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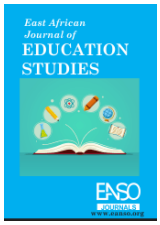

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Original Article

Principal's Teacher Working Environment Strategies on Teacher Performance in Public Secondary Schools in Mumias East Sub-County, Kenya

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Working Environment Strategies, Teacher Workload Management, Security Aspects, Teacher Lesson Attendance and Recovery, Students Mean Scores, Teacher Performance Appraisal and Development (TPAD) Scores.

ABSTRACT

Does the school principal's strategy for a good working environment affect teacher performance? This study sought to answer the question by exploring the data from Mumias East Sub-County, Kakamega county, Kenya. A mixed methodology which entailed gathering quantitative and qualitative data on strategies of teacher working environment against each of the teacher performance aspects comprising of teacher lesson attendance, students mean scores and TPAD scores, was used. Also, A cross-sectional descriptive study design was adopted. To gather data, the instruments used comprised sampling of secondary data, individual in-person interviews for quality assurance officers, sub-county directors, and school principals, student questionnaires and teacher questionnaires. Collected data was then analysed using linear regression, averages, percentiles, and standard deviations. It was discovered that as earlier studies showed the impact of certain working conditions, like the school compound's lighting and facilities, on teacher performance, this research confirmed the impact of security aspects and workload management strategies on teacher performance. Additionally, from the data gathered, principals were implementing various strategies to improve the teacher's working environment, and the extent of use of the various strategies affected teachers' performance. For instance, it was discovered that there was a medium correlation between lesson attendance and recovery (adjusted R2 = 0.049135, at F = 0.001214, p = 0.001, and t = 38.31412), low correlation with the students' means scores (adjusted R2 =0.060101, at F = 0.000325, p = 0.001, and t = 10.86456) little correlation with TPAD scores (adjusted R2 = 0.041847, at F = 0.002887, p = 0.001, and t = 37.73538). After a comparison of data analysed using various instruments, the principals' strategies for the working environment were established to affect teacher performance. The most affecting factors are highlighted in the summary and conclusions.

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INTRODUCTION

Teacher performance is defined as a sum of a teacher's attitudes, behaviours, and actions in the teaching and learning context, which wholesomely predict the achievement of educational goals (Merlo, 2022). Every teacher must undergo routine self-improvement to stay updated with the modern trends in pedagogical approaches and techniques to stay relevant to the profession. In support, World Bank (2022) professes that poor teaching results from system-related policy factors, including teacher motivation, appropriate recruitment, and proper management. Hence, the system theory of management and leadership which views school as a relatively open system with interrelated subsystems informs the research (Teece, 2018). The Policies and principles in the school causes the teachers to develop a particular culture. The culture the teachers assumes is a result of the efforts, works and proper supervision of the school principal. Hence the path-goal theory lends a hand to this research too.

However, the aspects that measure teacher performance have elicited unique trends across the globe and in Kenya. Significant variations in the achievements of educational goals happen even in the cases where there is a similar prior academic performance of students in Kenya certificate of primary education (KCPE) and similar resource inputs within the schools, where the government pays for all student's tuition fees. Horvath (2015) avers that there were variations in K-12 students' mean scores in the same grades due to different teacher value addition. That implies that students in the same school environment with prior similar academic scores under the instruction of different teachers would yield varied scores because of the teacher differences. But given that the teachers attain similar qualifications that are used as criteria for employment, the variations in teachers result from their performance levels.

For instance, different schools with teachers under the same employer witness various teacher performances according to the teacher performance appraisal and development TPAD scores (Odunga, Ogula, & Nganzi , 2020). In such cases, it is difficult to associate any factors affecting teachers other than the principal's management factors, especially the working environment management factors. Also, regardless of their schools, all teachers use the same curriculum design, have the same teaching and learning resources, receive the same salaries, rights and freedoms, and even same educational policies and acts. Therefore, everything responsible for the

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varied teacher performance is within the school's management.

Furthermore, within the schools, the principal decides the work conditions for the teachers since they have the obligation and mandate to plan and use resources at the school. Every plan the principal adopts will eventually affect the teacher's working environment, impacting the teachers' well-being as informed by the path goal theory of management (Olowoselu, Mohamad, & Aboudahr, 2019). For instance, security is one of the most fundamental human needs, ranked second in the order of human wants by Abraham Maslow. If security needs are altered, it is factual that teacher well-being is affected. Moreover, when the teacher is affected psychologically, it is obvious that there will be variations in teacher performance. Therefore, the research focuses on the principal's strategies for creating a secure working environment against teacher performance as well as the principal's strategies for workload management against teacher performance.

