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THEORETICAL PERSPECTIVES ON CLASSROOM MANAGEMENT AS PEDAGOGICAL TOOL FOR ENHANCING STUDENTS' PERFORMANCE IN CHEMISTRY

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ABSTRACT

This paper examines the theoretical and empirical foundations of classroom management as pedagogical tool for enhancing students' performance. Drawing from educational theories, including Skinner (1953), Kaunin (1970), Glasser (1998) and Kohn, (2006). The study highlights how effective classroom management support the teaching and learning of chemistry in an educational setting. Empirical evidence from diverse educational settings demonstrates that classroom management improves academic performance in science classrooms and fosters conducive learning environment. The paper emphasizes the need for effective integration of classroom management as pedagogical tool for proper implementation of chemistry curriculum. It concludes by proposing future research directions focused on curiosity and cooperation above motivation.

Keywords: ***Classroom Management, Physical environment, Social environment, safe learning environment.***

INTRODUCTION

Chemistry is important and improve the quality of lives in the technological and economic growth of a Nation. Some concepts in the subject cannot be understood theoretically without the practical aspect of it. Teaching and learning of chemistry requires hands on activities however, research found out that without a positive, orderly classroom environment, learning is difficult, if not impossible (Ogundeji et al., (2024), adding that educators have emphasized on the needs to adopt pedagogical tools that promote the teaching and learning of the subject such as communication, assessment techniques, and classroom management. Ogundeji et al. (2024) posited that classroom management is the most neglected area in our secondary schools, and that the success or failure of any teaching and learning process depends to a large extent on the way classrooms are managed. Failure to effectively manage the classroom could have negative influence on the entire school, most especially in terms of sound academic performance of the students. Kigbu et al., (2022) reported that within the West African context, analysis of chemistry performance in the West African Senior School Certificate Examination (WASSCE) revealed persistently high failure rates. According to research by Everhart (2022), 50% of learners report that their classroom environment is uncomfortable and boring, and up to one-third have reported that they have spent school days goofing off with their friend. How to mitigate these challenges, educators have adopted diverse tools. One of such tools is the classroom management. Classroom management is the teachers' total action and positive response to students' appropriate and inappropriate behaviors, resources organization and control in a classroom setting for conducive learning environment.

Recent empirical studies has reinforced the value of classroom management in science education. Studies indicate that classroom management supports safe learning environment and improved students' performance. This paper explores the theoretical foundations of classroom management focusing on learning theories that explain how it support safe environment and students' performance in chemistry. Key frameworks such as Skinner's operant conditioning, Glasser's choice theory, Kaunin's classroom management theory and Kohn's student directed learning theory, provide evidence of classroom management as a pedagogical tool for effective curriculum implementation. The integration of theory and practice offers valuable insights for chemistry educators seeking evidence-based tool to for conducive learning environment.

Theoretical foundation of Classroom Management

The importance of classroom management as a pedagogical tool for influencing students' performance was grounded in several educational theories such as behaviorism and social learning theories that creates positive learning environment and promotes students' engagement. These theoretical

frameworks help in explaining the reasons motivation and punishment is particularly effective in complex domains like chemistry classroom. This section explores four key perspectives: Skinner (1953) operant conditioning theory, Glasser (1998) choice theory, Kaunin (1970) classroom management theory and Kohn (2006) student directed learning theory.

Skinner's Operant Conditioning (1953).

Skinner involved the principles and ideas of behaviorism in his work and contributed immensely towards understanding human behavior. Through operant conditional theory, research with animals found out that it is possible to produce desirable behavior outcomes through rewards and undesirable behavior through punishment so as to modify the behavior into a favorable one. Skinner's operant conditioning is based on the concepts of reinforcement and punishment. Skinner believed that if a child disobeys the rule that means the behavior is unfavorable which should be reinforced with a punishment. Therefore, reinforcement could be positive or negative. Positive reinforcement involves providing rewards to encourage desired behaviour, while negative reinforcement involves removing unpleasant stimuli to reinforce the same behaviour. People are more likely to repeat a behaviour if it is followed by a positive outcome. According to Rosales and Sanchez (2021) on the effectiveness of positive reinforcement revealed that it help students with autism develop their communication skills. Skinner's research on reinforcement, punishment, and behaviour modification shows that using reinforcement or punishment can change a person's behavior.

