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RESEARCH ARTICLE

SINGLE SHIFT IMPLEMENTATION STRATEGIES AND STUDENTS' ACADEMIC PERFORMANCE IN LOWER PRIMARY PUBLIC SCHOOLS IN RWANDA, A CASE OF KARONGI DISTRICT

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Abstract

The research investigated the single shift implementation strategies and students' academic performance in lower primary public schools in Rwanda, a case study of Karongi district. According to the data, 77.6% of respondents strongly agreed that the first objective of the implementation of single shift in their school is well organized and effectively managed; 82.2% strongly agreed that the necessary infrastructure and facilities are available to support the implementation of single shift in our school; and 90.0% strongly agreed that the teaching staff in their school is adequately trained and prepared for the implementation of single shift. This result reveals that the school's single-shift implementation is well organized, there is the availability of necessary infrastructure, and the teaching staff is adequately trained, which are indicators of the single-shift implementation strategies. For the second objective, the study found that 79.8% strongly agreed that the academic performance of students in our school has improved since the implementation of single shift. The study found a strong positive relationship between enhanced teacher-student interaction, improved school infrastructures, improved class attendance, increased qualified teachers, curriculum design and improved grades. These findings suggest that enhanced teacher-student interaction, improved school infrastructure, improved class attendance, improved grades, and improved curriculum design all contribute to improved outcomes. Lastly, as the p-value is smaller than 0.05, the aforementioned characteristics are positively correlated with academic achievement in lower primary public schools in the Karongi district of Rwanda. It is advised that reconsidering students take responsibility for their learning, attend regularly, seek help, develop good study habits, participate in extracurricular activities, and implement student-centred pedagogies. Teachers should provide individualized support, use various methods, collaborate, and continuously update their skills.

Introduction:-

In the context of education, a "single shift" refers to a system where students attend school during a single designated time period or shift in a day. This means that all students attend school at the same time, rather than

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being divided into multiple shifts or sessions throughout the day. In a single-shift system, all students in a school attend classes simultaneously, typically for a standard duration of the school day. This allows for a more efficiente use of resources, including classrooms, teachers, and facilities. It also provides students with longer and uninterrupted periods of instruction, allowing for more comprehensive coverage of the curriculum and potentially enhancing learning outcomes. Smyth, (2012).

In Rwanda, according to the Rwanda Education Strategic Plan (2018–2023) In 2018–19 FY, the government plans to phase out double shift in P5 and progressively in P4 in the subsequent year. This will require more classrooms and more teachers. While double shift was introduced to ensure all children of school-going age had space for learning, the considerable time spent out of school when their shift is not in session has been said to be one of the reasons for low primary completion rates : primary completion dropped from 72.7 percent in 2012 to 60.4 percent in 2015 before improving to 89.62 percent in 2018 (ESA 2017, EMIS 2018). Apart from enhancing the contact time learners will have with their teachers, transitioning from double shift is also expected to improve completion rates. As reported by Nsengimana (2020) in KT Press, Rwanda adopted a phased approach, initiating single shifts in select primary schools in 2018 and gradually expanding the program. This allowed for adjustments based on initial experiences and prevented widespread disruption. Several reports, including KT Press (2020), suggest positive initial results. The Rwanda Basic Education Board (REB) reported a significant increase in pass rates for students transitioning to secondary school after attending single-shift primary education.

According to the 2018 policy document 'Revitalizing Rwandan Education' by the Ministry of Education, the single-shift system was implemented in lower primary schools. Despite the implementation of the single shift system in lower primary public schools of Rwanda, there remains a persistent issue of students' academic performance. Despite government efforts, some schools still lack adequate classrooms and facilities to accommodate all students in a single shift. According to a 2021 report by the Rwanda Education Board, only 78% of primary schools had sufficient classrooms for full implementation, leaving 22% with potential overcrowding and logistical issues. This was also supported by Education district officer of Karongi who said that the implementation of single shift in lower primary public school remain issues where he identified the problem of, resources limitation,Teacher workload and shortages and Incomplete infrastructure. (Karongi Primary and Nursery DEO,2023).