LITERATURE REVIEW

Research has been advanced on the matter of school working environment and the impact on the performances in school as well as achievement of the individual, national and international goals of education. This section features the current research that informed the need for further analysis doe in this research to supplement existing knowledge.

Working Environment on Teacher Performance

According to Indeed Editorial Team (2021), a positive working environment is a place of work with enhanced employee growth, goal attainment, and safety, encouraging employees to work more effectively and efficiently towards attaining organizational goals. To attain a positive working environment, organizations, through their manager, should focus on supporting employees for personal growth, improving the overall culture to accommodate employees, and making employees comfortable and feel safe (Indeed Editorial Team, 2021).

In reference to UNICEF and the African Union Commission (2021) Conflicts and insecurity endangers learners, education facilities, teachers, and academics. further, the same report states that Africa as continent experiences political Instability, population growth and conflict which eventually causes high levels of insecurity in the contentment. When the security is threatened, the implications are high level of poverty, politics in curricula, discrimination, low quality of pedagogy and shift of priorities from education to peace keeping and conflict (UNICEF and the African Union Commission, 2021).

Additionally, a study to establish the influence of emotional intelligence, competence, and work environment on teacher performance of SMP Kemala Bhayangkari Jakarta, it was established that the working environment affects teacher performance at a coefficient value equal to 0.262. A regression model with regress Equation $Y = 3.145 + 0.161X1 + 0.429X2 + 0.262X3$ was used (Wahyudi, 2018). Under the working environment, this study explored the security, air temperature, working space, and job security, where respondents agreed and strongly agreed to the above condition in their work area. The quantitative methodology was adopted, and regression analysis was used for data analysis before inferences.

Further, in the research to establish school working conditions and teacher characteristics, it was established that aspects of Teacher cooperation, student discipline and workload highly affect teacher job satisfaction in the same order (Tropova, Myrberg, & Johansson, 2020). The analysis employed chi-square; the results were Teacher cooperation (.30), student discipline (.25) and workload (.20) (Tropova, Myrberg, & Johansson, 2020). Also, the same research established that the cooperation of teachers was also correlated with student discipline (.19) (Tropova, Myrberg, &

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Johansson, 2020). However, there is solid evidence that the teacher's job satisfaction and the student's discipline affect the teacher's performance and hence the student's performance. The study employed latent measures of variables that utilized chi-square, Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and The Standardized Root Mean Square Residual (SRMR) and focused on the trends in mathematics and science studies in Sweden. These findings were similar to those from Sims (2017, 2018) as cited in Tropova, Myrberg, and Johansson (2020), where the Teaching and Learning International Survey (TALIS) 2013 revealed that student discipline and the teacher's teamwork affected teacher performance in all the 35 countries.

Research in the Port Harcourt metropolis, Nigeria, revealed a correlation between the teacher's work environment and the teacher's performance. Specifically, good lighting in the classes and offices affects teachers' concentration, alertness, and task performance at the correlational value of 3.27 (Lucky & Chika, 2018). Conversely, when the lights are blurred, the teachers' physical and psychological health is affected at a correlation value of 3.23 (Lucky & Chika, 2018). This means that the physical condition of the schools would affect the teacher's performance. Therefore, it is undoubtedly proved beyond contradiction. This research utilized a descriptive study design that required purposive sampling.

In another study in Bali Province in Indonesia exploring the influence of education and training, leadership, work environment, teacher certification on discipline, and teacher professionalism in high schools, it was established that work conditions impact teacher discipline and professionalism (Sudja & Yuesti, 2017). The study explored two types of environments, social environment, and physical environment, where physical environment comprised aspects of size and quality of classroom and equipment completeness. In contrast, social comprise teacher solidarity, togetherness, and positive attention (Sudja & Yuesti, 2017). The study effectively explored the teacher working environment but used an explanatory study design and teachers as the sample space. Therefore, the principal's voice was ignored yet instrumental to the teacher's working environment since principals are the immediate managers responsible for creating an appropriate working environment. Nonetheless, the study was done in Indonesia with different education systems, teaching conditions, and social and economic environments compared to Kenya's system. It left both contextual and methodology gaps filled through this research.