Operant conditioning emphasizes the consequences of a response, which determine the likelihood of a behavior recurring, as stated by (Ortega, 2022). For example, congratulating students on the completion of their tasks, rewarding the students with extra marks, rewarding those who scored well in the tests, etc. Proper use of reward could solve certain problems lingering in the classroom. Negative reinforcement is applied when an undesirable behavior is projected by the students and are punished to induce desirable behavior which may continue to occur. Using the concepts of punishment should be carefully thought out as the objective is to correct the behavior of the student, not to create a mental trauma. Skinner also believed ignoring the misbehavior is an alternative to punishment. In order to modify the behavior of the students, constant reinforcement is necessary. The desirable behavior must be rewarded and undesirable behavior must be punished. In chemistry classrooms especially laboratory, where teachers make students to follow safety rules and regulations, negative reinforcement is applied. Thus, the Theory of Reinforcement provides theoretical support to teachers and helps them to follow and set procedures to get desirable behavior outcomes. Skinner's operant conditioning principles have influence on education and the greater influence is on classroom management.

Glasser's Choice Theory (1998).

Glasser developed a theory known as the choice theory also known as the control theory which is beneficial to solve classroom management problems. The theory is based on the five basic principles of human needs; survival, belonging, freedom, power and fun as the driving force behind displaying desirable or undesirable behavior in the classroom. The basic idea of this theory is that teachers cannot control the behavior of their students just by telling them what to do but can play a critical role in helping students to make a choice, therefore leading to positive behavioral changes (Glasser, 2001). The need for survival includes food, shelter, physical comfort, etc. are basis for human functioning. If the survival need is unsatisfactory then the students in the classroom may not feel safe and secured. The need for belonging and love is an important need to be satisfied in a student. This is one of the most important needs in the choice theory. Glasser (1998) argues that it is the responsibility of the teacher to make sure that students are loved and cared for. The way to fulfill these needs is by allowing students to share their knowledge among their friends and that the students must be given the power to choose what they want to study and make a choice to actively participate and have a say in the learning activities. This need if fulfilled, the misconduct of the students in the classroom will reduce.

The choice theory explains that the brain gives everyone the self-directing capability to fulfill life needs Glasser (2001) believed that problems or misbehavior in the classroom occurs because the needs of the students are not met. In chemistry classroom it is very important that a teacher identifies which needs are not being met. Therefore, it is the chemistry teachers' responsibility to guide the learners to make a choice so that the learner produces a favorable behavior. Research indicates that when students feel safe, respected,

and valued in their learning environments, they are more likely to participate actively in class discussions and activities (Lemov, et'al., 2023).

Jacob Kaunin Classroom Management Theory (1970)

Kounin proffer five main point model that teachers must observed to ensure effective classroom management: with-it-ness, overlapping, momentum, smoothness and group focus. Kounin refer the "with it-ness" as most often the young of planning and keeps students on task. This takes a specific skill to publish potently distracting situations in which teachers need to bring students back to the task at hand. In showing students the connections between one subject to the next, using previous wordbook to provide students for scholarship new wordbook, teachers will show overlapping. The overlapping ties into the energy aspect. Students that feel they are learning will make connections between old and new material. This confidence will allow them to contribute to the energy of the classroom. The group focus aspect in the high school setting really takes a ready attention to detail. Keeping high school students on task and not imagination about tomorrow night's football game is a skill that is essential to forward learning.

Chemistry teacher should be able to check for students not paying attention and rapidly encounter them back into the subject, while progressing with the rest of the class attention. This can be done through exciting announcements or demonstrations. Chemistry teachers needs to incorporate all of the aspects of Kounin's philosophy in their teaching practices. This signify that overlapping, smoothness, energy, and group focus must all be combine together to form and adapted whole. This could be fulfill through teachers having at least a week's exercise ahead of time in order for them to be sure that lesson fluidity occurs.