The single shift implementation aimed to optimize classroom resources and provide students with quality education within a single session. However, the current academic performance rates suggest that the intended objectives have not been fully realized. The existing problem is evidenced by the fact that a substantial percentage of students still struggle to meet the expected academic standards, hindering their educational progress and overall development.

Therefore,to address this problem, the study proposed to investigate the single shift implementation strategies and students' academic performance in lower primary public schools of Rwanda. A case of Karongidistrict. The research objectives of the study were divided into two categories, namely general objectives and specific objectives.

Theoretical literature

It reviewed the existing theoretical literature; it gave a description of key concepts of the study and reviewed the existing studies on single shift implementation and student's academic performance in lower primary public schools in Rwanda.

Concept of Single Shift System

The concept of a single shift system in schools refers to a scheduling arrangement where students attend school during a single, extended session, typically spanning the entire day. This system contrasts with the traditional double shift system, where students are divided into two separate groups attending school in morning and afternoon sessions.

In the single shift system, all students attend school at the same time, allowing for increased access to quality education and improved utilization of educational infrastructure. This scheduling arrangement aims to address challenges related to limited school capacity, overcrowded classrooms, and a shortage of Single Shift Implementation Strategies in many educational settings. (MINEDUC,2020).

In UK, single-shift schooling and student performance offers a diverse range of perspectives, with studies revealing both potential benefits and limitations. According to Smyth (2012) in her research on a pilot program introducing

single shifts in primary schools, Smyth identified improvements in student well-being, with reduced stress and fatigue leading to increased alertness and engagement in learning. This, she argues, could potentially translate to improved academic outcomes.

The Single-Shift program in Rio de Janeiro, Brazil, was initially implemented as a pilot in middle schools under the name of "Carioca Experimental Middle School" (Ginasio Experimental Carioca). The Single-Shift program then became an important policy for the Rio Municipal Secretariat of Education, and was expanded to other middle and elementary schools. The full-time school program in Rio de Janeiro, the "Single-Shift Schools" extend the school day to a 7-hour daily shift that goes from 7:30 AM to 2:30 PM as opposed to part-time schools, in which shifts last 4.5 hours (in both cases the hour sum includes breaks and meals).4 Extending the school day from 4.5 to 7 hours involves creating a diverse curriculum and promoting innovative and comprehensive ways of using the extra school hours, including additional class time and extracurricular activities of a wide range of fields. Prior to becoming Single-Shift schools, many schools were already full-time, but with a different full-time format, with 9 to 10 hours of classes in double shifts. The goal of Rio MSE is that all municipal schools ultimately follow the Single-Shift School model.

Single Shift Implementation in Lower Primary Schools

The Rwandan education system has undergone significant shifts in recent years, most notably the transition from a double-shift system to a single-shift system in lower primary schools (P1-P3). While this policy aims to improve educational quality, its level of implementation and effectiveness remain under scrutiny. Rwanda's Public Schools Adjusting to Single Shift (KT PRESS, 2020): This article, based on interviews with school administrators and teachers, provides qualitative insights into the early stages of single-shift implementation. It highlights challenges like classroom shortages, teacher recruitment, and curriculum adjustments. However, it also reveals positive findings like improved student academic performance and teacher-student interaction. Better teachers, more schools, new curriculum, Rwanda's education looks bright (Mineduc,2021), This official Ministry of Education (MINEDUC) document, while lacking in-depth analysis, presents data on the progress of single-shift implementation. It emphasizes increased school construction, reduced student-teacher ratios, and the introduction of a new competence-based curriculum. According to the basic education sector analysis report - Rwanda (JICA, 2015), This pre-single-shift report offers valuable context for understanding the policy's rationale. It identifies challenges like limited infrastructure, high student-teacher ratios, and inadequate teaching materials, which the single-shift system aims to address.