Additionally, most research foregoes workload allocations yet Ksenia 2012, as cited in Ayen and Amanekwe (2018), asserts that workload is the excessive or intricate work performed by an individual in a given working environment resulting in frustration, anxiety, annoyance, and undue pressure. Also, the workload is defined as the extension of the roles or work from single to multiple for an employee until the level of disobedience, annoyance, emotional exhaustion, and poor teamwork is reached (Marina 2012, as cited in Ayen & Amanekwe 2018). Considering all the previous definitions, workload allocation can imply assigning duties by the management to the junior staff. As such, workload allocation constitutes the working environment.

Teacher workload allocation is a widespread area of concern, resulting in discussion and study across the globe. In the USA, every teacher and middle leader's weekly working hours during 2019 were 49.5 hours, while in 2016, it was 54.4 hours (Walker, Worth, & Brande, 2019). That translates to a significant reduction in workload by 4.9 hours. Taking the case of lower secondary school teachers, their weekly working hours for 2019 were 49.1 hours, while that of 2016 was 53.5 hours, a reduction of 4.4 hours (Walker, Worth, & Brande, 2019). Despite reducing teacher workload, Organization for Economic Co-operation, and Development (2018) avers that the teacher working hours in the USA are still high,

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above 703 hours per year. Yet 703 hours per year is the average teacher workload for Organization for Economic Co-operation and Development (OECD) countries at the lower secondary level. Nonetheless, based on the statistics, it is still obvious that the OECD-acceptable teacher workload is yet to be reduced to the average in some countries. The challenge of proper workload allocations remains a task for many countries' educational managers and planners.

Similarly, teachers in England work an average of 48.2 hours every week, which is 19% longer than 40.6 hours for the rest of the world (Sellen, 2016). Teacher workload in Kenya is worse in comparison with the recommendations by 'Report of the Task on secondary schools' fees 2014' that secondary school teachers should handle 32 lessons a week, which is 22 hours in a class of below 45 students (Rose & Sika, 2019). For instance, Rose and Sika (2019) assert that 38%, 32%, 24%, 4%, and 2% of teachers in Suba Sub-County have 25-30, 20-24, 15-19, and 10-14 lessons, respectively. The workload is uneven among teachers. But worse still, the workload is far from the recommended standards.

Workload allocations have an impact on teacher performance. According to Rose and Sika (2019), teacher workload allocations in Suba Sub-County negatively affect teacher time, health, and productivity in class, affecting performance. Correspondingly, the heavy teacher workload in England hinders teacher access to professional development training, which is essential for enhancing teacher effectiveness and efficacy necessary for advancing teachers' performance and student outcomes (Sellen, 2016).

Assuming neutral grounds, much literature focuses on the impacts of teacher working environment and teacher performance. That is to address the available reports about teacher workloads in various countries. However, minimal literature links workload allocations to the working environments and how principal's management strategies could influence them. Therefore, this study was to fill a conceptual gap, which addressed principal teacher management strategies that can be used to enhance teachers' performances.

METHODOLOGY AND RESEARCH DESIGN

This research used a mixed methodology. The use of mixed methodology entailed gathering quantitative and qualitative data on strategies of teacher working environment against each of the teacher performance aspects comprising of teacher lesson attendance, students mean scores and TPAD scores. That means the inferences were made based on data from numerical measures and in-depth explorations, which was a more synergistic approach. Notably, both primary and secondary data were collected for this research. Furthermore, the approach to the research was a cross-sectional descriptive study which allowed seeking data about the same variables across varied population parameters using varied instruments in Mumias East Sub-County in Kakamega County, Kenya. The sample population comprised the following:

Table 1: Sample population

Group of people		The Number of Targeted People
Sub-County directors		1
Quality assurance officers		1
Principals		27
Teachers		237
Students	Male students	1,860
	Female students	1,870
Total	**3,994**	

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The gathered data was presented based on the study's objectives in thematic forms. The instruments used in data collection comprised sampling of secondary data, individual in-person interviews, student questionnaires and teacher questionnaires. For the quantitative data gathered, the measures of central tendency comprising of averages and percentiles were used in addition to standard deviation. Also, a linear regression model $Y = a + bX1 + cX2 + \epsilon$ was used on the data to give correlational analysis.

FINDINGS FROM RESEARCH

The findings from the research are clustered in the themes developed from the population parameters on the research objectives. The main objective was to establish the Influence of Principal's Strategies for Teacher Working Environment on Teacher Performance. The aspects of teacher performance comprise of teacher lesson attendance and recovery, TPAD scores and the students' men scores. Therefore, the results are presented as finding from each population on teacher on each of the aforementioned teacher performance aspects.

