

# **RESEARCH ARTICLE**

### EFFECT OF TEACHERS' INSTRUCTIONAL STRATEGIES ON STUDENTS' MOTIVATION IN CHEMISTRY SUBJECT IN RWANDAN PUBLIC SECONDARY SCHOOLS, A CASE OF NYANZA DISTRICT

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### Manuscript Info

#### Abstract

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#### Key words:-

Instructional Strategies, Students, Motivation, Instructional Supervision, Students, Engagement

..... This study aimed to investigate the effect of teachers' instructional strategies on students' motivation in chemistry subject in Rwandan public secondary schools in Nyanza district-Rwanda. The study targeted a total of 816 students, 20 teachers, 6 head teachers which makes a target population of 842 participants from which the sample of 271 respondents encompassing students, teachers and head teachers was sampled. Simple random sampling was used to sample students while purposive sampling was used to sample teachers and head teachers. The sample size was determined using Slovin's formula. Questionnaires were used to collect data and they were analyzed IBM SPSS. The relationship between teachers' instructional strategies and students' motivation was established with the help of Karl Pearson's correlation. According to the study results derived from a questionnaire given to students revealed that 119 (85.1 %) reported feeling more interested because of seeing a PowerPoint presentation, and while 224 (87.8%) claimed that using illustrative examples by teachers helped them maintain focus while they were learning. Interestingly, 166 (65.1%) said that their performance has improved because of their instructors' instructional tactics, 231 (90.6%) stressed that their teachers do not support collaborative teaching. For teachers who manage to use variety of instructional strategies, students' interest was increased therefore the relationship between teachers' use of instructional strategies and students' motivation was significant (p < 0.05, r = .798). The findings are useful to enhance instructions delivery by teachers. Headteachers should conduct instructional supervision to coach and support teachers to use a variety of instructional strategies.

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### Introduction:-

The necessity of teachers' ability to devise suitable instructional strategies is crucial for teaching and learning process to satisfy students' needs. Every person and the country advances scientifically and technologically because of their exposure to science education. According to Kalogiannakise et al. (2021), the main objective of science

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education is to create scientifically educated, socially conscious, and highly competent persons. Additionally, science educators make a vital contribution to the growth of scientifically literate individuals who use their knowledge of and experiences with science and technology in the future for the benefit of humanity (Williamson & Piattoeva, 2020). Thus, advancements in science education are unavoidable. One of the most important aspects of conducting instruction for achieving the goals of education is the instructional strategy (Seechaliao, 2017). Learners, learning objectives, contents, learning context, overall context, condition, and teachers' skills in selecting the learning principles, technique, and environment need to be examined to develop a more effective instructional strategy. Learning styles of students and teachers' instructional strategy are both taken into consideration while developing instructional strategies (Dorgu, 2015).

Researchers have debated the connotation of being a teacher (Rangnes & Meaney, 2021), and they have come to the conclusion that being a teacher involves creating an environment that is conducive to teaching and learning, constantly coming up with new teaching techniques that increase students' interest in teaching and learning, and having the ability to put theory into practice.

Despite the effort made by educational institutions, there are still issues with how instructions are prepared and delivered (Donitsa-Schmidt & Ramot, 2020), which may result in students being uninterested in or unmotivated to study. In many institutions, the use of friendly presentation among students is preferred to aid students in the retention of instructions. A study conducted by Radkowitsch et al. (2020) showed that students can interact with developed software in their portable computers whenever and wherever they are without the presence of teachers, facilitating the practical application of the school-learned material as well as peer teaching, problem solving, and simulation skills.

Contextually, Rwandan education system has embraced the competence-based learning which requires teachers to be creative and innovative to impart in students the 21<sup>st</sup> century skills (Rwigema & Andala, 2022). Ndihokubwayo and Habiyaremye (2018)stressed that teachers' skills to deliberately embrace acceptable classroom practices positively influences students' learning motivation. As the saying emphasizes that there is no single best teaching and learning methods, adopting a variety of classroom practices helps promoting inclusive education. For instance, teaching and learning science would be meaningful if teachers manage to use trending teaching and learning methodologies such as inquiry-based learning as previously emphasized by teachers (Nicol et al., 2022; Twizeyimana et al., 2024).

