

Strategies for Retaining Secondary School Science Teachers: A Case of Dodoma City, Tanzania

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Abstract: The study aimed at determining strategies by private secondary school management in retaining science teachers in Dodoma City. The study was guided by Motivation- Hygiene Theory by Frederick Herzberg. The study employed the mixed research approach and the convergent parallel research design. The targeted population had a total of 123 science teachers distributed in 18 different secondary schools, 18 Heads of school and 1 Secondary Education officer. Therefore, the total population of the study was 142 people from which, thirty (30) respondents were selected (25 science teachers, four (4) heads of schools and one (1) City Secondary Education Officer) selected through purposive and simple random sampling techniques. Quantitative data was analyzed through descriptive statistics while qualitative data was thematically analyzed. The study established that employment of appropriate strategies retains science teachers in schools. Such strategies include involvement of teachers in decision making, provision of attractive remuneration and working conditions, recognition and appreciation. Based on these conclusions, it is recommended that schools under investigation should strive to provide the identified motivating aspects for sustainable retention of science teachers in schools under investigation.

Keywords: Strategies; Private Secondary Schools; Retention; remuneration; motivation.

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Introduction

Application of appropriate administrative strategies in management is important because right strategies result into retention of qualified teachers. According to Kieti, Maithya & Mulwa (2017), for attaining and retaining qualified science teachers, the school management needs to effectively use such administrative strategies like planning, coordinating, controlling, organizing and commanding. While teachers' retention is a necessary undertaking in schools, it's not easy to attain this goal because teachers and particularly science teachers constantly seek for greener

pastures by moving from one school to the other. In this given situation, teachers' retention cannot be attained without employing proper strategies.

According to Elhadj (2013), effective application of administrative strategies is a vital means in directing teachers to implement tasks and create a culture of efficiency. The need for the application of different strategies to ensure teachers' retention has been perceived as a key issue in many parts of the world. Powell (2010), Salesho and Naile (2016), Sadik (2018), Boniface (2016) and Silva, Carvalho & Dias (2019) all

support the view that need for using different strategies is necessary if one desires to retain science teachers in schools. So, schools in different countries have applied certain administrative strategies to ensure teachers' retention, especially science teachers. For instance, in the United States of America, administrative strategies are applied to ensure schools are responsible for creating good school climates through coordinating, controlling, leading and consequently influencing teachers' retention (Coates, 2015).

Silva, Carvalho and Dias (2019) found the same in the study made in Brazil. A study made in South Africa by Salesho and Naile (2016) present the same findings. According to Lewis and Sequeira (2018), administrative strategies to retain science teachers include empowering them. Training on teamwork can also influence attitude towards participation and consequently ease administrative tasks and lessen the duties imposed on individual teaching personnel.

In Zimbabwe, there was a need for quick effort to solve problems encountered in retaining science teachers in private schools; one of specific issues was that of making sure that teachers are not robbed and so administrative strategies had to be applied as tactics to retain teachers in schools (Gomba, 2015).

A study conducted by Kamundi (2021) in Kenya shows that there is a tendency among teachers to leave secondary schools owned by Christian religious institutions and the turnover appeared to occur yearly. However, Kamundi explains that teachers tended to remain in the schools as long as the administration was cooperative and appreciative. Therefore, the retention of science teachers in schools depends on how schools value and treat them.

The provision of facilities should be well organized and appropriately implemented. The availability of security services, welfare, health and safe working environment increases teachers' retention (URT, 2015; Kiptum, 2018). And good organization in implementing the provision of these facilities is one of the strategies to motivate workers. The URT (2015) emphasized that the management ought to use some strategies which may inspire, motivate and enhance the retention of science teachers especially in private schools. This is further supported by studies which have

been done such as that of Allen and Sims (2017) and Bisaso and Wambede (2020).