Strategies for Teacher Working Environment that Teachers Receive

The following are the security and workload strategies teachers in Mumias east are given, courtesy of their principals.

Table 2: Aspects of securities and Strategies for workload allocation that teachers receive

The Top Security Aspects That Teachers Get		Top Workload Allocation Strategies	
Security Aspect	**% of Teachers**	**Workload Allocation**	**% of Teachers**
Availing security personnel to guard teachers in schools	43.48	Lesson distribution in staff meetings	56.52
Isolation of teachers' residences from access to students	18.26	Team teaching	18.26
Proper school demarcation and fencing	77.39	Employing teachers on contract	69.57
Security escort to teachers leaving school at odd hours	37.39	Giving finical rewards to teachers with extra lesson	10.43
Employing technical assistants for teachers	91.30	creation of extra hours to help manage workloads	31.30

As summarized in the table above, teachers mentioned the security aspects and work allocation strategies they receive in their school curtsey of their principals. It can be noted that most school principals employ technical assistants to help handle appliances and reagents used as teaching aids since 91.30% of teachers acknowledge having technicians. Also, many teachers (77.39%) noted that their school principals use school boundaries as a security measure. The other aspects were given to less than half of the teachers, with the least being isolation of teachers' residence from access to students 18.26%.

With workload allocation strategies, most teachers (69.57%) recognize that their school principals employ teachers on BOM terms to help with managing the lesson allocations. The second most articulated work allocation strategy is equal lesson distribution in staff meetings, where 56.52% of teachers acknowledge witnessing it in schools. Again, the remaining aspects are accorded to less than half of teachers, with the least used part being financial rewards to teachers with extra lessons at 10.43%.

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Teachers' View of the Impact of Security and Workload Strategies on their Performance

Regarding opinions of teachers about the impact of security provision and workload allocation on their performance, the results are in the table above. Most teachers recognized that security provision and workload allocation strategies affected their lesson attendance and recovery. Students' mean grades and TPAD scores all have a mean score of over 3, which is averagely impacting. However, it can be noted that workload allocation is very impacting lesson attendance and recovery more than the security provision. Furthermore, security provision would impact students' mean grades more than the workload allocation, while workload allocation impacts more on the TPAD scores. Therefore, both workload allocation and security aspects affect teacher performance.

Table 3: Summary of teachers' view of the impact of security and workload strategies on their performance

Teacher Working Environment Strategy		Extend Of Impact on Teacher Performance						
		V I (%)	I (%)	AI (%)	LI (%)	NI (%)	Mean	Std Dev
Lesson attendance & recovery	Security provision	29.13	27.39	25.22	10.87	7.39	3.6	0.0805
	Workload allocation	30.43	26.09	22.17	9.57	11.74	3.54	0.0875
Student's Mean grades recorded	Security provision	31.30	23.46	26.96	10.43	7.83	3.6	0.0821
	Workload allocation	30.43	26.09	24.35	10.43	8.70	3.59	0.0831
Overall TPAD scores	Security provision	27.39	22.17	22.17	13.91	14.35	3.34	0.0913
	Workload allocation	31.30	32.61	27.83	6.09	2.17	3.84	0.0664

Key: VG – Very Good =5; G – Good = 4; AV – Average = 3; L – Low = 2; EL – Extremely Low = 1

Principals' Views on the Influence of Their Strategies for Teacher's Working Environment on Teacher Performance

Interviews with the principals revealed that most provided security for their teachers through various means. Some of the security measures employed by principals include: employing security personnel to guard teachers in schools, asking teachers to record their residential places in school databases for follow-ups in case of emergency, giving teachers school vans with guards for safe transport facilitation especially when moving in or out of school at hours beyond normal working time. Others include offering airtime to facilitate communication in case of danger, providing technical assistants, like employing lab technician and ICT personnel to help handle gadgets or specimen that can pause danger to teachers, and creating demarcation in schools separating teacher's quarters, student's residential places and tuition areas to restrict intruders into teacher's privacy.

To facilitate equality and a manageable workload, most principals employ measures that include: giving teachers financial rewards for extra lessons, employing teachers on contract to help manage teacher shortages created by leaves or to add extra workforce, creating an environment for teachers to share topics and not just classes, equal lesson distribution to all teachers through staff meetings, creating extra hours to reduce workload.

Furthermore, the interviews revealed that most principals believe that security measures for teachers are more crucial to enhancing teacher performance. The most affected teacher performances were teacher lesson attendance, recovery, and students' mean scores.