# Literature Review:-

### Instructional strategies

There have been extensive investigations regarding ways of teaching science subjects specifically chemistry to enable students develop the sense of motivation towards learning (Blau, Shamir-Inbal& Avdiel, 2020). The abstract features of science content have pushed researchers to devise instructional strategies to motivate students during the learning process (Anwer, 2019). The way instructions are organized and presented means a lot to students learning as it has been revealed by evidences in the literature (Abbas et al., 2019). According to Mee Mee et al. (2020), the use of friendly presentation helps students visualize instructional content hence serving as an instructional strategy being used by teachers worldwide.

There is no single instructional strategy used by instructors to deliver instructional contents. Advances in academia have led to the faster development of innovative ways of teaching and learning science subjects (Chu & Evans, 2021). While focusing on teaching and learning chemistry subject, existing literatures inform the academicians that exploring a variety of strategies to improve students' motivation in chemistry is of paramount importance, and based on this, for making instructional content clear and understandable, there is urgent need of using illustrative examples to create linkages of taught content to the real-life situations.

According to Vogelzang et al. (2020), students perceive instructions better when the instructor brings into the lesson more vivid examples. Studies that examine the interconnection between teachers' instructional strategies and students learning exist across various subjects (Aslan et al., 2020). Recent advances in collaborative learning have proved that collaboration enhances understanding and minimizes differences observed among students in science courses (Männistö et al., 2020). Other scientific investigations (Henderson & Cunningham, 2023) have revealed that the overall goal of teachers' instructional strategies is about facilitating the students realize their full potential and build their intellectual capacity.

#### The concept of students' motivation

Students' motivation toward learning has been viewed in the perspective of instructional strategies employed by instructors or course facilitators (Alamri et al., 2020; Chen & Tsai, 2021). For enhancing course engagement and learning outcomes, students should possess motives that push them toward active participation and exploration the course content (Bailey et al., 2021), thus, in the literature, both intrinsic and extrinsic motivation types have been regarded as crucial factors in the learning process (Kotera et al., 2023).

According to Rheinberg and Engeser (2018), intrinsic motivation (IM) refers to the fact of doing an activity for itself, and the pleasure and satisfaction derived from participation and has direct effect on how students perceive instructional content. For instance, a student who chooses to go to class to learn a given subject and engage actively without showing a negative attitude towards actions to be undertaken.

In the educational research context, instructors have been considering intrinsic motivation as a key factor to students' devotion during their educational pathways, which in turn help them maximize learning experiences (Mackenzie et al., 2018). Abundant investigations exist in the field of education especially those in relation with instruction delivery (Crompton et al., 2021), and their effectiveness have been much evaluated in connection with how well students are inherently and intrinsically motivated throughout the entire academic journey (Steen-Utheim & Foldnes, 2018).

Owens et al. (2020) emphasized that students' enthusiasm and active learning is enhanced by curiosity which is developed because of experiencing intrinsic motives. Thus, elaborating motivational approaches by considering various indicators could help in understanding of the mechanisms of teachers' facilitation approaches, and of which features of educational activities can make them "fun" and foster motivation, is of high importance concerning the educational challenges of the 21st century.

Contextual study conducted in Brazil concerning the implementation of an active learning environment to influence students' motivation in Biochemistry explicitly considered motivation as an approach to learning (Cicuto & Torres, 2016). The study goal was to evaluate how learning environment influences students' motivation (n = 74). The results revealed that the students were intrinsically motivated (achievement goals) and had high self-confidence in learning due to active instructional teaching strategies. The same pattern did not occur for extrinsic motivation (performance goals). It is evident that in the learning environment in which the teacher uses suitable instructional strategies, students are more likely to develop a sense of motivation towards learning chemistry.

A study was conducted in Tanzania using a group interview with 64 students from year 3 and year 4 to assess student Motivation in Science Subjects in Tanzanian secondary schools (Mkimbili & Ødegaard, 2019). The findings showed that the major challenge hindering student motivation in science subjects is the scarceness of resources and the language as the medium of instruction. The results further suggest that ways to enhance student motivation for science in schools with contextual challenges include the teachers' use of instructional strategies that enhance students' interest and encourage them to learn science.