Confining efforts to mere application of strategies to retain science teachers is not enough to obtain desired results in science subjects. Good infrastructure for teaching is also required as part of the strategies. The Government of Tanzania recognizes this as made evident in the speech that was made by the President of the United Republic of Tanzania, her excellence Samia Suluhu Hassan during the meeting with women of Tanzania in Dodoma on June 8th, 2021, when she said that the government was committed to increase education opportunities for women and to ensure that they benefit from the advancement of science and technology. Similarly, in July 2021 the President stated that the government had begun implementing a project to build one boarding secondary school for girls in each region so as to increase access for girls to learn science subjects (Hassan, 2021).

This indicates that, the government recognizes the scarcity of science teachers in secondary schools and the importance of promoting science subjects. So, the strategy is meant to alleviate the scarcity of science teachers or uplift science subjects in order to increase the number of science related professionals in Tanzania, particularly science teachers. These efforts indicate that, the government recognizes the importance and the requirement of science subjects. So, the strategy was planned to elevate or uplift science subjects and to add the number of science related professionals in Tanzania, particularly science teachers. These are efforts and encouragement made by the government of Tanzania to show the significance of science subjects and science teachers resulting from a high demand of science teachers in Tanzanian schools.

It is impossible to produce skilled personnel who are well equipped with science knowledge without retaining qualified science teachers in schools. A study by Asantemungu and Anicet (2019) which was conducted in Tanzania revealed that there were several challenges facing private secondary schools in retaining science teachers. Such challenges included poor living standards, unconducive school environments and lack of recognition by the school management. The study further showed that the retention of good staff

was a universal problem for many private institutions. Thus, personnel retention is a global issue which faces both developed and developing countries including Tanzania. The challenges faced in the efforts to retain teachers are more pronounced in science teachers. The problem is faced by managements in both government and private secondary schools, particularly in Dodoma City where the study was conducted.

Dodoma was selected since it is a rapidly growing city in Tanzania after being given the status of a capital. Competition for science teachers is high in this city because employment opportunities for them are easily available due to newly built and inaugurated secondary schools. The influx of people and government officials who have schooling children and the demand for better schools is high in this city. It was therefore presupposed that the need to get and retain science teachers in secondary schools might be higher in Dodoma than in other cities of Tanzania.

The challenge of retaining science teachers is more serious in private schools than in government schools because of limited financial resources in private schools. It is more challenging in major cities where science teachers are more marketable because of availability of many schools that need them especially if they are competent. Private schools that aim at excelling in academic performance tend to rob renowned science teachers from other schools. This is a common practice in major cities. Besides, in cities life is more challenging than in rural areas. As Mathimaran and Kumar (2017) write, teachers who work in cities have to hustle a lot to make extra earnings to meet high demands of life. This study sought to:

1. Examine the possible reasons for science teachers to shift from one school to another.
2. Identify the significance of administrative strategies to retain qualified science teachers at private secondary schools.
3. To find out possible strategies that would be adopted by school management to retain qualified science teachers at private secondary schools.

Theoretical Underpinning

The study applied a Motivation Hygiene Theory which was founded by Frederick Herzberg (a psychologist from Pittsburgh) in 1959. The theory

states that in jobs, there are some factors that lead to job satisfaction (Satisfiers or 'Motivators) and those factors that lead to job dissatisfaction (Dissatisfiers or Hygiene factors). The motivators are job content elements that influence employees to perform well at school, make them pleased and give them satisfaction.

On the contrary, hygiene factors are aspects of a particular job context that need be included in work place such as work relationship, organization policies, kind of supervision and work condition that should exist in the work place but which may create dissatisfaction in jobs for some employees. The hygiene factors can be well managed to reduce or prevent dissatisfaction but they aren't in themselves, a source of motivation or dissatisfaction (Almaaitah, Harada, Sakdan, Almaaitah (2017). According to this theory, when one considers an effective strategy to retain employee in an organization, the management must not rely only on intrinsic variables to influence employee retention but rather combine both intrinsic and extrinsic variables. For instance, good salaries and other remunerations (are intrinsically motivating) but good salaries and remunerations alone do not suffice to ensure personnel retention. There are others aspects that act as extrinsically motivating variables but not inherently motivating; they include the way the administration treats employees, security and provision of social services. These extrinsic variables may influence employees to remain at a working place Bevins (2018).