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Students Report About Teacher Performance in Schools with Principal's Strategies for Teacher's Working Environment

The student's reports were sorted based on their teachers' working environment strategies in each school. If more than 60% of teachers in a school recognized getting a particular aspect, then it was assumed that the school principal highly provided that aspect in that specific school, and teachers' scores were categorized into two specific aspects, as in the table above. The result shows that students from the school that practice isolation of teacher's residence from access to student's teachers reported the highest lesson attendance and recovery (64.5%) by their teachers. In the second place, lesson attendance and recovery from schools that provide security personnel to guard teachers at the work site was very good at 60%. In the third position was the lesson attendance and recovery from the schools employing technical assistants to aid with handling gadgets and reagents. Therefore, the three are the top compelling working environment strategies for the teacher's lesson attendance and recovery. However, other factors equally affect lesson attendance since all results from the schools with elements for the working environment show that learners ranked lesson attendance more than average.

Table 4: Teacher lesson attendance and recovery in schools with principal's strategies for teacher's working environment

Aspects of Securities and Strategies for Workload Allocation by School Principals	Students Report About Teacher Lesson Attendance and Recovery						
	VG (%)	G (%)	AV (%)	L (%)	EL (%)	Mean	Std Dev
Availing security personnel to guard teachers in schools	60	27.5	8	3.75	0.75	4.42	0.0424
Isolation of teachers' residences from access to students	64.5	26.75	5.75	3	0	4.53	0.0369
Proper school demarcation and fencing	33.33	24.81	24.37	16.74	0.74	3.73	0.0214
Security escort to teachers leaving school at odd hours	38.28	30.75	27.96	2.80	0.21	4.04	0.0292
Employing technical assistants for teachers	40.87	32.70	19.39	6.52	0.52	4.07	0.0198
Lesson distribution in staff meetings	21.38	22.59	30	21.55	4.48	3.35	0.0342
Team teaching	27.27	25.09	23.64	13.09	10.91	3.45	0.0558
Employing teachers on contract	30.46	29.35	26.30	11.11	2.78	3.74	0.0332
Giving finical rewards to teachers with extra lesson	25.49	24.51	23.04	21.07	5.88	3.43	0.0613
Creation of extra time to help Manage Workloads	28.75	28.75	23.13	16.25	3.125	3.6375	0.0911

Key: VG – Very Good =5; G – Good = 4; AV – Average = 3; L – Low = 2; EL – Extremely Low = 1

The number of quality grades varies from school according to the varying principal's management strategies and the principal's strategies for workload management. Assuming that C is the average score, and the quality grades are those above C which is C+ and above (see *Table 5*). From the analysis in the table above, the highest percentage of students (75.48%) recorded quality grades of C+ and above in schools offering Security escort to teachers leaving school at odd hours. Close to that are

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schools that practice Isolation of teacher residences from access to students and those employing security personnel to guard teachers at a place of work, with 59.75% recorded quality grades.

On the other hand, the lowest quality grades are recorded in schools that employ teachers on contract to help with workload (25.19%) and those giving financial rewards to teachers as a workload management strategy (25.65%).

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Table 5: Summary students report about mean grades for recent three examinations in schools with the principal's strategies for teacher's working environment

Aspects Of Teacher Working Environment	Percentage of Students' Average Mean Grades in Past Three Examinations												
	A	**A-**	**B+**	**B**	**B-**	**C+**	**∑ (A - C+)**	**C**	**C-**	**D+**	**D**	**D-**	**E**
Availing security personnel to guard teachers in schools	2	7.5	8.75	10.5	14.5	16.5	59.75	16.75	7.25	6.25	6.75	3.25	0
Isolation of teacher's residence from access to students	2	8	8.25	10	15	16.5	59.75	17.5	7.75	6	5.75	3.25	0
Proper school demarcation and fencing	0.30	2.52	3.78	5.78	10.37	9.52	32.27	12	16.56	16.93	12.22	4.56	5.48
Security escort to teachers leaving school at odd hours	0.75	5.81	4.95	19.78	22.58	21.61	75.48	12.80	4.95	2.69	3.33	0.75	0
Employing technical assistants for teachers	0.35	2.78	4.43	4.61	7.83	9.87	29.87	9.74	15.08	19.43	14.13	9.70	2.04
Lesson distribution in staff meetings	0.43	1.98	4.83	8.79	7.24	8.19	31.46	8.45	10.43	12.24	13.36	15.09	8.97
Team teaching	0.73	2.18	2.73	4.73	11.64	9.82	31.83	15.64	13.45	14.18	13.64	5.82	5.45
Employing teachers on contract	0.37	1.30	3.15	4.17	8.24	7.96	25.19	8.98	14.63	14.63	14.44	11.94	10.19
Giving finical rewards to teachers with extra lesson	0.46	1.67	3.15	4.17	8.24	7.96	25.65	8.98	14.63	14.63	14.44	11.94	9.72
creation of extra time to help manage workloads	3.13	4.38	6.25	5	9.38	11.89	40.03	10.63	12.5	13.13	11.25	6.25	6.25