In a study conducted by Khan et al. (2019), the theory of intrinsic motivation was applied to explain why people are motivated to learn. The Instructional Materials Motivation Survey was used to develop the research instrument as the attention, relevance, confidence, and satisfaction (ARCS) model served as the framework for understanding the effects of augmented reality on student motivation. The study looked at the variations in students' motivation for learning both before and after using the augmented reality smartphone application. 78 participants who utilized the mobile augmented reality application completed the pre- and post-usage surveys. The findings demonstrated that employing a mobile augmented reality application enhanced students' enthusiasm to learn. These findings were substantial and showed an increase in the motivational elements of attention, satisfaction, and confidence. Based on the discussed findings, instructional strategies adopted by teachers are closely linked with students' motivation toward learning.

#### Theoretical orientation

### **Constructivism learning theory**

According to Makranskyand Petersen (2021), the learning theory describes how people undertake learning activities thereby facilitating others' understanding of the complex process of learning. Cognitive constructivism as the learning theory is the developmental process founded on the fact that knowledge is gained in a continuous and

changing process (Agarkar, 2019). It is an individual's constant construction of reality through undertaken actions is the best example of cognitive constructivism endeavors.

The essence of constructivism theory is the idea that students must find and transform complex information into other situations, and if desired, that information becomes their own (Devi, 2019). With this basis, learning must be packaged into a process of constructing rather than receiving knowledge. In the perspective of constructivism, the strategy of gaining precedence over how much students acquire and remember knowledge (Rasti-Behbahani&Shahbazi, 2022).

Based on the above understanding, it can be concluded that constructivism is a view based on the acquisition of knowledge or construction (formation) of realities through students' involvement. To achieve learning goals of cognitive constructivism, the strategy the teacher undertakes is to create collaborative learning, which allows discussion of a problem from various points of view. We constructed a conceptual framework as indicated in Figure 1 to guide our study.



# Intervening variables

School infrastructure Government educational policies Learning atmosphere

Figure 1:- Conceptualized variables of the study.

# **Research Objectives:-**

This study was guided with the following research objectives:

- 1. To identify teachers' instructional strategies used in teaching chemistry subjects in public secondary schools in Nyanza district.
- 2. To assess student's types of motivation induced by instructional strategies used in chemistry subject in public secondary schools in Nyanza district.
- 3. To determine the relationship between teachers' instructional strategies and students' motivation in chemistry subjects in secondary schools in Nyanza district.

### **Research** questions

This study was conducted with the following research questions:

- 1. What are teachers' instructional strategies used in chemistry subjects in public secondary schools in Nyanza district?
- What are student's types of motivation induced by instructional strategies in chemistry subject in public 2. secondary schools in Nyanza district?
- 3. What is the relationship between teachers' instructional strategies and students' motivation in chemistry in public secondary schools in Nyanza district?

## **Research Design and Methods:-**

### **Research design**

The study adopted a mixed research design comprising quantitative and qualitative data. The intention is to gather perspectives of teachers, and students using a questionnaire containing preset affirmative statements, and perspectives of headteachers facilitated by an interview schedule. Mixed research designs ensure that solid information concerning the issue being investigated is collected and analyzed to draw conclusions (Okoro, 2023).

#### **Study population**

The target population of this study was 816 students, 20 teachers and 6 school leaders from 6 public schools of Nyanza District. Therefore, the total target population was 842 people that have been selected from GS Mbuye, GS Kibirizi, GS HVP Gatagara, GS Kaganza, GS Mututu and GS Nyarutovu.

#### Sample size determination

Sample size was attained because of considering proportionate sizes of each quota. The Slovin's formula was used to determine the sample size as follows:

 $n = \frac{N}{1+N(e^2)}$ , Where n = sample size, N = Target population, e = margin of error By substituting N = 842 and e = 0.05 into the formula as follows:

$$n = \frac{842}{1 + 842(0.05)^2} = 271$$

Therefore, the sample size was 271 respondents and represents the target population.

#### **Research tools and data collection procedures**

The researcher used a questionnaire to collect data from respondents, namely students and teachers. The researcher preferred questionnaires, as they are cheaper and easier than other forms of survey types. Questionnaires feature either open or closed questions and sometimes employ a mixture of both. Open-ended questions enable respondents to answer in their own words in as much or as little detail as they desire. The researcher conducted an interview with the respondents to back up and fill in information gaps that were not captured by the questionnaires. Interview was conducted to gather data from head teachers.

