

Strategies for Enhancing Teacher Productivity among Public Secondary Schools in Kesses and Baringo North Sub-Counties

Diana Kiptoo, Barasa Samson Omachar, George Kegode

Department of Educational Foundations, Moi University, Kesses, Uasin Gishu County, Kenya
Email: dianajepkorir96@gmail.com

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Abstract

Teachers play a crucial role in achieving educational goals and ensuring efficiency within the education sector. As the backbone of educational systems, teachers shape knowledge acquisition and significantly influence student outcomes. Higher teacher productivity is widely recognized to correlate with improved student learning achievements. However, numerous reports highlight instances of teacher underperformance in Baringo North and Kesses sub-counties. In light of this, this study sought to recommend strategies for enhancing teacher productivity among public secondary schools in Kesses and Baringo North sub-counties. Job demand resource theory guided the study. The study used the concurrent mixed method research design (QUANT + qual). Quantitative data were analysed using Statistical Package for Social Science (SPSS) software. Descriptive statistics (percentages and frequencies) and inferential statistics (simple linear regression) were used, while qualitative data were analysed using QDA Miner software. A simple regression analysis was conducted to establish the influence of selected strategies on enhancing teacher productivity. The results were $Y = 1.590 + 0.666X$, where X represents the strategies for enhancement. From the regression model, for every unit change in the factors affecting teacher productivity, teacher productivity changes by 0.666. This shows that an increase in strategies for enhancing teacher productivity leads to an increase in the productivity of teachers. The study's findings showed a moderate positive correlation between strategies for enhancing teacher productivity and teacher productivity. Therefore, the study recommends that the Ministry of Education consider implementing the strategies as they increase teacher productivity.

Keywords

Teacher Productivity, Strategies, Public Secondary Schools, Uasin Gishu, Baringo, Kenya

1. Introduction

Teachers play an essential role in education, especially in the lives of the students they teach in the classroom. What defines a teacher is his/her ability to teach students and be a positive influence on them. [Modebelu, Eya, and Obunadike \(2016\)](#) defined teachers as individuals trained specifically to impart knowledge and skills to children, youth, and adults to enable them to develop healthy attitudes and live in harmony with other people. Teacher education graduates' work productivity and performance contribute to high levels of employer satisfaction in the field of education. Results showed that graduates were excellent in terms of their contextual productivity and adaptive performance, and task performance was very satisfactory. It also showed that they had outstanding overall work performance based on their IPCRF rating prescribed by the Department of Education. In addition, there was a significant relationship between the graduates' work productivity and their employers' satisfaction in terms adaptive skills. However, among the other variables, no significant relationship was found between the graduates' work productivity and their employers' satisfaction. Lastly, results showed that work performance is a significant predictor of employers' satisfaction. The findings shed light on the complex dynamics that exist between work productivity, performance, and employer satisfaction, offering practical recommendations for organizations to enhance overall workplace effectiveness ([Hornido, Continedo, Baluyos, & Gacasan, 2024](#)).

The Job Demand-Resource (JD-R) theory supports this interplay between teacher productivity and student success. Job demands, such as heavy workloads and inadequate resources, may hinder teachers' effectiveness and morale. In contrast, job resources like professional development, supportive colleagues, and effective teaching methods provide the necessary support for teachers to thrive and enhance student performance.

The UN and UNESCO have recognized the importance of addressing various factors influencing teacher productivity. These factors include teaching methods, access to resources and support, motivation and job satisfaction, collaboration among colleagues, and continuous professional development opportunities. The comparative study in South Korea and South Africa by [Engelbrecht \(2016\)](#) revealed the undeniable influence of teachers on learners' performance. It highlighted that South Korea, with its oversupply of teachers and stringent employment examinations, exhibits higher teacher productivity compared to South Africa, which faces significant teacher shortages and lacks essential teaching resources.

In Uganda, a study by [Nannozi \(2009\)](#) found that recruitment policies were necessary but not significant in improving teacher productivity. On the other hand, teacher training, development, and staffing policies were essential in improving the productivity of secondary school teachers. In Kenya, [Onyango et al. \(2020\)](#) asserted that teacher productivity is a crucial concern, with students obtaining below 32.23%, 15.41%, and 11.37% getting C+ grades in 2015, 2016, and

2017, respectively. However, the transition rate to universities is relatively low, with Kisumu County being below expectation, with 20.12%, 13.42%, and 12.54% of students in 2015, 2016, and 2017, respectively.

