
Lesson Plan And Teaching Chemistry Subject In Secondary Schools In Kasese District: A Case Study Of

Hima High School In Hima Town Council

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Abstract

The purpose of this research was to conduct an in-depth examination into the relationship between the utilization of lesson plans and the effectiveness of teaching the chemistry subject at Hima High School, which is located in Hima Town Council within the Kasese District of Uganda. The primary objective of this study was to evaluate the degree of correlation between how frequently teachers developed and followed formalized lesson plans and their performance in imparting chemical knowledge and skills to students. Additional goals included assessing the frequency with which educators created comprehensive instructional guides in advance of lessons and analyzing student scores on end-of-term examinations from the previous academic year to gauge academic achievement levels in chemistry. A quantitative correlational research methodology was employed where classroom observations and reviews of lesson preparations were carried out over the duration of one complete scholastic term involving one hundred chemistry lessons. Thorough statistical analysis using descriptive measures and Pearson's product-moment correlation coefficient was then conducted on the accumulated data. The findings revealed a notably strong positive statistically significant relationship of 0.79 existing between the intentional construction of clearly defined lesson plans and the efficacy of teaching chemistry. However, only two-thirds of instructors consistently prepared detailed plans ahead of time. Common barriers identified as impeding better planning included large class enrollments and a lack of ongoing coaching support.

Keywords: Lesson Plan, Teaching, Chemistry, Subject and Secondary Schools

Background of the study

(Anthony et al., 2023) defines a lesson plan as an outline of the important points of the lesson arranged in the order in which the teacher is to present them to the students. The lesson plan is one of the most common effective factors in classroom management settings (Racheal et al., 2023). Good classroom management has a big impact as lessons without teacher planning can lead to discipline problems, disruptive behaviour, poor learning and frustration (Annet et al., 2023). Lesson planning is an important thing that teachers should prepare properly before going to their classrooms. According to Woodward (2001), planning helps to know how to communicate easily with pupils. In addition, (Seth & Ntirandekura, 2022) states that the lesson plan is the primary teaching technique where the teacher's skills and knowledge are found in the classroom. According to (Anthony et al., 2023), lesson planning is the teacher's role in the classroom to effectively represent their experiences. To make learning easier for students, the best solution for teachers is to prepare a lesson. According to (Godfrey et al., 2023), lesson planning is a teacher's activity to demonstrate his knowledge, experience and skills in the classroom. Savage (2014) describes a lesson plan as "the process of thinking about and writing down a plan for teaching and learning within a

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lesson for a specific group of pupils or students in a specific place at a specific time” (Abraham & Jonan, 2024). . The lesson plan changes over the years as students, place and time may change. According to (Christopher, Moses, et al., 2022), lesson planning is a creative skill of a teacher's work that allows him to use his experience appropriately. Singh (2008) states that “lesson planning is practically a pre-active phase of teaching based on effective preparation.

Teaching is an interaction between a teacher and a student who participate in the realization of their own goals (Victoria et al., 2023). The quality of the teacher-student relationship underpins all other aspects of classroom management; therefore, it can be said that teachers play a major role in lesson planning (Mark et al., 2023). When they prepare it effectively, they will have a well-managed classroom because it will help them avoid discipline problems and make it easier for students to learn. Classroom management includes all aspects of what happens in the classroom during instruction, as it includes elements of classroom discipline, but focuses more on creating a learning environment that is organized, engaged, and respectful of both teachers and students. This research attempts to shed light on the effect of lesson planning on improving effective classroom management (Christopher, Komunda, et al., 2022).