The validated and tested research instruments of data collection were distributed to respondents after obtaining an introductory letter from Mount Kenya University and research authorization letter from the district of Nyanza. The letters were presented to the head teachers together with the researcher's letter of confidentiality prior to data collection. The researcher was personally and physically delivering questionnaires to respondents and collected them after one day. Interviews were conducted six days after collecting questionnaires to enrich quantitative data from questionnaires. The dataset was kept for further statistical analysis.

#### Data analysis

Data collection procedure was descriptive in nature employing quantitative data. Data analysis tools included excel and IBM SPSS. Analysis of data in excel helps researchers deal with various ranges of data without creating complex formulas. Additionally, high-level visual summaries, trends, and patterns are offered. On the other hand, all formats of structured data are supported by SPSS for analysis and customization. Finally, frequencies, percentages and Karl Pearson's correlation were the basis for interpretation and analysis while tables and charts were used for data presentation.

# **Results and Discussion:-**

Table 1:- Demography					
Category	N & %	Category	N & %		
Student Gender		Teachers' Gender			
Male	104 (41)	Male	7 (70)		
Female	151 (59)	Female	3 (30)		
Total	255 (100)	Total	10 (100)		
Students Age range		Teachers' Educational levels			
Below 14	8 (3)	Advanced diploma	1 (10)		
Between 14 and 18	244 (96)	Bachelor	7 (70)		
Between 18 and 23	3 (1)	Masters	2 (20)		
Total	255 (100)	Total	10 (100)		
Teachers' experience		Headteachers' Educatio	nal levels		
Less than 4	2 (20)	Bachelor	2 (33)		
Between 5 and 8	4 (40)	Masters	4 (67)		
Between 9-12	2 (20)				
Above 12	2 (20)				
Total	10 (100)	Total	6 (100)		

## Identification of teachers' instructional strategies used in teaching chemistry

Table 2:- Findings from teachers' questionnaire about instructional strategies used in chemistry.

Nº	Statement	SD	D	Ν	А	SA	М	S.D
		N & %	N & %	N & %	N & %	N & %		
1	I often use friendly presentation while	0.00	0.00	0.00	4 (40)	6 (60)	4.60	.51
	every single day							
2	I deliver chemistry instructional content with help of illustrative examples	0.00	3 (30)	2 (20)	5 (50)	0.00	3.20	.91
3	I can link chemistry concepts and principles to real actual situations to help my students appreciate the application of chemistry in daily life.	0.00	0.00	0.00	6 (60)	4 (40)	4.40	.51
4	I use collaborative teaching to foster students' collaboration during the learning process	0.00	7 (70)	0.00	3 (30)	0.00	2.60	.96
5	I prefer to use a variety of strategies to help students based on their learning abilities	0.00	0.00	0.00	2 (20)	8 (80)	4.80	.42

As per information from Table 2, 4 (40 %) teachers agreed that they often use friendly presentations while delivering the instructional contents every single day whereas 6 (60 %) strongly agreed with the statement. Half of respondents in teacher's category, 5 (50 %) agreed, 2 (20 %) remained neutral and 3 (30 %) disagreed that they deliver chemistry instructional content with help of illustrative examples. In the statement of the linkage of chemistry with real life situation, 4 (40 %) and 6 (60 %) teachers strongly agreed and agreed respectively that they can link chemistry concepts and principals with the actual situations to help students appreciate the application of chemistry in daily life. Even though 3 (30 %) agreed that they use collaborative teaching to foster students' collaboration during the learning process, 7 (70 %) disagreed with the statement. As far as use of variety of strategies in teaching is concerned, 8 (80 %) strongly agreed with the statement and 2 (20 %) agreed that they prefer to use a variety of strategies to help students based on their learning abilities.

The findings presented herewith are supported by previous studies emphasizing that students get motivated when teachers link actual chemistry content to the classroom lessons (Moreira & Talanquer, 2024). There is a mix of instructional strategies to create a friendly classroom environment as indicated by the findings of the present study. These findings are in line with those advanced by researchers in the field of science education (Downer et al., 2024) emphasizing on the importance of using adequate instructional strategies to deliver instructions effectively.

Table 3:- Findings from teachers'	questionnaire about typ	es of motivation	induced by	y instructional	strategies	used
in chemistry subject.						