Key: Where grades were awarded in the following system based on the student's mean scores: A = 11.45-12.0, ***A-*** *= 10.45-11.44,* ***B+*** *= 9.45-10.44,* ***B*** *= 8.45-9.44,* ***B-*** *= 7.45-8.44,* ***C+*** *= 6.45-7.44,* ***C*** *= 5.45-6.44,* ***C-*** *= 4.45-5.44,* ***D+*** *= 3.45-4.44,* ***D*** *= 2.45-3.44,* ***D-*** *= 1.45-2.44,* ***E****= 1 - 1.44*

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The Students' Reports About Their Teacher's Lesson Observation in Schools with The Principal's Strategies for Teacher's Working Environment

Assuming that observing teachers at least once a month, twice a month, and at least twice a term is a high frequency, the schools which create extra time to help manage workloads tops with the highest number of teachers (78.76%) being observed more frequently. In second place are schools employing technical assistants for teachers at 74.78%, which was closely followed by schools practicing isolation of teachers' residences from access to students (73.5%). It should be noted that more than 50% of teachers were highly observed in schools availing security personnel to guard teachers while in schools (62.5%) and those with proper school demarcation and fencing (56.07%). Therefore, the four primary motivators speed up the frequency of teacher lesson observation sessions. Nevertheless, Melisa (2016) avers that the more the lesson observation, the higher the chances for the teachers' high scores in TPADS. Therefore, the schools with a high frequency of lesson observation have the highest teacher performance.

Table 6: Students reports about their teacher's lesson observation in schools with the principal's strategies for teacher's working environment

Aspects of teacher working environment provided by principals	Students report about teacher lesson observation					
	OY (%)	OT (%)	OM (%)	TM (%)	ATT (%)	∑(OM,TM & ATT)
Availing security personnel to guard teachers in schools	0	37.5	16	18.25	28.25	62.5
Isolation of teacher's residence from access to students	0	26.5	24.5	14	35	73.5
Proper school demarcation and fencing	0	43.93	14.74	17.63	23.70	56.07
Security escort to teachers leaving school at odd hours	0	50.97	18.49	13.33	17.20	49.02
Employing technical assistants for teachers	0	36.52	30	14.78	30	74.78
Lesson distribution in staff meetings	0	56.90	13.97	11.90	17.24	43.11
Team teaching	0	66.91	7.27	7.64	18.18	33.09
Employing teachers on contract	0	58.70	9.44	8.70	23.15	41.29
Giving finical rewards to teachers with extra lesson	0	58.70	9.44	8.70	23.15	41.29
creation of extra time to help manage workloads	0	21.25	21.88	15	41.88	78.76

Key: OY = once a year; OT = once a term; OM = once a month, TM = twice a month, ATT = At least twice a term

Secondary Data about Teacher Performance in Schools with and Without Principal's Strategies for Teacher's Working Environment

Employing technical assistance is the most compelling factor in teacher performance (KCSE means score = 6.6, Lesson attendance=67%, lesson recovery= 81%, TPAD= 82%). Close to that are factors comprising proper school demarcations (KCSE mean grade =6, Lesson attendance =64, lesson recovery= 86, & TPAD=79), assigning security personnel to teachers leaving school at odd hours (KCSE men score=6.376, Lesson attendance =64, lesson recovery= 84, & TPAD=83), and isolating teachers' residences from access by students or intruders (KCSE mean scores = 6.2, Lesson attendance =75, lesson recovery= 76, & TPAD=75).

