148,360
6	R	D5	138,501	143,920	152,937	152,937	152,937
7	R	D5	144,928	148,360	157,656	157,656	157,656

KEY:

C2 – Secondary Teacher II & Secondary Teacher II UT (Previously in job gp K)

C3 – Secondary Teacher I (Previously in job gp L)

C4 – Deputy Headteacher II

C5 – Senior Master III (Previously in job gp M)

D1- Deputy Principal IV and Senior Master II (Previously in job gp M & N)

D2- Deputy Principal III (Previously in job gp N)

D3- Principals (Previously in job gp M & N)

D4 – Senior Principals (Previously Job gp P)

D5 – Chief Principals (Previously in job gp Q & R)

b. Salary Implementation Matrix for Teachers in Grade D4

Job Groups and Salary Attachments				Salary Increments (Kshs.)			
Salary points	SOS Job Grade	CPG Job grade	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018	Phase 3 1.7.2019	Phase 4 1.7.2020
1	P	D4	77,527	87,900	99,730	109,249	118,242
2	P	D4	81,404	91,041	102,807	109,249	118,242
3	P	D4	85,474	93,850	102,807	111,201	118,242
4	P	D4	89,748	99,730	104,644	114,632	118,242
5	P	D4	94,245	102,807	107,873	114,632	118,242
6	P	D4	98,947	104,644	111,201	114,632	118,242
7	P	D4	103,894	109,249	114,632	118,169	121,890

c. Salary Implementation Matrix for Teachers in Grade D3

Job Groups and Salary Attachments				Salary Increments (Kshs.)			
Salary points	SOS Job Grade	CPG Job grade	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018	Phase 3 1.7.2019	Phase 4 1.7.2020
1	M	D3	41,590	59,286	77,840	93,850	104,644
2	M	D3	43,660	59,286	77,840	93,850	104,644
3	M	D3	45,880	62,195	77,840	93,850	104,644
4	M	D3	48,190	65,242	80,242	96,745	104,644
5	M	D3	50,590	65,242	80,242	96,745	104,644
6	M	D3	53,140	68,428	82,717	96,745	104,644
7	M	D3	55,840	68,428	82,717	96,745	104,644
1	N	D3	48,190	65,242	80,242	96,745	104,644
1	N	D3	50,590	65,242	80,242	96,745	104,644
3	N	D3	53,140	68,428	82,717	96,745	104,644
4	N	D3	55,840	68,428	82,717	96,745	104,644
5	N	D3	58,840	77,840	87,900	99,730	104,644
6	N	D3	61,990	77,840	90,612	102,807	104,644
7	N	D3	65,290	77,840	90,612	102,807	104,644

d. Salary Implementation Matrix for Teachers in Grade D2

Job Groups and Salary Attachments				Salary Increments (Kshs.)			
Salary points	SOS Job Grade	CPG Job grade	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018	Phase 3 1.7.2019	Phase 4 1.7.2020
1	N	D2	48,190	59,286	71,565	82,717	91,041
2	N	D2	50,590	62,195	77,840	87,900	91,041
3	N	D2	53,140	65,242	77,840	87,900	91,041
4	N	D2	55,840	65,242	77,840	87,900	91,041
5	N	D2	58,840	68,428	77,840	87,900	91,041
6	N	D2	61,990	77,840	85,269	87,900	91,041
7	N	D2	65,290	77,840	85,269	87,900	91,041

e. Salary Implementation Matrix for Teachers in Grade D1

Job Groups and Salary Attachments				Salary Increments (Kshs.)			
Salary points	SOS Job Grade	CPG Job grade	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018	Phase 3 1.7.2019	Phase 4 1.7.2020
1	M	D1	41,590	55,231	66,177	74,703	77,840
2	M	D1	43,660	57,611	68,905	74,703	77,840
3	M	D1	45,880	54,100	65,550	74,703	77,840
4	M	D1	48,190	60,110	65,550	74,703	77,840
5	M	D1	50,590	62,731	71,746	74,703	77,840
6	M	D1	53,140	65,550	68,494	74,703	77,840
7	M	D1	55,840	62,195	68,494	74,703	77,840
1	N	D1	48,190	60,110	65,550	74,703	77,840
1	N	D1	50,590	62,731	71,746	74,703	77,840
3	N	D1	53,140	65,550	68,494	74,703	77,840