Attrition of teachers has been a challenge facing most public secondary schools in Uasin Gishu County Kenya. It was found out that attrition rate was higher in boys' ($M = 3.39$) school followed by girls ($M = 2.98$) and the least was in mixed day ($M = 2.67$) secondary schools. The study found out that most teachers who had left the teaching profession were males (65.0%) with 35.0% being female. Further, 80.0% of teachers who had left the profession were married with 59.0% of those who had left the profession aged between 41 - 50 years. In terms of working experience, 70.0% of the teachers who had left the profession, had been in service for between 20 years and above. The paper concludes that teacher characteristics in terms of gender, age, work experience and marital status contribute to attrition in public secondary schools in Uasin Gishu County (Mabeya, 2020).

Masinde and Yatich (2024) conducted a study on the correlation between remuneration and the productivity of non-teaching staff in public secondary schools in Baringo Central sub-county, Kenya ($r = 0.531$; $p < 0.05$). This implies that remuneration influenced the productivity of non-teaching staff in public secondary schools in Baringo Central sub-county, Kenya. The study indicates a moderate, positive, and statistically significant correlation between communication and the productivity of non-teaching staff in public secondary schools in Baringo Central sub-county, Kenya ($r = 0.591$; $p < 0.05$). This implies that communication positively influenced the productivity of non-teaching staff in public secondary schools in Baringo Central sub-county, Kenya.

In Baringo North, it was established that teacher harassment, lack of adequate instructional materials, poor planning, and irregular visits were some of the challenges that affected the delivery of quality assurance and standard processes (Chepkuto, 2020). This study seeks to provide a holistic understanding of the factors influencing teacher productivity in both Kesses and Baringo North.

Objective of the Study

This study was guided by the following objective:

- 1) To recommend strategies for enhancing teacher productivity among public secondary schools in Kesses and Baringo North sub-counties.

2. Literature Review

Strategies for Enhancing Teacher Productivity

Incentive

The period between 2004 and 2012 witnessed a substantial increase—over 40%—in the implementation of financial incentive programs for teaching excellence across US public and charter school districts, as reported by the Schools and Staffing Survey of the US Department of Education. However, it is crucial to note the significant disparity in these programs across different states; some districts completely lack incentive initiatives, while nearly half of them offer such pro-

grams. This trend of incentivizing teachers is not exclusive to the United States, as many other countries, including Denmark, India, Israel, Kenya, Hungary, and Norway, have also adopted similar strategies (Imberman & Lovenheim, 2015).

In Africa, several studies have explored the impact of teacher incentives on performance. El-jajah & Mohammed (2019) conducted research in Adamawa State, Nigeria, focusing on the correlation between teacher salary and promotion payments and teachers' job performance in senior secondary schools. Their findings revealed a significant positive relationship, indicating that adequate payment and opportunities for promotion are directly linked to improved performance among teachers. Similarly, Adelekan (2019) investigated the influence of various incentives on teacher performance in primary schools within Ogun State, Nigeria. This study concluded that there is a notable difference in teacher performance based on the incentives provided, specifically highlighting the importance of favorable conditions of service and fringe benefits. Furthermore, Jerotich (2010) observed that teachers in Baringo, Kenya, placed high value on rewards that fulfilled their work content needs and non-financial recognition. The study also pointed out that individual teachers perceived rewards differently, leading to varied motivation levels. A significant concern raised by Jerotich was the dissatisfaction among teachers regarding their schools' existing reward systems, which consequently had a detrimental effect on their overall performance.

Administrative Strategies

Shanka & Thuo, (2017) investigate various strategies to manage and resolve the conflict between teachers and school leaders in government primary schools of the Wolaita zone in Nigeria. Findings indicated that significant conflict causes were institutional, work- or leadership-related. Major conflict management strategies included building leadership skills and following rules and regulations. Embracing change, wise allocation of resources, involvement in decision-making, providing opportunities for training, and understanding individual differences and roles were also highlighted. In case of disputes, techniques included discussions, punishing, forcing, compromising, avoidance, and ignorance.