Single Shift System on quality of education

The implementation of single-shift systems in primary education has potential implications for learning outcomes. While proponents argue for improved learning due to increased teacher-student interaction and better resource utilization. A study by Hanushek et al. (2013) in developing countries found that transitioning from double to single shifts led to significant gains in student test scores, particularly in mathematics. Similarly, a study by Glewwe et al. (2020) in Indonesia observed enhanced learning outcomes in single-shift schools, attributing it to increased instructional time and teacher dedication. A report by the World Bank (2018) identified the potential for single shifts to foster a more cohesive school community. With teachers and students present throughout the day, collaboration and communication can flourish, leading to a more supportive learning environment.

Single shift implementation and student's academic Performance

The impact of single shift implementation on student academic performance is a complex issue with mixed findings and various influencing factors. This review explores the existing literature to understand the potential benefits and drawbacks of single shift and how it might affect student learning outcomes.Extended class time facilitates stronger relationships between teachers and students, enabling personalized feedback, mentoring, and targeted support (Nsengimana and Murabukirwa, (2020).Single shift can alleviate teacher workload by minimizing class transitions and preparation time, potentially leading to increased energy and effectiveness in the classroom (KT Press, 2020).By eliminating the afternoon shift, students may experience decreased distractions and fatigue, leading to better concentration and engagement in morning classes (Typeset, 2023).The effectiveness of single shift can be influenced by how it is implemented. Factors like teacher training, curriculum adjustment, and community engagement can play crucial roles (KT Press, 2020).The impact of single shift may vary depending on the socioeconomic background of the student population. Access to resources, family support, and other external factors can influence how students respond to the change (A Comparative Study on Single-Shift and Double-Shift Schedule, 2022).The relationship between single shift implementation and student academic performance is

multifaceted and context-dependent. While potential benefits like School timetable and improved teacher-student interaction exist, challenges like logistical hurdles and individual differences cannot be ignored. Further research is needed to explore the long-term impact of single shift on diverse student populations in different contexts, considering implementation strategies and potential mitigating factors.

Self-Determination Theory

A theoretical framework refers to a set of established theories, concepts, and principles that provide the foundation for the study. SDT is an approach to human motivation and personality that uses traditional empirical methods while employing an organismic metatheory that highlights the importance of human evolved inner resources for personality development and behavioral self-regulation (Ryan, Kuhl, & Deci, 1997). Thus, its arena is the investigation of people's inherent growth tendencies and innate psychological needs that are the basis for their self-motivation and personality integration, as well as for the conditions that foster those positive processes.

Single-shift school systems, where everyone attends classes at once, offer a unique platform for exploring the interplay between self-determination and academic performance. While the impact remains complex and multifaceted, the extended learning blocks and potential for deeper relationships inherent in single-shift systems present both opportunities and challenges for fostering student autonomy, competence, and relatedness – the cornerstones of self-determination theory (Deci & Ryan, 2017). Longer, uninterrupted time blocks can facilitate in-depth explorations of complex topics, enabling students to delve into personal interests and engage in project-based learning (Hidi & Renninger, 2006).

Conceptual Framework

The conceptual framework indicated a summary of the relationship between the variables in this study.