N	Statement	SD	D	Ν	А	SA	М	S.D
		N & %	N & %	N & %	N & %	N & %		
1	Students' interest increased when they	3 (30)	3 (30)	1 (10)	3 (30)	0.00	2.4	1.26
	are exposed to friendly presentation							
	during chemistry lessons							
2	Using illustrative examples	0.00	2 (20)	1 (10)	5 (50)	2 (20)	3.70	1.05
	encouraged my students to focus on							
	their learning activities							
3	By linking chemistry concepts and	0.00	0.00	0.00	4 (40)	6 (60)	4.60	.51
	principles to real actual situations I							
	can motivate students to appreciate							
	the rationale of chemistry in daily life							
4	Collaborative teaching help me to	0.00	0.00	0.00	6 (60)	4 (40)	4.40	.51
	foster collaboration among my							
	students							
5	By using a variety of instructional	0.00	0.00	0.00	7 (70)	3 (30)	3.30	.48
	strategies, I became aware of my							
	students' learning needs including							
	their abilities to handle assigned tasks							

As presented in Table 3, 119 (46.7 %) strongly agreed that their interest in studying chemistry increased due to exposure to power point presentation and 98 (38.4 %) agreed with the assertion. Although, most of participants felt interested in learning when exposed to PowerPoint presentation, 3 (1.2 %) remained neutral while 10 (3.9 %) and 25 (9.8 %) disagreed and strongly disagreed with the assertion respectively. Most of students, 72 (28.2 %) strongly agreed that the teachers' use of illustrative examples encouraged them to stay focused during learning and 152 (59.6 %) agreed with the statement while a minimum number of students, 6 (2.4 %) have remained neutral, 17 (6.7 %) disagreed, and 8 (3.1 %) strongly disagreed with the statement. As per results, 2 (0.8 %) and 18 (7.1 %) strongly agreed and agreed that they are satisfied with teachers' use of collaborative teaching in chemistry. Apart from 4 (1.6 %) students who remained neutral, 91 (35.7 %) and 140 (54.9 %) disagreed respectively that their scores have been improved due to the teachers' use of variety of instructional strategy in teaching and learning while 45 (17.6 %) remained neutral. Notwithstanding the fact that scores for some students improved, collected data implies that 30 (11.8 %) and 14 (5.5 %) disagreed and strongly disagreed with the statement respectively

The findings of this study acknowledge the contribution of previous investigations concerning teachers' use of instructional strategies to promote students' motivation in chemistry. Our findings corroborate with those obtained by Oluwasegun (2020) emphasizing that teachers' instructional strategies are indispensable in promoting students' motivation toward learning. While considering collaboration as a key determinant of success in today's student-centered pedagogy (Capt & Oliver, 2012), most participants' highlight that their teachers do not encourage collaboration, these findings oppose those advanced by Fung (2022) where student-participants appreciated teachers' ability to promote collaborative learning. Recent investigation found that the use of appropriate teaching method encourages overall participation, increases interest, and leads to improved students' achievement (Qureshi et al., 2023). Overall, our findings from students' views are aligned with previous investigations (Aljermawi et al., 2024), thus contributing to further understanding of the rationale of instructional strategies in teaching profession among secondary school teachers.

Nº	Statement	SD	D	Ν	А	SA	М	S.D
		N & %	N & %	N & %	N & %	N & %		
1	My interest in studying chemistry	25 (9.8)	10 (3.9)	3 (1.2)	98	119	4.08	1.23
	increased due to exposure to				(38.4)	(46.7)		
	PowerPoint presentation.							
2	My teachers' use of illustrative	8 (3.1)	17 (6.7)	6 (2.4)	152	72	4.03	.92
	examples encouraged me to stay				(59.6)	(28.2)		
	focused during learning.							
3	I am satisfied with my teachers' use of	140	91	4 (1.6)	18 (7.1)	2	1.82	.83
	collaborative teaching in chemistry	(54.9)	(35.7)			(.8)		
	subject							
4	My scores have been improved due to	14 (5.5)	30	45 (17.6)	100	66	3.68	1.14
	my teachers' use of a variety of		(11.8)		(39.2)	(25.9)		
	instructional strategies							

### Assessing student's types of motivation induced by instructional strategies used in chemistry

Table 4:- Findings from students' questionnaire about types of motivation induced by instructional strategies used in chemistry subject.