Msafiri (2017) investigated the strategies employed by heads of schools to motivate teachers in rural public secondary schools in Tanzania. The study found that many classroom teachers were unmotivated, while very few indicated they were somehow motivated. Marieta (2021) investigated the influence of principals' motivational strategies on teachers' job satisfaction in Migwani Sub-County public secondary schools in Kitui County. The study's findings revealed that the principals' motivational strategies, such as recognition, staff professional development, incentives, and interpersonal relationships that constituted the primary variables, were crucial in influencing teachers' job satisfaction. It was concluded that teachers were not satisfied with recognition, professional development, and incentives but were satisfied with interpersonal relationships. However, the study dealt with motivation strategy and job satisfaction.

Organizing Professional Development

Saifalislam et al. (2014) found that these factors significantly influence employee performance at a Jordanian Public University in Malaysia, recommending dedicated training and management development programs. Babatunde (2024) in his study highlighted the significance of continuous training in improving the capabilities of civil servants and provided insights into challenges faced in the implementation of such programs. Recommendations are offered to optimize the design and delivery of training initiatives, contributing to a more skilled and efficient workforce in the public sector. Nama et al. (2022) emphasized that trained employees, particularly through coaching and mentoring, improve service delivery, advocating for continuous policy updates to ensure relevant skill development.

Adika and Mung'ala (2018) found that seventy percent (70.3%) agreed that training needs affected teachers' performance, and 100% agreed that the training strategies affected teachers' performance (Adika & Mung'ala, 2018). The study recommended that the government should ensure the implementation of adequate and well-planned in-service training programs for teachers at all levels of the educational system in Kenya takes place as anticipated.

Cooperation and Teamwork

Ayeni and Fakunle (2022) note that teamwork management enhances teacher productivity. However, the need for qualified teachers inhibits team grouping by specialization and emphasizes the autonomous subject-teacher instructional strategy. This is characterized by overloaded tasks, which incapacitate teacher competencies and impair the quality of the teaching-learning process.

In Uganda, the issue of teachers working in isolation, leaving the school principal alone in accomplishing tasks that are supposed to be a shared activity, is common. The perceived absence of teamwork seems to create a knowledge gap that affects the quality of teaching and learning in schools in the Kamwenge District of Uganda (Pitsoe & Isingoma, 2014). Kiyitawagulu (2019) notes that team management improves work performance by improving the communication process, making the workplace more enjoyable, getting members to know each other well, teaching team members self-regulation strategies, and identifying and utilizing the strengths of team members. Also, lack of commitment support, inattention to results, lack of trust among members, lack of input in decision making, and rivalries are significant challenges facing secondary schools when implementing team management to improve work performance.

3. Methodology

Research Design

The study used a mixed-method research design, specifically a concurrent mixed methods design [QUANT + qual] (Kroll & Neri, 2009).

Figure 1 illustrates how the data were collected, analyzed, and interpreted. While the primary focus of this study was quantitative research through the administration of surveys, qualitative research played a vital secondary role in en-

riching the overall findings.

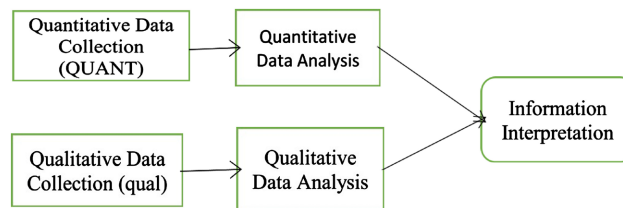


Figure 1. Diagrammatic representation of a research design the study employed.

Sample Size and Sampling Procedure

Sample Size

A sample size of 125 participants was generated from the accessible population of 611 teachers using the following formula provided by Nassiuma (2000);

$$n = \frac{NC^2}{C^2 + (N-1)e^2}$$

where

n = sample size

N = population size

C = Coefficient of variation, which is $\leq 30\%$

e = margin of error, which is fixed between 2 - 5%

The study sample was calculated with a 25% coefficient of variation and a 2% margin of error.

$$n = \frac{6110.25^2}{0.25^2 + (611-1)022^2}$$

$$n = \frac{38.1875^2}{0.306}$$

$$n = 124.5921$$

$$n = 125$$

The sample size was 125 participants.