4	N	D1	55,840	62,195	68,494	74,703	77,840
5	N	D1	58,840	62,195	68,494	74,703	77,840
7	N	D1	65,290	77,840	80,242	82,717	85,269

f. Salary Implementation Matrix for Teachers in Grade C5

Job Groups and Salary Attachments				Salary Increments (Kshs.)			
Salary points	SOS Job Grade	CPG Job grade	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018	Phase 3 1.7.2019	Phase 4 1.7.2020
1	G	C5	16,692	29,427	40,849	51,632	62,272
2	G	C5	17,527	29,427	40,849	51,632	62,272
3	G	C5	18,403	29,427	40,849	51,632	62,272
4	G	C5	19,323	30,937	40,849	51,632	62,272
5	G	C5	20,289	30,937	41,417	51,632	62,272
6	G	C5	21,304	32,004	42,642	53,730	62,272
1	H	C5	19,323	30,937	40,849	51,632	62,272
2	H	C5	20,289	30,937	41,417	51,632	62,272
3	H	C5	21,304	32,004	42,642	53,730	62,272
4	H	C5	22,369	33,505	42,642	53,730	62,272
5	H	C5	23,489	33,505	43,391	53,730	62,272
6	H	C5	24,662	35,064	45,463	53,730	62,272
1	J	C5	24,662	35,064	45,463	53,730	62,272
2	J	C5	25,985	35,064	45,463	53,730	62,272
3	J	C5	27,180	36,703	45,463	53,730	62,272
4	J	C5	28,520	38,423	45,463	55,909	62,272
5	J	C5	29,918	38,423	47,624	55,909	62,272
1	K	C5	31,020	40,225	47,624	55,909	62,272
2	K	C5	32,580	40,225	47,624	55,909	62,272
3	K	C5	34,200	41,496	49,912	55,909	62,272
4	K	C5	35,910	43,527	49,912	55,909	62,272

5	K	C5	37,710	45,642	51,113	58,171	62,272
6	K	C5	39,600	45,642	51,113	58,171	62,272
7	K	C5	41,590	47,896	51,931	58,171	62,272
1	L	C5	35,910	43,527	49,912	55,909	62,272
2	L	C5	37,710	45,642	51,113	58,171	62,272
3	L	C5	39,600	45,642	51,113	58,171	62,272
4	L	C5	41,590	47,896	51,931	58,171	62,272
5	L	C5	43,660	50,763	53,336	58,171	62,272
6	L	C5	45,880	50,763	55,644	58,171	62,272
1	M	C5	41,590	47,896	51,931	58,171	62,272
2	M	C5	43,660	50,763	53,336	58,171	62,272
3	M	C5	45,880	50,763	55,644	58,171	62,272
4	M	C5	48,190	53,117	58,069	60,533	62,272
5	M	C5	50,590	55,604	58,069	60,533	62,272
6	M	C5	53,140	55,604	58,069	60,533	62,272
7	M	C5	55,840	58,226	60,613	62,272	64,631

g. Salary Implementation Matrix for Teachers in Grade C4

Job Groups and Salary Attachments				Salary Increments (Kshs.)			
Salary points	SOS	CPG	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018	Phase 3 1.7.2019	Phase 4 1.7.2020
1	G	C4	16,692	26,610	35,927	45,287	52,308
2	G	C4	17,527	27,986	35,927	45,287	52,308
3	G	C4	18,403	27,986	35,927	45,287	52,308
4	G	C4	19,323	27,986	35,927	45,287	52,308
5	G	C4	20,289	29,427	37,495	45,287	52,308
6	G	C4	21,304	29,427	37,495	45,287	52,308
1	H	C4	19,323	29,427	37,495	45,287	52,308
2	H	C4	20,289	29,427	37,495	45,287	52,308
3	H	C4	21,304	29,427	37,495	45,287	52,308
4	H	C4	22,369	30,937	37,495	45,287	52,308
5	H	C4	23,489	30,937	39,136	45,287	52,308
6	H	C4	24,662	32,004	39,136	47,400	52,308

1	J	C4	24,662	32,004	39,136	47,400	52,308
2	J	C4	25,895	33,505	39,136	47,400	52,308
3	J	C4	27,180	33,505	40,849	47,400	52,308
4	J	C4	28,520	35,064	40,849	47,400	52,308
5	J	C4	29,918	36,703	42,642	47,400	52,308
1	K	C4	31,020	36,703	42,642	47,400	52,308
2	K	C4	32,580	38,423	42,642	47,400	52,308
3	K	C4	34,200	40,225	43,391	47,400	52,308
4	K	C4	35,910	40,225	45,463	49,629	52,308
5	K	C4	37,710	42,116	47,624	49,629	52,308
6	K	C4	39,600	43,527	47,624	49,629	52,308
7	K	C4	41,590	45,642	47,624	49,629	52,308
1	L	C4	35,910	40,225	45,463	49,629	52,308
2	L	C4	37,710	42,116	47,624	49,629	52,308
3	L	C4	39,600	43,527	47,624	49,629	52,308
4	L	C4	41,590	45,642	47,624	49,629	52,308
5	L	C4	43,660	47,896	49,912	51,632	52,308
6	L	C4	45,880	47,896	49,912	51,632	52,308