In this study as indicated in Table 4, 3 (30 %) agreed that students' interest increased when they are exposed to friendly presentation during chemistry lesson while 1 (10 %) remained neutral. Even if some teachers agreed, most of teachers 3 (30 %) disagreed and 3 (30 %) strongly disagreed with the assertion. Moreover, 2 (20 %), 5 (50 %) strongly agreed and agreed respectively while 1 (10 %) remained neutral and 2 (20 %) disagreed that using illustrative examples encouraged the students to focus on learning activities.

In addition, 4 (40 %) strongly agreed and 4 (40 %) agreed that linking chemistry concepts and principles real actual situations can motivate students to appreciate the rationale of chemistry in daily life. Collaborative teaching helps teachers to foster collaboration among students as strongly agreed by 4 (40 %) teachers and agreed by 6 (60 %) teachers. The findings of this study affirm that 3 (30 %) strongly agreed that using variety of instructional strategy help teachers to notice students' needs and 7 (70 %) agreed the success of multiplicity of instructional strategies in helping students regardless of their abilities to handle assigned tasks.

In line with previous studies, the findings of this study substantiate those revealed by (Pedler, Hudson, & Yeigh, 2020) highlighting the teachers' role in motivating students to get involved in the learning process. Other studies (Leenknecht et al., 2021) emphasize that instructional strategies tailored to students learning greatly enhance students' interest throughout the lesson. Participants-teachers hold positive reflection concerning instructional strategies despite inevitable challenges encountered during classroom practices (Amerstorfer & Freiin von Münster-Kistner, 2021). As indicated in the recent investigation, teachers are promoters of students' motivation toward learning, for instance, according to (Fitri & Aini, 2023), the use of PowerPoint presentation attracts students' attention. It is worth noting that the findings of this research contribute to teachers' appreciation of using a variety of instructional strategies to promote students' learning motivation.

### Relationship between teachers' instructional strategies and students' motivation in chemistry

To ascertain the relationship between teachers' instructional strategies and student's types of motivation in chemistry, the researcher relied on mean difference and significance level to justify the relationship between variables under investigation.

-	Mean	Std. Deviation	Ν
Teacher's instructional strategies	18.50	1.77	10
Students' motivation in chemistry	18.40	1.17	10

#### **Table 5:-** Descriptive statistics.

The means of 18.50 and 18.40 with corresponding standard deviations of 1.77 and 1.17 between teachers' use of instructional strategies and students' motivation in chemistry were obtained. The difference is minimal to reveal that variables are strongly correlated.

Karl Pearson's correlations between variables						
		Teachers'	Students' motivation			
		instructional	in chemistry			
		strategies				
Teachers' instructional	Pearson Correlation	1	.798**			
strategies	Sig. (2-tailed)		.006			
	Ν	10	10			
Students' motivation in	Pearson Correlation	.798**	1			
chemistry	Sig. (2-tailed)	.006				
	Ν	10	10			
**. Correlation is significant at the 0.01 level (2-tailed).						

 Table 6:- Relationship between teachers' instructional strategies and students' motivation in chemistry subject.

The correlation between variables i.e teachers' instructional strategies and students' motivation in chemistry was computed with the help of Karl Pearson's correlation. The correlation is significant if  $p \le .05$  otherwise it is not significant. According to findings in Table 6, Pearson correlation between variables was significant at  $p \le .05$  where the p-value obtained was .006 which in turn justifies the Pearson correlation, r = .798.

According to Diwakar et al. (2023), instructional materials play a crucial role in motivating students to learn. The significant relationship between variables in this study is justified by existing findings which stated similar trends observed in teaching and learning practices (Refat et al., 2020). Contextual consideration of instructional strategies within the academic environment implies that teaching strategies adopted by teachers greatly impact students learning (Domenici, 2022), which is in line with the current study's findings. Therefore, it is of paramount importance to foster the culture of devising innovative instructional strategies to ensure that students are motivated toward learning chemistry.

## **Conclusion:-**

This study reported views of teachers and students about teachers' instructional strategies and students' motivation in chemistry. The findings indicated that students enjoy classroom environment where teachers apply various instructional strategies when delivering chemistry lessons. The study also established the relationship between teachers' instructional strategies and students' motivation in chemistry where the findings from computed variables revealed a strong relationship between teachers' use of instructional strategies and students' motivation (r = .798, p = .006) and according to the obtained p-value less than .05, the relationship obtained is deemed to be significant. Therefore, the study's findings showed the role of teachers' use of instructional strategies towards boosting students' motivation in chemistry.

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