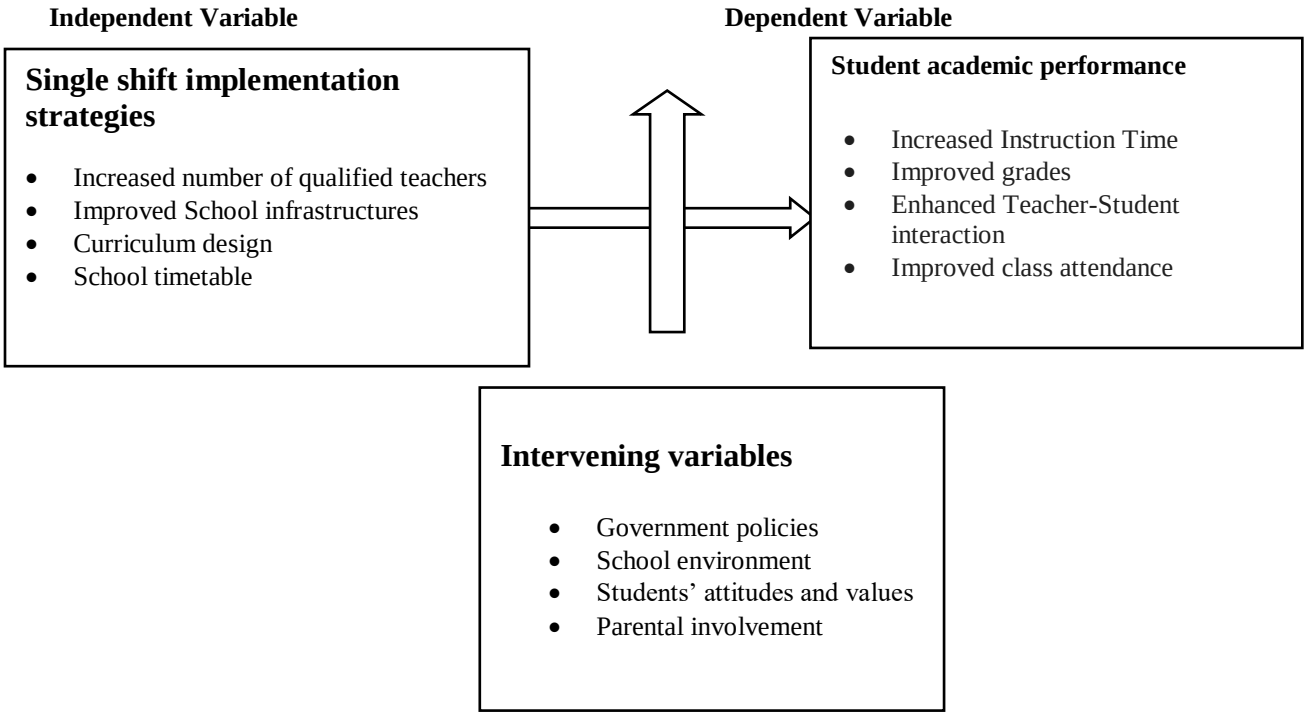

Figure 2.1:- Conceptual Framework.
Source: Researcher (2024)

The figure above shows how the single shift implementation strategies affected student academic performance. Independent variable is single shift implementation strategies and its indicators include Increased number of teacher's qualification, Improved School infrastructures, Adequate staff, Curriculum design, Adequate studying plan eg : Timetables while dependent variable is student academic performance and its indicators will be School

timetable, Improved grades, enhanced teacher-student interaction, Improved class attendance. to link all these two variables there is intervening variables.

Methodology:-

Research Design

This research study employed Mixed method research design ; this research designs a procedure for collecting, analyzing, and mixing both quantitative and qualitative research and methods in a single study to understand a research problem. .

Target population

The target population of this study was composed by Teachers and Head teachers, Sector Education Officers (SEOs) and District Education Officers (DEOs) in the collection of data. Therefore, the target population of this study was 2250 teachers and 153 head teachers, 13 Sector education officers and 2 District education officers which made the total of 2420 target population of Karongi district as case study. The participants will be 264 people as illustrated below : $n = \frac{N}{1+N(e)2}$ Where n=sample size, N=total population, e= expected degree of precisions, where e= 1-P and P is 0.95 then e=1-0.95, e=0.05

$n=\frac{2420}{1+2420\times0.05^2}$= 343 people

Table 3.1:- Target Population and Sampled Size.