Therefore, school leaders should give material and moral support or incentives to show care and encourage employees to work hard and remain at their work places. While material support includes bonuses, accommodation and transport, moral support includes recognition, appreciation, success and advancement. The theory is relevant to this study since it explains the way conducive environment may motivate workers to stay longer in a school.

Methodology

Research Approach

This study applied a mixed approach which involved both qualitative and quantitative methods. A mixed approach is an empirical research that involves the collection and analysis of both qualitative and quantitative data (Almalki, 2016).

Research Design

The study employed the convergent parallel design in which the researcher collected both qualitative and quantitative data concurrently in one visit in the field. Convergent parallel design was adopted for this study because a simultaneous collection of both quantitative and qualitative data helped the researchers to save time and financial cost.

Population and Sampling

The targeted population had 142 people (123 Science teachers, 18 Heads of Secondary school and 1 Secondary Education Officer). These people were distributed in 18 secondary schools that were categorized into two; those owned by religious institutions and those owned by non-religious institutions. Out of the 18 secondary schools, only 4 were involved in the study. From the 4 selected secondary schools, 25 Science teachers were selected; three secondary schools were owned by religious institutions and from each of them 6 science teachers were selected giving a total of 18 science teachers; only one of the 4 private secondary schools was owned by an individual and from this school 7 science teachers were selected. Thus, the total sample size involved thirty (30) respondents (25 science teachers, 4 heads of schools and 1 City Secondary Education Officer).

Research Instruments

Questionnaire and in-depth interview guide were employed as data collection tools in this study.

Open-ended and closed-ended items were employed to gather information from respondents.

Validity and Reliability

The instruments had to be distributed to research experts to check on the relevancy of their content to cover all the research objectives. The researchers made necessary correction so as to ensure the findings are obtained by using valid research instruments. Reliability was checked by using a split-half technique. The correlation coefficient of the instruments was calculated with the help of SPSS yielding the Cronbach's Alpha of 0.82, which is acceptable.

Statistical Treatment of Data

Quantitative data from the questionnaire was analyzed through descriptive statistics, with the help of the Statistical Package of Social Sciences (SPSS). Data was presented through tables. For qualitative data, thematic approach was used in analyzing and presenting results.

Results and Discussions

This section presents the results of the study based on research questions that guided the study.

Strategies to Retain Science Teachers

This study sought to establish strategies for retaining science teachers. In table 1, teachers were given a questionnaire to tick strategies that can be used.

Strategies to be used for Retaining Science Teachers

SN	Strategy	Agree		Neutral		Disagree	
		F	%	f	%	f	%
1	Involving teachers in decision making	23	92	1	4	1	4
2	Attractive remuneration	23	92	2	8		
3	Working environment	25	100				
4	Recognition and appreciation	24	96	1	4		
5	Allowances	24	96			1	4
6	Accommodation	21	84	1	4	3	12
7	Attractive job contract	34	96	1	4		
8	Health services provided	24	96			1	4

Involving teachers in decision making

The majority of respondents (92%) who filled the questionnaire were of the view that teachers' involvement in making decision is a measure that can retain science teachers. While 4 per cent of the respondents disagreed, 4 per cent were not sure with the statement. The findings suggest that involving teachers in decision making may affect

teachers' retention as it encourages teachers to feel themselves as part of the school. This means that, interaction between heads of schools and their teachers in decision making issues builds good relationship and helps to create conducive and safe working environment that attract teachers to remain in the schools. Babara (2015) conducted a similar study in Tanzania and found

out that one of strategies which school heads can use to retain teachers is involving them in decision making at school level. This can be true since when teachers are involved in decisions at school level, they feel like they are part of the school administration and therefore they may not decide to leave the schools easily.