h. Salary Implementation Matrix for Teachers in Grade C3

Job Groups and Salary Attachments				Salary Increments (Kshs.)			
Salary points	SOS Job Grade	CPG Job grade	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018	Phase 3 1.7.2019	Phase 4 1.7.2020
1	L	C3	35,910	37,721	39,532	41,343	43,154
2	L	C3	37,710	39,563	41,417	43,270	45,124
3	L	C3	39,600	41,496	43,391	45,287	47,183
4	L	C3	41,590	43,527	45,463	47,400	49,336
5	L	C3	43,660	45,642	47,624	49,606	51,588
6	L	C3	45,880	47,896	49,912	51,927	53,943

i. Salary Implementation Matrix for Teachers in Grade C2

Job Groups and Salary Attachments				Salary Increments (Kshs.)			
Salary points	SOS Job	CPG Job	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018	Phase 3 1.7.2019	Phase 4 1.7.2020
1	G	C2	16,692	21,719	27,325	31,242	34,955
2	G	C2	17,527	22,777	27,325	31,242	34,995
3	G	C2	18,403	22,777	27,325	31,242	34,995
4	G	C2	19,323	25,295	27,325	31,242	34,955
5	G	C2	20,289	25,295	28,792	31,242	34,995
6	G	C2	21,304	25,295	28,792	31,242	34,995
1	H	C2	19,323	25,295	28,792	31,242	34,955
2	H	C2	20,289	25,295	28,792	31,242	34,995
3	H	C2	21,304	25,295	28,792	31,242	34,995
4	H	C2	22,369	26,610	28,792	32,975	34,955
5	H	C2	23,489	26,610	30,335	32,975	34,995
6	H	C2	24,662	27,986	30,335	32,975	34,995
1	J	C2	24,662	27,986	30,335	32,975	34,955
2	J	C2	25,895	29,427	31,956	32,975	34,995
3	J	C2	27,180	29,427	31,956	33,971	34,995
4	J	C2	28,520	30,937	31,956	33,971	34,995
5	J	C2	29,918	32,004	32,988	33,971	34,995

j. Salary Implementation Matrix for Teachers in Grade C2

Job Groups and Salary Attachments				Salary Increments (Kshs.)	
Salary points	SOS	CPG	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018
1	K	C2	31,020	32,988	34,955
2	K	C2	32,580	34,430	36,280
3	K	C2	34,200	35,927	37,654
4	K	C2	35,910	37,495	39,081
5	K	C2	37,710	39,136	40,562
6	K	C2	39,600	40,849	42,099
7	K	C2	41,590	42,642	43,694

k. Salary Implementation Matrix for Teachers in Grade C1

Job Groups and Salary Attachments				Salary Increments	
Salary points	SOS Job	CPG Job	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018
1	H	C1	19,323	25,929	27,195
2	H	C1	20,289	25,929	27,195
3	H	C1	21,304	25,929	27,195
4	H	C1	22,369	25,929	27,195
5	H	C1	23,489	25,929	27,195
6	H	C1	24,662	25,929	27,195
1	J	C1	24,662	25,929	27,195
2	J	C1	25,895	27,325	28,755
3	J	C1	27,180	28,792	30,405
4	J	C1	28,520	30,335	32,149
5	J	C1	29,918	31,956	33,994

l. Salary Implementation Matrix for Teachers in Grade B5

Job Groups and Salary Attachments				Salary Increments (Kshs.)	
Salary points	SOS Job Grade	CPG Job grade	Current Salary	Phase 1 1.7.2017	Phase 2 1.7.2018
1	G	B5	16,692	19,224	21,756
2	G	B5	17,527	20,138	22,749
3	G	B5	18,403	21,095	23,787
4	G	B5	19,323	22,098	24,873
5	G	B5	20,289	23,149	26,008
6	G	B5	21,304	24,250	27,195

Appendix VIII: Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **778822**

Date of Issue: **15/October/2021**

RESEARCH LICENSE

This is to Certify that Mr.. RONALD LIVANZE MWANI of Masinde Muliro University of Science and Technology, has been licensed to conduct research in Kakamega on the topic: COLLECTIVE BARGAINING AGREEMENT IMPLEMENTATION AND EQUITY IN GRADE PROMOTION OF POST-PRIMARY TEACHERS IN KAKAMEGA COUNTY, KENYA for the period ending : 15/October/2022.

License No: **NACOSTI/P/21/13433**

778822

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Appendix IX: A Map of Kakamega county