Kohn's Student Directed Learning Theory (2006)

Kohn's work critiques many aspects of traditional education and maintains that societies based on extrinsic motivation always become inefficient over time. He questions the hierarchical structures at work in mainstream education. Positions of authority are unnaturally scarce and such systems assume that all people have a competitive nature. He argues that positive enforcement only encourages students to seek out more positive enforcement, rather than truly learn. Kohn believes that the ideal classroom emphasizes curiosity and cooperation above all, and that the student's curiosity should determine what is taught. He questions the hierarchical structures at work in mainstream education. Because of this, he argues that standards should be kept very minimal and is critical of standardized testing. Kohn also argues that a strict curriculum and homework are counterintuitive to student needs. When it comes to classroom management, Kohn believes that most teachers rely too heavily on extrinsic motivation rather than more intrinsic factors. He suggests teachers keep cooperation in mind because when curiosity is nurtured, rewards and punishments aren't necessary.

To implement Kohn's approaches in the classroom, teachers can allow students to explore the topics that interest them most. Students should be able to think, write and explore without worrying about how good they are. Kohn in general, believes that there is too much emphasis on achievement rather than the learning process. He emphasizes that not all students learn at the same pace, and standards do not take this into account. Kohn also believes in classrooms where the student is at the center of everything and that such a classroom would feature multiple activity centers with various classroom structures for group work, displays of student projects, students exchanging ideas, respectful teacher mingling with students, students excited about learning and actively asking questions and multiple activities were occurring at the same time. In terms of modern school systems, Kohn's approaches are more consistent with those used in elementary classrooms.

Classroom management

Classroom Management is the teachers' total action and positive response to students' appropriate and inappropriate behaviors, resources organization and control in a classroom setting to create a conducive learning environment. Classroom management was viewed by from different scholars. Onyekwelu, (2025) described it as procedures that stimulates and maintains an orderly learning environment. The most crucial objectives of a teacher are to organize the classroom well. Mbanugo et al. (2024) considered classroom management not only related to management of students' behavior but also to lesson planning of teacher, organizing of the materials, controlling of behaviors, goal based learning process, supportive atmosphere

and maintaining a highly effective teaching and learning experiences within classroom. Okafor and Enemuo, (2024) described it as the actions taken to create and maintain a learning environment conducive to successful instruction through arranging the physical environment, establishing rules and procedures, maintaining students' attention to lessons and engagement in activities. Tomlinson and Imbeau (2023) asserted that classroom management generally is conceived to include all actions taken by the teacher to ensure order and the effective use of time during lessons. Ekwelunde et al. (2023) enumerated classroom management practices to include classroom arrangement, classroom communication, instructional method, disciplinary measures/punishment and classroom motivation. Nwikpo et al. (2024) added class sitting arrangement, instructional method, students' engagement, time management, classroom communication, sustenance of students' interest and classroom motivation as teachers' classroom management practices.

Empirical evidence supporting classroom management

The aim of classroom management in chemistry classroom is to promote positive behaviors among students and encourage active learning that influenced students' performance. Okafor and Enemuo, (2024) reported that positive classroom management contributes enhanced academic performances of students, increased to teacher efficacy, improved students behavior and teachers teaching. Wekesa et'al. (2025) asserted that classroom management strategies have a significant, positive influence on chemistry performance in public secondary schools in Trans Nzoia East Sub-County. These findings highlight the importance of structured classroom environments, positive teacher student interactions, and active instructional practices for improving academic outcomes. Classroom has two main environments: the physical and the social environment. Tomlinson & Imbeau, (2023) asserted that physical and social environment are factors that played important role in learners' academic performance if utilized together and implemented effectively. Safiullah et al. (2023) in a study found a positive relationship between classroom management and students' achievements. It was indicated that classroom rules play a positive role in the achievement level of the students. It was also confirmed that rewards and punishments contribute towards the student's achievements (Galos and Aldrige, 2021)