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Table 7: Past KCSE and teacher performance in schools with and without principal's strategies for teacher's working environment

Principal's Strategies for Teacher's Working Environment	Average Kcse Schools Mean scores in KCSE	Average Teacher Lesson Attendance (%)	Average Lesson Recovery (%)	Average TPAD Scores (%)
Availing security personnel to guard teachers in schools	5.2	72	77	78
Isolation of teacher's residence from access to students	6.2	75	76	75
Proper school demarcation and fencing	6	64	86	79
Security escort to teachers leaving school at odd hours	6.3	76	84	83
Employing technical assistants for teachers	6.6	67	81	82
Lesson distribution in staff meetings	3.5	63	76	68
Team teaching	4.7	60	72	72
Employing teachers on contract	4.6	67	71	74
Giving finical rewards to teachers with extra lesson	3.4	68	58	65
creation of extra time to help manage workloads	3.4	70	63	70

Source: Mumias East subcounty Office of Education, (2022)

Correlational Analysis of Principal's Strategies for Teacher's Working Environment Against Teacher Performance

There00 is a medium correlation between security and strategies for workload with teacher lesson attendance and recovery (Adjusted $R^2 = 0.0491$, at $F = 0.001214$, $p = 0.001$-101, and $t = 38.31412$). With an extremely low error margin and low correlation, it is clear that aspects of security and strategies for workload allocation have a low impact on teacher lesson attendance and recovery. Aspects of securities affect teacher lesson attendance and recovery by a coefficient of 2.265692, while Strategies for workload allocation affect by a coefficient of 0.910784.

Table 8: Correlational analysis of principal's strategies for teacher's working environment against teacher lesson attendance and recovery

Regression Statistics	
Multiple R	0.2397
R Square	0.0574
Adjusted R Square	0.0491
Standard Error	9.4251
Observations	230

ANOVA

	Df	SS	MS	F	Significance F
Regression	2	1228.843	614.422	6.917	0.001
Residual	227	20165.000	88.833		
Total	229	21393.850			

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Correlation						
	Coefficients	**Std Error**	**t Stat**	**P-value**	**Lower 95%**	**Upper 95%**
Intercept	69.044	1.802	38.314	0.000	65.493	72.590
Aspects of Securities	2.266	0.667	3.396	0.001	0.951	3.581
Strategies for Workload Allocation	0.911	0.642	1.419	0.157	-0.354	2.175

The data indicates a low correlation between security aspects and workload strategies with students' mean scores recorded in KCSE (Adjusted R^2 =0.060101, at F = 0.000325, p = 0.001 and t = 10.86456). An increase in security and strategies for workload would cause an increase in students' mean scores by about 60%, which is quite compelling. Again, student mean scores recorded in KCSE are affected more by aspects of securities by a coefficient of 0.382313, while strategies for workload allocation least affect by a coefficient of 0.255062.

Table 9: Correlational analysis of principal's strategies for teacher's working environment against subject mean scores in KCSE by students under a particular teacher

Regression Statistics	
Multiple R	0.2614
R Square	0.0683
Adjusted R Square	0.0601
Standard Error	1.6332
Observations	230

ANOVA					
	df	**SS**	**MS**	**F**	**Significance F**
Regression	2	44.394	22.197	8.322	0.000
Residual	227	605.505	2.667		
Total	229	649.899			

Correlation						
	Coefficients	**Std Error**	**t Stat**	**P-value**	**Lower 95%**	**Upper 95%**
Intercept	3.393	0.312	10.865	0.000	2.777	4.008
Aspects of Securities	0.382	0.116	3.307	0.001	0.155	0.610
Strategies for Workload Allocation	0.255	0.111	2.294	0.023	0.036	0.474

There is little correlation between security aspects and workload strategies with the teachers' TPAD scores (Adjusted R^2 =0.041847, at F = 0.002887, p = 0.003, and t = 37.73538). Only about 4% change is caused by the shift in security aspects and the strategies for workload with a high error margin. Similarly, the teachers' TPAD scores are affected more by aspects of securities by a coefficient of 2.214589, while strategies for workload allocation are least affected by a coefficient of 0.732373.

Table 10: Correlational Analysis of Principal's Strategies for Teacher's Working Environment Against TPAD Scores

Regression Statistics	
Multiple R	0.2241
R Square	0.0502
Adjusted R Square	0.0418
Standard Error	9.6369
Observations	230

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ANOVA					
	df	**SS**	**MS**	**F**	**Significance F**
Regression	2	1114.594	557.297	6.001	0.003
Residual	227	21081.600	92.870		
Total	229	22196.200			

Correlation						
	Coefficients	**Std Error**	**t Stat**	**P-value**	**Lower 95%**	**Upper 95%**
Intercept	69.530	1.843	37.735	0.000	65.899	73.160
Aspects of Securities	2.215	0.682	3.246	0.001	0.870	3.559
Strategies for Workload Allocation	0.732	0.656	1.116	0.265	-0.560	2.025

Consolidating all the findings on the working environment strategies, it is clear that they affect teacher performance in all aspects. However, the aspects of securities that teachers receive affect more on their performance more than the Strategies for workload allocation. This research is in line with the findings from Wahyudi (2018), which established a correlation at a coefficient value equal to 0.262. The research also justifies the recommendations by Walker, worth, and Brande (2019) for reducing teacher working hours in the USA.