The participants for the qualitative component comprised 5 KII participants; these are the principals of the selected schools.

Sampling Procedure

The study employed a systematic approach to sampling in both Kesses and Baringo North sub-counties. In Kesses, simple random sampling was used to select two out of the four available wards. Following this, simple random sampling was used to pick six schools from each category: three Extra County schools and three County schools representing different educational contexts concerning infrastructure, resources, student demographics, and academic performance. Within these schools, six teachers with more than three years of teaching experience were randomly selected from each institution. Additionally, purposive sampling was utilized to select seven heads of departments and three principals.

Similarly, in Baringo North, the study employed simple random sampling to select two wards from the available four. Simple random sampling was used to pick three Extra County schools, and three County schools were chosen to reflect the varied educational contexts regarding resources and academic performance. The same methodology was applied to teachers, with six experienced teachers selected from each school to contribute valuable insights into their experiences and challenges. Furthermore, the purposive sampling method was employed again to select six heads of departments and two principals.

Instrumentation

The study employed a mixed-methods approach to data collection, utilizing questionnaires for teachers and heads of departments while conducting key informant interviews with the principals of selected schools. In total, the researcher administered questionnaires to 108 teachers and 13 heads of departments, with the sample comprising 65 teachers and 8 heads of departments from Kesses Sub-County and 43 teachers and 5 heads of departments from Baringo North Sub-County. I initially distributed 50 questionnaires to participants, anticipating that some would not be returned, which informed the expected sample size of 44. However, all questionnaires were completed and submitted, resulting in a total sample size of 50. This outcome highlights a higher engagement level from participants than anticipated, contributing to a more robust dataset in my study.

An interview schedule was utilized for qualitative data triangulation to complement the quantitative data and enhance the depth of the research. This schedule provided a structured framework for interviewing key informants, specifically the principals from both Kesses and Baringo North sub-counties. Five interviews were conducted, with three principals from Kesses Sub-County and two principals from Baringo North Sub-County participating in the study. This is in line with Morse (2000), who notes that the fewer participants needed, the more valuable the data gathered from each subject.

Validity

To ensure the validity of the research instruments, they were meticulously developed in alignment with the study's objectives, involving collaboration with experts from the Department of Educational Foundations and guidance from the researcher's supervisors. Content validity was assessed through expert review, confirming that each item represents the constructs being measured. Internal validity was ensured through careful design choices, including sample selection and control measures, ensuring that the study's conclusions are reliable.

Reliability

Thirteen (13) randomly selected participants (teachers with over three years of experience) from selected schools in Moiben Sub-county participated in piloting the questionnaire. The researcher utilized Cronbach's alpha coefficient to assess the instruments' reliability. Cronbach's alpha is commonly employed to assess the internal consistency of a questionnaire comprising multiple 5-point scales. A coefficient of .787 was achieved, indicating the reliability of the instruments (Trabelsi et al., 2024).

Data Analysis

Data were analyzed using both qualitative and quantitative data analysis techniques. The study used SPSS software to analyze quantitative survey data using descriptive and inferential statistics. The following are descriptive statistics. Descriptive statistics were used to summarize demographic characteristics and responses through frequencies and percentages, and these findings were presented in visual formats such as tables and charts. Furthermore, simple linear regression analysis was conducted to examine the relationships between independent variables, including teaching experience and support systems, and the dependent variable of teacher productivity. The qualitative data gathered through Key Informant interviews were analyzed thematically using QDA Miner software, following a structured six-step process. The steps involved: transcribing interviews and field notes; familiarizing with the data to identify prominent themes; developing a coding framework to categorize the identified themes; systematically coding each transcript; analyzing patterns within the coded responses; and synthesizing insights into a cohesive narrative.

4. Result and Discussion

A simple regression analysis was conducted to establish the influence of selected strategies on enhancing teacher productivity. The participants were asked to indicate whether or not selected strategies had any influence on teacher productivity.

Table 1 displays “R” as +0.658 and adjusted R-squared as +0.428, which is medium; the variance in the selected strategies explains 42.8% of the variance in teacher productivity. Adjusted R-squared is used to refer to sampled data. Adjusted R-squared, a modified version of R-squared, adds precision and reliability by considering the impact of additional independent variables that tend to skew the results of R-squared measurements (Ricci, 2010). This implies that the selected factors need to be implemented as they promote teacher productivity.