Good Working Environment

The study found out that, the presence of good working environment was perceived to be the main reason which the management needs to take as a strategy in retaining science teachers since 100% of respondents agreed with the statement. This means that, unsatisfactory working environment demotivates teachers and good environment attracts them to remain. In addition, the information collected from respondents through interviews supported the point as one of the interviewee suggested that: "working setting of the teachers particularly should be improved through provision of accommodation, meals, transport and health services to enable them to feel that were supported and cared" (Interviewee 2, August 2021). This is in line with a study by Malisa (2015) on teachers' retention strategies in secondary schools which established that in order to retain qualified teachers in secondary schools, attractive working environments should be used as strategies. The finding is further supported by Mbiu (2019) who conducted a study in Kenya and found out that, private schools in Kenya employ teachers on a competitive basis and several teachers in private institutions search for greener pastures, particularly in urban areas where there are better working conditions.

Good Remuneration and Payment

Most of the teachers (92%) agreed to the statement that attractive remuneration helps to retain science teachers. The study particularly found out that payment of allowance to science teachers encourages them remain at their schools. This was verified by the majority of respondents (96%) who suggested that payment of allowance contributes to the retention of science teachers. The interview findings further revealed that "to manage to retain few science teachers in these schools, there is a need to provide satisfactory salary and provide them with bonus and other incentives" (Interviewee 1, August 2021). Similarly, the finding is supported by the following respondents from interviews.

Respondent 4 from one of the school suggested that: "The biggest strategy to be employed by management to retain teachers is satisfactory payment for the work that teachers do in schools. This includes increment of salary and attractive bonus" (Interviewee 4, August 2021). Therefore, the practice of giving attractive remuneration and allowance constitutes a major factor which school management should put into consideration as a means of attracting and retaining science teachers. A similar study by Calvin (2017) in Nigeria revealed that salary, bonuses and other sorts of incentives were powerful strategies which help to boost teachers' morale and retention.

Recognition and Appreciation

Recognition and appreciation were perceived as powerful ways of retaining science teachers. This is revealed by the fact that 96% of respondents in the questionnaire agreed with such a statement as seen in table 1. The study by Gibson (2018) on 'Factors Affecting Teacher's Retention' supports the findings of this study on the point of view that lack of recognition, appreciation and encouragement from school leaders can discourage teachers from being retained in the same school they work. Similarly, Andrews (2011) found out in his study in Australia and USA that recognitions is a valuable strategy for teachers' retention but cautions that it may not necessarily lead to improved students' learning outcomes. Recognition and appreciation are influencing strategies that help in ensuring teachers' retention but in order to achieve them, school administrators must be equipped with good leadership skills (See, Morris, Kokotsaki & Abdi, 2020).

Provision of Accommodation

Provision of teachers' accommodation was also perceived as a factor that attracts science teachers to remain at their workplace of employment. In the study, 84% of respondents agreed with the statement that appears in table 1 to show that the provision of accommodation can be used as a measure of retaining teachers. This strategy attracts teachers to be retained because provision of housing reduces living costs that teachers incur in travelling to and from work on a daily basis; it increases security for the teachers; it reduces teachers' truancy and absence from work; and teachers can easily assist in remedial classes since they can easily access classes. The finding on the significance of providing

accommodation in teachers' retention is supported by Mohamed (2017) who conducted a study on challenges associated with primary school teachers' accommodation in rural areas and found out that good living environment which involves issues like good housing, clean water and availability of power in homes is a strategy which encourages teachers to remain in their workplace. In his study on the problem of teachers' retention in remote secondary schools of Tanzania, Boniface (2016) found out that provision of housing is important in promoting teachers' retention. A similar finding was made by Acheampong and Gyasi (2019) who made a study in Ghana and found out that housing encourages and promotes retention of teachers working particularly in rural areas.

Conclusions and Recommendations

Efforts to retain science teachers in schools under investigation is inadequate. The tendency for science teachers to leave workplaces is more marked in private than in public schools. Therefore, employment of such strategies as involvement of teachers in decision making, provision of attractive remuneration and working conditions, recognition and appreciation can influence the retaining science teachers. It is therefore recommended that schools under investigation should strive to provide the identified motivating aspects for a sustainable retention of science teachers.

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