Summary of the Findings

The available evidence from the data suggests that teachers in Mumias East are accorded various security measures and workload allocation strategies. The security measures include availing security personnel to guard teachers in schools, isolation of teachers' residences from access to students, proper school demarcation and fencing, security escort to teachers leaving school at odd hours, and employing technical assistants for teachers. On the other hand, the workload allocation strategies are lesson distribution in staff meetings, team teaching, hiring teachers on contract, giving finical rewards to teachers with extra lessons, and creating extra hours to help manage workloads.

According to the teachers, security aspects affect their lesson attendance and recovery and their students' mean scores achieved in KCSE. In contrast, workload allocation strategies affect their TPAD scores more. Nonetheless, it is apparent that teachers averagely believe that security provision and workload allocation factors affect their performances in general. SCDE, quality assurance officer, and School principals also confirmed the condition of the teacher working environment factors that teachers acknowledged to receive. Most school principals agree that security factors matter more to the teacher's performance than workload management factors. But they recognized that having a technical assistant who includes ICT personnel and laboratory technicians was the most crucial workload management factor.

Regarding the students' mean grades, schools that practice isolation of teachers' residences from access to students had the best student mean scores. Closely to that followed those providing security personnel to guard teachers at the worksite and those employing technical assistants to aid with handling gadgets and reagents. The same findings were confirmed through secondary sources. Similar trends were recorded with the TPAD scores. Thereof, it is worth concluding that the teacher's working environment is more determined by the safety of teachers at work and curriculum support to the teachers through support staff.

When the correlational analysis was done on the teacher's security and support strategies and teacher performances, there was an established medium correlation between lesson attendance and recovery (adjusted R^2 =0.049135, at F = 0.001214, p = 0.001, and t = 38.31412), low correlation with the

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students' means scores (adjusted R^2 =0.060101, at F = 0.000325, p = 0.001, and t = 10.86456) little correlation with TPAD scores (adjusted R^2 =0.041847, at F = 0.002887, p = 0.001, and t = 37.73538). The findings also indicate that the aspects of securities that teachers receive affect their performance more than the Strategies for workload allocation. For instance, coefficients show that aspects of securities teachers receive impact their performance in lesson attendance and recovery by 2.265692, students' mean scores by 0.382313, and the TPAD scores by 2.214589. on the other hand, the strategies for workload allocation affect lesson attendance and recovery by 0.910784, students mean scores by 0.255062 and the TPAD scores by 0.732373. As such, the findings from this research confirm that strategies for teachers working environment affect the teacher's performance but, to the lowest extent, affect the student's mean scores.

CONCLUSIONS AND RECOMMENDATIONS

The teacher's working environment affects the teacher's performance to a medium extent. Based on the data, the principals must consider the factors accruing to teachers' safety. The most compelling factors include; having proper boundaries for the teacher's residential places and having guards in school assigned to take care of teachers' safety within the schools or when they leave schools at odd hours beyond their working time. Principals should also consider implementing a complete clinical supervisory program in schools at least once a term to ensure that the teachers perform better. Through thorough clinical supervision and a good environment, the principals will surely boost the teacher's job satisfaction and effectiveness which are instrumental to the achievement of individual, national and international goals of education.

Recommendations

Teachers working environment affects teacher performance and all strategies that create a good working environment should be implemented in secondary schools. A conducive environment should ensure teachers' safety in school and while practicing the art of teaching. To ensure teacher safety, there must be the employment of technical assistants comprising lab technicians and ICT personnel to handle gadgets and reagents within secondary schools. Demarcating the schools and providing guards to protect teachers must be ensured among the key work practices.

Also, similar research should be done on private school teachers, primary school teachers, university lecturers and college tutors to ensure management practice at all levels of learning that will give the best teacher performance in all institutions of education. Again, the research should be conducted elsewhere beyond Mumias East and establish if the findings of this research can be universally accepted as the best managerial practices for secondary school principal management in Kenya and beyond.

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