Respondents	Population	Sample size
Teachers	2252	319
Head teachers	153	21
SEOs	13	2
DEOs	2	1
TOTAL	**2420**	**343**

Researcher,2024

Findings and Discussion:-

This research gathered data on gender profile, age group, education level, teaching experience in lower primary public schools in Karongi district, Rwanda.

Gender of Respondents

Respondent's gender profile was very important in assess the single shift implementation strategies and students' academic performance in lower primary public schools in Rwanda, case of Karongi district.

Table 4.1:- Gender Profile of Respondents.

	Teachers		Head Teacher		SEOS		DEO	
	N	%	N	%	N	%	N	%
Male	182	53.1	15	71.4	2	33.3	1	100.0
Female	161	46.9	6	21.57	-	66.7	-	-
Total	**343**	**100.0**	**21**	**100.0**	**2**	**100.0**	**1**	**100.0**

Source: Primary Data (2023)

Information given in Table 4.1, 53.1 percent of the Teachers in this survey were male, while 46.9% were female. In the case of head teachers, 71.4% are men and 21.57% were female. In this regard, 100.0% of SEOS are men, whereas only 100.0% DEO was men. This suggested that there was a gender balance, but also female emancipation in lower primary public schools in Karongi district, Rwanda

Age of Respondents

It is crucial to give information on the age group of respondents, as shown in Table 4.2.

Table 4.2:- Age Group of Respondents.

Age of Respondents	Frequency	Percentage
20-25 Years	150	43.07
26-30Years	79	32.03

31-35 Years	60	17.4
36-40 Years	33	9.62
41-50 Years	21	6.12
Total	**343**	**100.0**

Source : Primary Data, 2024

As reflected in Table 4.2, 43.0% of respondents are between 20 and 25 years of age, 32.03% of respondents are between 21 and 25 years' age, 32.03% of respondents are between 26 and 30-years' age, 17.4% of respondents who were involved in the study process were between 31 and 35 years, and finally, 9.62% of respondents who were involved in the study process were also between 36 and 40 years. This means that age characteristics were balanced in this study. Abbott's (2015) findings revealed that PBL in single-shift systems increased student engagement and grasp of complex topics, despite the slightly less conventional content presented. He noticed that the bulk of replies fell between the ages of 17 and 20. The researcher acquired relevant information because of the availability of adult respondents.

Education Qualification of Respondents

It was necessary to assess the highest level of qualification attained by respondents from ordinary level of secondary, advanced level of secondary schools, bachelor's degree, master degree to doctoral degree.

Table 4.3:- Education Attainment.

Statement	**Teachers**		**Head teachers**		**SEOS**		**DEO**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Ordinary Level	-	-	-	-	-	-	-	-
Advanced Level	343	100	-16	76.19	-	-	-	-
Bachelors	-	-	5	23.8	1	50.0	1	100.0
Masters	-	-	-	-	1	50.0	-	-
PhD	-	-	-	-	-		-	
Total	**343**	**100.0**	**21**	**100.0**	**2**	**100.0**	**1**	**100.0**

Source: Geography Data (2024)

According to the information presented in Table 4.3, 343 (100%) teachers were studying at the advanced level, 16 (100.0%) head teachers are studying at the advanced level of secondary schools, and 5 (23.8%) hold bachelors. In the case of SEOS, 50.0% hold a bachelor's degree, and 50.0% of head teachers hold a master's degree. The results of this study are significant because they demonstrate that the respondents remember the information, they value most, use it when appropriate, and evaluate how well they have learned.

Distribution by Work Experience

Learning/teaching experiences for research participants is categorized by < one year, one and three years, four and six years and more six years. Data is shown in Table 4.4.

Table 4.4:- Experience of the respondents.