The ANOVA **Table 2** shows that the regression model between strategies for enhancing teacher productivity and teacher productivity was significant (it indicates the goodness of fit for the regression model established between dependent and independent variables). The F statistic of 88.380 indicated that the overall model was significant, as this was further supported by a probability value of .000, which is less than .05.

Table 1. ANOVA results for the regression model of strategies for enhancing teacher productivity.

Model	Sum of Squares	Df	Mean Square	f-ratio	p-value
Regression	28.199	1	28.199	88.380	.000
Residual	37.012	116	0.319		
Total	65.211	117			

Table 2. Regression coefficients for the effect of selected strategies on teacher productivity.

Scale	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t-value	p-value
Constant	1.590	0.312		5.100	.000
Teacher productivity	0.666	0.071	0.658	9.401	.000

The regression results suggest a positive and significant relationship between teacher productivity and selected factors. The model is given as $Y = 1.590 + .666$. From the regression model, for every unit change in strategies, teacher productivity changes by .666. This shows that an increase in strategies for enhancing teacher productivity leads to an increase in teacher productivity. Expanding on the quantitative data, the qualitative themes illustrated similar trends as follows:

Incentives play a pivotal role in nurturing teacher motivation and enhancing productivity within the educational environment. The implementation of promotions, salary increments, and opportunities for administrative roles serve as significant drivers of motivation, linking tangible benefits with professional growth. Additionally, rewards tied to student performance, such as monetary incentives for outstanding academic achievements, contribute to heightened morale and dedication among teachers, resulting in an overall boost in productivity. Acknowledging teachers' efforts through internal promotions, additional responsibilities, and public recognition effectively motivates educators, ultimately leading to improved instructional delivery and fostering a positive educational milieu.

The school provides incentives, particularly for remedial activities, and rewards teachers during the Annual General Meeting based on KCSE performance, highlighting the noteworthy influence on teacher productivity. KII_3_M_K

Furthermore, a culture of recognition and encouragement, coupled with incentives like remedial opportunities, monetary rewards for extra classes, and organized trips, serves to continually drive teacher motivation and commitment. These tangible benefits foster increased dedication and productivity within the educational sphere, further contributing to an environment that values and encourages educators' efforts. Moreover, the emphasis on fostering teamwork and cooperation through activities such as team teaching and addressing challenges collectively has significantly enhanced teacher productivity, minimized disruptive issues, and emphasized the importance of proactive problem-solving within the educational setting.

The practice of rotational teaching in their school, where teachers take turns teaching, setting tasks, and marking together. KII_1_F_K

School emphasized the high value placed on teamwork and cooperation, particularly through activities such as team teaching and lesson sharing. KII_3_M_K

The strong teamwork among teachers in their school, where topics are assigned based on individual strengths to ensure efficient coverage even in a teacher's absence. KII_2_B_M

Moreover, comprehensive and continuous professional development through participation in workshops, seminars, and training programs equips teachers with essential skills and knowledge that ultimately enhance their productivity and dynamism within the classroom. The emphasis on continuous learning positively influences teacher performance and the overall effectiveness of the educational environment.

Additionally, strategic efforts such as clear communication, professional development opportunities, supportive feedback and evaluation, collaborative decision-making, and resource allocation play pivotal roles in fostering an environment that enhances teacher productivity, ultimately contributing to improved teacher and student outcomes and reflecting a dedicated and multifaceted approach to educational excellence.

There was a previous attempt at professional course training for teachers, but it faced challenges as the teachers were expected to cover the costs themselves. KII_5_F_B

TSC organized professional development courses for teachers, where they were required to pursue six courses over a span of 30 years. KII_2_M_B

Discussions of the Present Study in Relation to Other Research Findings

The qualitative and quantitative findings agree with Makruf et al. (2020) in their "Providing Incentives to Improve and Develop the Performance of Teachers study". Providing incentives significantly affects teacher performance. It is related to the emotional level of teachers when dealing with work. The higher the teacher's income, the higher the teacher's loyalty. Salary income is an obligation of the school. Providing incentives is a trigger tool to improve and develop the teacher's performance. The teacher will further improve their performance and service with the provision of incentives.