Physical environment

Physical learning environment encompasses all the learning resources such as buildings, sport field, furniture, reagents, equipment, lighting and temperature, space, time and ventilation etc. Physical environment according to Wagner, (2019) refers it as the settlement, placement, and arrangement of desks, tables, chairs, fixtures and furniture, the paint color, ventilation, lighting, temperature, etc. Ondieki et al. (2020) explained that a logical, systematic, and attractive classroom's physical resources include: designating areas for specific activities, selecting and arranging furniture, arranging seating to facilitate learning, decorating spots for specific purposes, providing the appropriate temperature and teaching-learning aids, and organizing materials and areas for easy access. According to Burden (2020) establishing an environment that is conducive to learning is the initial step of the logical, systematic, and attractive setting of the physical resources in the classroom. Physical management of the classroom is one of the basic components of classroom management and effective teaching and learning. If the physical management of the classroom is not logical, systematic, and attractive it can hurt the teaching and learning process. The results of the research of Ahmed and Plessis, (2024) revealed that physical management and the social environment of the classroom have the core function in an educational setting.

Social environment

The social aspect of classroom management has to do with reward and punishment and it should be done in a positive way that would result to promote students' behavior. The social environment of the classroom is linked with teachers' effectiveness, teacher's preparedness, and teachers' social and emotional proficiency in teaching styles, teacher-learner relationships, and learners' motivation, behavior, and discipline in the classroom (Ahmed & Plessis, 2024). A good classroom is one in which, both, teacher and learners behave well and maintain discipline. Zysberg and Schwabsky (2021) reported that a positive classroom environment is associated with increased student motivation, which, in turn, encourages learners to invest greater effort into academic activities. Similarly, Galos and Aldridge (2021) noted that motivated

students are more likely to engage actively in learning processes, leading to improved academic outcomes. Ebimiere et'al, (2020) opine that discipline, is one of the key variable of classroom management. According Ahmed and Plessis, (2024) if there is no discipline, there is no classroom management, if there is no classroom management there is no effective teaching-learning. Creating a safe learning environment with supportive teachers has a positive impact on class engagement, participation and the students' achievements (Jamba & Norbu, 2023).

Safe learning environment

A safe learning environment is crucial for student academic success, emotional well-being and social development. Environment could be physically safe when individuals, facilities and equipment are safe, emergency procedures are cleared and there is adequate supervision. It could also be emotionally safe when it support relationship with teachers and peers, inclusive and respectful atmosphere and provide opportunity for socio-emotional learning. An environment is said to be psychologically safe if curiosity and creativity are supported, bullying and conflict are addressed and freedom to take risk and ask questions without fear of judgement. Research indicates that when students feel safe, respected, and valued in their learning environments, they are more likely to participate actively in class discussions and activities (Lemov et'al., 2023). A safe learning space is one in which learners are given the confidence to create together, share ideas and thoughts and explore different models of learning (Bramberger & Winter, 2021).

Pawlak and Gross, (2021) in a study showed that ensuring safety for all students in inclusive classes pose real challenges for teachers when conducting student experiments and suggested establishing rules and routines with respective consequences is an appropriate strategy to ensure safety in an inclusive experimental class such as chemistry classroom. According to Bramberger and winter (2021) for learning to occur, boundaries have to be pushed, and one has to feel safe and secured. A safe learning environment helps students feel comfortable, motivated and engaged leading to improved academic performance and overall well-being. Below are some of the management indicators that help teachers to create positive learning environment:

Establish clear rules and expectations: develop and communicate clear rules, expectations, and consequences.
Create a positive learning environment: foster a supportive, inclusive, and respectful atmosphere.
Use positive reinforcement: encourage positive behavior through incentives, praise, and rewards.
Minimize disruptions: use strategies like proximity, nonverbal cues, and redirecting to minimize disruptions.
Encourage active engagement: use interactive teaching methods, group work, and hands-on activities.
Monitor student behavior: circulate around the room, observe student behavior, and provide feedback.
Use technology effectively: leverage technology to enhance teaching, engagement, and classroom management.
Differentiate instruction: tailor instruction to meet diverse student needs and abilities.
Encourage student responsibility: empower students to take ownership of their learning and behavior.
Use non-verbal cues: use non-verbal cues like gestures, facial expressions, and body language to manage behavior.
Stay organized and prepared: plan lessons, materials, and activities to ensure a smooth and productive class.
Organized physical space: the classroom is well-organized and clutter-free.
Clear communication: teachers communicate clearly and effectively with students.
By observing these classroom indicators, chemistry teachers can manage and adjust their classroom settings to a positive and productive environment

Improved Students' Academic Performance

Academic performance is crucial for students as it influences their ability to accomplish their goals. It is also the extent to which chemistry students attaint a short or long term educational goals. Onyekwelu, (2024) defined academic performance as the extent to which students, teachers or institutions achieve their educational goal. Classroom if managed carefully resulted to effectively environment that promote the teaching and learning of science especially chemistry. Okaforcha (2024) submitted that academic performance pertains to an individual's achievement in specific academic areas, such as Mathematics, English, or science. Adinna and Anene, (2023) noted that academic performance is knowledge attaining

ability or degree of competence in school tasks usually measured by standardized tests and expressed in a grade or units based on students' performance. Onyekwelu (2025) credited that academic performance is students' level of success in their educational pursuits. It reflects their mastery of subject content, application of acquired knowledge and overall commitment to learning.

Eka and Murni (2025) after thorough meta-analysis methods, reaffirm that classroom management consistently influences student achievement at different levels of education. It is evident that for effective teaching-learning and learner academic achievement the classroom must provide an environment that is attractive and comfortable for learning hassle-free and encouraging for teaching (Haron et al., 2021). Furthermore, learner performance and development directly relate to learners' ability to interact with the environment. Okafor and Enemuo (2024) further argued that positive classroom management contributes to enhanced academic performances of students, increased teacher efficacy, improved students behavior and teachers teaching. Abba and Awodoyin (2024) in a study relationship between teachers' classroom management-techniques and students' academic performance in post basic schools in Adamawa state, Nigeria showed that there is significant positive relationship between teacher's classroom management techniques and students' academic performance in Post Basic Schools in Adamawa State.

Instructional implications of the theories to chemistry educators

Chemistry teachers are responsible for comprehending and breaking down the complex information (content) in to simpler form and convey the information to students either verbally or written. Chemistry teacher are required to adopt different pedagogical tool to enable them manage the classroom, transmit the information and get feedback from the students. These required effective management skill for effective curriculum implementation. Multiple activity centers with various classroom structures for group work, students exchanging ideas, respectful teacher mingling with students, supervising and actively engaging students with activities that requires critical thinking.

Kohn theory is the best approach in the modern school systems and more consistent with the teaching and learning of chemistry. It is important to note how teachers manage their classrooms to make it into an effective learning environment. Skinner's learning theory has been proven by many to be a useful tool in motivating or changing behaviour in young learners. It included various approaches in which reinforcement and punishment are applied to either discourage or encourage behaviour related to learning. Onyejekwe et al. (2025) opined that motivation plays a significant role in students' learning and that students with high motivation levels tend to have the best learning outcomes.

CONCLUSION

Classroom management is theoretically rooted and empirically supported to significantly result to conducive learning environment. Drawing from the foundational framework theories, such as Skinner that desirable behavior can be produced through rewards and undesirable behavior through punishment, Glasser identified five basic principle for solving classroom management: survival, belonging, freedom, power and fun as the driving force behind displaying desirable or undesirable behavior in the classroom., Kaunin put forward four thigs to be considered for effective classroom management: overlapping, smoothness, energy, and group focus all must combine together to form an adapted whole (Onyekwelu, (2025), Mbanugo et al., (2024) & Okafor and Enemuo, 2024). Kohn believes that the ideal classroom emphasizes curiosity and cooperation above motivation.

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