Ages	**Teachers**		**Head Teachers**		**SEOS**		**DEO**	
Years	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
<5	43	12.5	2	9.5	1	50.0	-	-
5> 10	210	61.22	15	71.4	1	50.0	1	100.0
<10	90	26.23	4	19.04	-	-	-	-
Total	**343**	**100.0**	**21**	**100.0**	**2**	**100.0**	**21**	**100.0**

Source : Data (2024)

According to the data in Table 4.4, 43 (12.5%) teachers have five years of experience, 210 (61.22%) have between 5 and 10 years of experience, and 90 (26.23%) have more than 10 years of experience. In a group of school head teachers, 2 (9.5%) years of experience 15 (71.4%) have between 5 and 10 years of experience, while 4 (19.04%) have more than 10 years of experience. Regarding SEOS, 1 (50.0%) has five years of experience, 1 (50.0%) has between 5 and 10 years of experience, and 4 (19.04%) has above 10 years of experience. Finally, the DEO has 7 years of experience.

Presentation of Findings

The study analyses the data gathered in accordance with research objectives and dependent variables. The study gathered qualitative and quantitative information from 343 respondents, assessed the implementation strategies of single shift in lower primary public schools in Karongi district, examined the students's academic performance that is due to single shift implementation strategies in lower primary public schools in Karongi district.

The implementation strategies of single shift in lower primary public schools

The research assessed the indicators of the implementation strategies of single shift in lower primary public schools in Karongi district, such as the Increased number of qualified teachers, improved school infrastructure, curriculum design, and school timetable. The results in Table 4.5 indicate the responses to impressions on the implementation strategies of single shift in lower primary public schools in Karongi district. According to the perceptions of teachers, 77.6% strongly agreed that the implementation of single shift in their school is well organised and effectively managed ; 82.2% strongly agreed that the necessary infrastructure and facilities are available to support the implementation of single shift in our school ; and 90.0% strongly agreed that the teaching staff in their school is adequately trained and prepared for the implementation of single shift.

Table 4.5:- Teachers' impressions on the implementation strategies of single shift in lower primary public schools.

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std
	N	%	N	%	N	%	N	%	N	%		
The implementation of single shift in our school is well organized and effectively managed.	1	0.3	2	0.6	12	3.8	20	6.3	284	77.6	1.20	.662
The necessary infrastructure and facilities are available to support the implementation of single shift in our school.	0	0.0	1	0.3	7	2.2	10	3.1	301	82.2	1.12	.550
The teaching staff in our school is adequately trained and prepared for the implementation of single shift	0	0.0	3	0.9	13	4.1	16	5.0	287	90.0	1.23	.724

Source : Primary Data, 2024

Table 4.5:- Head teachers' impression on the implementation strategies of single shift in lower primary public schools in Karongi district.

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std
	N	%	N	%	N	%	N	%	N	%		
The implementation of single shift in our school is well organized and effectively managed.	1	4.8	2	9.5	2	9.5	5	23.8	11	52.4	1.38	.805
The necessary infrastructure and facilities are available to support the implementation of single shift in our school.	0	0.0	0	0.0	1	4.8	1	4.8	19	90.5	1.14	.478
The teaching staff in our school is adequately trained and prepared for the implementation of single shift	0	0.0	1	4.8	1	4.8	3	14.3	16	76.2	1.90	1.221

Source: Primary Data, 2024

Results in Table 4.6 indicate the responses on the implementation strategies of single shift in lower primary public schools in Karongi district. The respondents indicated that 52.4% of head teachers strongly agreed that the

implementation of single shift in our school is well organised and effectively managed., 90.5% of head teachers strongly agreed that the necessary infrastructure and facilities are available to support the implementation of single shift in our school, and 76.2% strongly agreed that the teaching staff in our school is adequately trained and prepared for the implementation of single shift.

The student's academic performance that are due to single shift implementation strategies in lower primary public schools

This study analyzed level of the student's academic performance that are due to single shift implementation strategies in lower primary public schools in Karongi district.

Table 4.6:- Teachers the perception on the student's academic performance that are due to single shift implementation strategies in lower primary public schools in Karongi district.