The study findings also concur with those of Ayeni (2020) in his study "Teachers' Capacity Building and Productivity in Secondary Schools in Ondo North Senatorial District of Ondo State, Nigeria". Results revealed a significant relationship between capacity building and teachers' productivity [$r\text{-cal} = 0.606, p < 0.05$]. It was concluded that despite the inadequacies in capacity building, teachers maintained high productivity, possibly due to their strong commitment to professional duties. However, teachers are still faced with the challenges of excess workloads, large class sizes, and a shortage of instructional material.

The study concurs with the findings by Dahiru (2022) in his study, "Influence of pedagogical workshop on teachers' performance in some selected senior secondary schools in Sabon Tasha educational zone". The findings of this study showed that attending pedagogical workshops annually has provided teachers with more skills in developing lesson plans than those who attend occasionally by 26%. Teachers in the Sabon Tasha Educational Zone who attend pedagogical workshops annually have better skills in classroom management than those who only attend pedagogical workshops once in a while. The teachers who do not attend pedagogical workshops often had low scores in using basic instructional ma-

terials. Teachers attending pedagogical workshops annually scored higher and performed better in instructional delivery. There is a significant difference in the performance of teachers who attend pedagogical workshops and those who do not.

The study concurs with the study's findings by [Polega et al. \(2019\)](#). Their study "Principals and teamwork among teachers" suggests that principals consider teamwork very important. They also showed that time constraints, relationship concerns, and differences in teaching and experience are the leading barriers to teamwork. The findings also indicated that principals take initiatives such as modifying schedules, team-building activities, and professional development to foster teamwork among teachers ([Polega et al., 2019](#)).

The studies by [Essien et al. \(2016\)](#) and [Gari et al. \(2024\)](#) demonstrate significant inconsistencies regarding in-service training's impact on academic performance and teacher productivity. Essien et al. found a minor positive correlation between teachers' attendance at in-service training, seminars, and workshops and students' academic performance in social studies. Conversely, Gari et al. reported that principals failed to effectively utilize professional development strategies, negatively impacting teacher productivity, primarily due to a lack of resources and insufficient acceptance of these opportunities among teachers.

The results ascertain similarity with a study by [Ogunbayo and Fatai \(2022\)](#) on "Understanding the Levels of Productivity of Teachers Who Are Exposed to In-Service Training". The study's findings demonstrated that teacher productivity is determined by in-service training. The study also revealed that teachers who participate in the training program are more likely to perform well than those who do not; in-service training can improve teachers' teaching effectiveness by boosting their topic knowledge, teaching methods, and pedagogical content knowledge. In conclusion, any in-service training program designed specifically for teachers to increase their level of productivity should always address both the teachers' needs and the educational requirements.

The study finding is in line with those of [Akinbode and Ayodele \(2023\)](#). The study showed that the level of teachers' productivity is good, encouraging, and satisfactory; the majority of the principals mostly use supervisory skills (Mean = 19.561 (78.2%), SD = 2.874), followed by communication skills (Mean = 22.878 (76.3%), SD = 3.608), and motivational skills (Mean = 18.823 (75.3%), SD = 3.772). A significant relationship was found between the principals' administrative skills and the productivity of teachers ($r = .120, p = .036$). The study concluded that a principal's administrative skills influence teachers' productivity in the areas of teaching methods, teachers' characteristics, and students' evaluation in public senior secondary schools.

5. Conclusion and Recommendation

5.1. Conclusion

The study found a statistically significant positive relationship between strategies

for enhancing teacher productivity and actual teacher productivity in public secondary schools in Kesses and Baringo North sub-counties. Quantitative analysis showed these strategies account for 42.8% of the variance in productivity, a robust finding supported by qualitative data. Key drivers of productivity include incentives (promotions, salary, performance-based monetary rewards), recognition, teamwork, continuous professional development, clear communication, collaborative decision-making, and adequate resource allocation. These elements collectively foster a supportive environment that values teachers, thereby optimizing their productivity and contributing to positive educational outcomes.

5.2. Recommendation

The study's findings showed a moderate positive correlation between strategies for enhancing teacher productivity and teacher productivity. Therefore, the study recommends that the Ministry of Education consider implementing the strategies, as they increase teacher productivity.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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