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std
	N	%	N	%	N	%	N	%	N	%		
The academic performance of students in our school has improved since the implementation of single shift.	0	0.0	1	0.3	10	3.1	16	5.0	292	79.8	1.24	.679
The implementation of single shift has positively affected students' concentration and focus in the classroom.	1	0.3	2	0.6	12	3.8	33	10.3	271	74.0	1.15	.569
The implementation of single shift has increased students' access to educational resources and materials	0	0.0	11	3.4	13	4.1	16	5.0	279	76.2	1.26	.733

Source: Primary Data, 2024

Information depicted in Table 4.7, 79.8% of teachers agreed that the academic performance of students in our school has improved since the implementation of single shift., 74.0% teachers Strongly agreed that the implementation of single shift has positively affected students' concentration and focus in the classroom. Additionally, 76.2% teachers strongly agreed that the implementation of single shift has increased students' access to educational resources and materials.

Table 4.7:- Head teachers' perception on the student's academic performance that are due to single shift implementation strategies in lower primary public schools in Karongi district.

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std
	N	%	N	%	N	%	N	%	N	%		
The academic performance of students in our school has improved since the implementation of single shift.	0	0.0	1	4.8	2	9.5	4	19.0	14	66.7	1.48	1.078
The implementation of single shift has positively affected students' concentration and focus in the classroom.	0	0.0	1	4.8	1	4.8	3	14.3	16	76.2	1.62	.973
The implementation of single shift has increased students' access to educational resources and materials	0	0.0	0	0.0	2	9.5	7	33.3	12	57.1	1.48	.680

Source: Primary Data, 2024

Results presented in Table 4.8, 66.7 % of head teachers agreed that the academic performance of students in our school has improved since the implementation of single shift., 76.2% Head teachers Strongly agreed that the implementation of single shift has positively affected students' concentration and focus in the classroom. Additionally, 57.1% Head teachers strongly agreed that the implementation of single shift has increased students' access to educational resources and materials.

The data presented in Table 4.10 indicates regression coefficients for the single shift implementation strategies. It showed scores in the national examination. Were statistically positively significant to the increased number of qualified teachers (B =.474, p-value = 0.002). Results show that improved school infrastructures had a negatively statistically significant increase in instructional time (B = -.464, p-value = 0.001). Therefore, results show that increased instruction time significantly affects curriculum design (B = 0.261, p-value =.001).

Table 4.8:- Regression Coefficients between independent variable and Increased Instruction Time.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.469	.098		4.775	.000
	Increased number of qualified teachers	.223	.066	.474	3.371	.002
	Improved School infrastructures	-.025	.061	.464	1.407	.001
	Curriculum design	.097	.059	.261	1.641	.001
a. **Dependent Variable : Scores in national examination.**						

Source : Primary Data, 2024

Table 4.9:- Regression Coefficients between independent variable and Improved grades.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.127	.284		7.486	.000
	Increased number of qualified teachers	-.040	.187	-.052	-.212	.834
	Improved School infrastructures	-.030	.178	-.045	-.167	.868
	Curriculum design	-.087	.174	-.137	-.502	.619
a. Dependent Variable: Improved grades						

Source : Primary Data, 2024

The data presented in Table 4.11 indicates regression coefficients for single-shift implementation strategies. It showed that an increased number of qualified teachers was not statistically significant for improved grades (B = -.052, p-value =.834). Results show that improved school infrastructures were not statistically significant for improved grades (B = -.052, p-value =.868). Therefore, results show that curriculum design is significantly associated with improved grades (B = -.045, p-value =.619). The above result of regression analysis indicated that there is no significant relationship between the independent variables increased number of qualified teachers, meaning that those independent variables can each affect improved grades.

Table 4.10:- Regression analysis between Independent Variable and Improved class attendance.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.010	.033		.302	.763
	Increased number of qualified teachers	-.125	.040	-.124	-3.089	.002
	Improved School infrastructures	.485	.074	.481	6.535	.000

	Curriculum design	-.087	.174	-.137	-.502	.619
a. Dependent Variable : Improved class attendance						

Source : Primary Data, 2024

The data presented in Table 4.12 indicates regression coefficients for the single shift implementation strategies. It showed that an increased number of qualified teachers was negatively statistically significant for improved class attendance (B =.124, p-value =.002). Results show that improved school infrastructures were positively statistically significant with improved class attendance (B =.481, p-value = 0.000). Therefore, results show that curriculum design negatively affects improved class attendance (B = -.137, p-value =.619).

Table 4.11:- Regression analysis between independent variable and Enhanced Teacher-Student interaction.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.441	.148		9.709	.000
	Increased number of qualified teachers	-.345	.315	.379	-1.096	.001
	Improved School infrastructures	.032	.179	.435	.177	.000
	Curriculum design	.918	.330	.996	2.785	.006
a. Dependent Variable : Enhanced Teacher-Student interaction						

Source: Primary Data, 2024

The data presented in Table 4.13 indicates regression coefficients for The single shift implementation strategies. It showed that Increased number of qualified teachers were negatively statistically significant for Enhanced Teacher-Student interaction (B =.124, p-value =.002). Results show that Improved School infrastructures were positively statistically significant with Enhanced Teacher-Student interaction (B =.481, p-value = 0.000). Therefore, results show that Curriculum design negatively affect Enhanced Teacher-Student interaction (B =-.137, p-value =.619). From the above result of regression analysis reveals that increased number of qualified teachers negatively impact enhanced teacher-student interaction while improved School infrastructures positively affect Enhanced Teacher-Student interaction, and Curriculum design negatively affect Enhanced Teacher-Student interaction.

Conclusion and Recommendations:-

Conclusion:-

Reconsidering findings from this present research and the first research objectives, the study reveals that most commonly, the indicators of the single shift implementation strategies in Karongi district, Rwanda, are an increased number of qualified teachers, improved school infrastructures, and curriculum design, which indicate single shift implementation strategies.

The second objective of the study revealed that increased instruction time, improved grades, enhanced teacher-student interaction, and improved class attendance are key indicators of academic success. The study revealed that 79.8% of teachers believe the implementation of a single shift improved students' academic performance, concentration, and access to educational resources, while 74.0% strongly agreed.

Results from objective three indicated that single shift implementation strategies and students' academic performance in lower primary public schools in Karongi district were positively and statistically correlated since most of their level of significance was more than 0.05 in association with the academic performance of students in lower primary public schools in Karongi district.

Recommendation of the Research:-

Students should take responsibility for their own learning and actively engage in their studies. Attend school regularly and be punctual. Seek help from teachers or peers when facing difficulties in understanding the material. Develop good study habits and time management skills. Participate in extracurricular activities to enhance their overall development.

Teachers should implement student-centered pedagogies that promote active learning and critical thinking. Provide individualized support to students who are struggling academically. Use a variety of teaching methods and resources to cater to different learning styles. Collaborate with colleagues to share best practices and improve teaching strategies. Continuously update their knowledge and skills through professional development opportunities.

Parents should be actively involved in their child's education and maintain open communication with teachers. Create a conducive learning environment at home and provide necessary resources for studying. Support and encourage their child's academic pursuits. Monitor their child's progress and provide guidance when needed. Attend parent-teacher meetings and engage in school activities.

Non-Governmental organizations should collaborate with the government and other stakeholders to support educational initiatives. Provide resources, training, and support to teachers and schools. Conduct research and share best practices to improve educational outcomes. Advocate for policies and programs that promote inclusive and quality education. Engage with parents and communities to raise awareness about the importance of education.

These recommendations aim to improve the implementation of single shift strategies and enhance students' academic performance in lower primary public schools in Rwanda. By working together, students, teachers, parents, the Ministry of Education, the Government, and NGOs can contribute to the overall improvement of the education system in the country

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