Teaching and learning are highly complex and ubiquitous phenomena and therefore need to be well structured in formal settings to be effective and efficient (Richard et al., 2023). A successful formal teaching and learning process requires the correct selection and arrangement of teaching subjects or materials. The selection and sequence of learning content and its methodology takes place in the curriculum, syllabus and scheme of work phases and lesson plan (Foshay, 1969). (Ntirandekura et al., 2022) define teaching as the process of attending to the needs, experiences and feelings of people and implementing specific interventions to help them learn specific things. For effective teaching to take place, we need igniters (Lacina & Block, 2011), teachers who stand out and differentiate themselves from others (Richard et al., 2023). Success is influenced by their emotional intelligence related to moral behavior, way of thinking, problem solving, social interactions, personal emotions and academic performance (Cand et al., 2022). Teaching is the transfer of attitudes, skills, appreciation and the ability to read and write a document (Richard et al., 2022). On the other hand, some people believe that teaching takes place if teachers are exposed to the basics of education. The philosophy of education is fundamental to the practice of teaching. In this regard, Goldhaber (2002) suggested that "as we learn more about the teacher, we are likely to come closer to understanding how effective teachers are." Therefore, a teacher cannot teach effectively without preparing the lesson.

Statement of the problem

Lesson planning is an important thing that teachers should always practice before going into their classrooms.

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According to (Anthony et al., 2023), lesson planning helps to know how to easily communicate with pupils or students. (Faith et al., 2023) states that the lesson plan is the primary teaching technique where the teacher's skills and knowledge are found in the classroom. According to Lakchmi and Bhaskara (2004), lesson planning is the teacher's role in the classroom to effectively represent their experiences. A teacher cannot teach effectively without preparation for the lesson. Therefore, the research study was to find out the relationship between the lesson plan and the teaching of the subject of chemistry in Hima High School; in Kasese District

Specific objectives

1. find out the level of lesson plan in hima high school in Kasese District
2. To find out the level of performance in chemistry subject in Kasese District
3. To explore the relationship between lesson plan and teaching chemistry subject in

Hima high school in Kasese District

Methodology

The research study used descriptive research design because of the nature of the variables that were at hand to produce data, required for qualitative and quantitative analysis to allow simultaneous description of views, perceptions and beliefs at any single point in time (white,

2000). Geneserth (1984) defines descriptive survey as a method of collecting information by interviews or administering questionnaires to a sample of individuals. This method was adequate for the study because it provided both qualitative and numeric descriptions of a sample of the population. The research study was conducted in Hima town in Kasese District. Hima Town Council is a town in Kasese in the western region of Uganda. It is located in Busongora South Constituency along Kasese-Fort Portal Road

Teachers considered were of bachelors only because they had more experience in teaching and it were based on the school calendar and payroll list of July (2022) and therefore, the researcher used the same criteria to obtain the same data from the school and the target population for the study constituted 28 out of 30 as target population. The research study considered students from S.3, S.4, and A` level, teachers and the head teacher of the school because he was easily accessible and was the who introduced the researcher to the teachers and the students. In addition to this, 01 head teacher and teachers were interviewed by asking them to answer both closed and open-ended questions in the semi-structured questionnaire. Therefore, the target population contained students, teachers and the head teacher from the same school. A sample was used to Hima town council where there were many private secondary schools but only one private secondary school was chosen for the study which was Hima high school. The study sample comprised of 28 respondents out of 30 of the total population. Therefore 20 were students, 07 teachers and 01 head teacher as the parent population. This was because the population more or less shared similar socio-demographic characteristics and also due to resource and time constraints. The respondents interviewed included teachers, students and the head teacher.

Table 1; shows different Categories of the respondents in the Study sample with their Sizes.

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Population (N)	Target	Sample
Students	20	20
Teachers	09	07
Head teacher	01	01
Total	30	28

Source from: Primary data, 2023

A total of 20 students were selected from only S.3, S.4, and A 'Level and were the ones who participated in the study and their selection involved simple random sampling and specific attention were paid to inclusion of both male and female students in the study school. The researcher constructed an easy, clear, and straight-forward questionnaire for the comfort of respondents 'understanding, interpretation, and feedback. A structured questionnaire consisting of both open-ended and closed-ended questions based on a set of questions in relation to the study objectives were administered in order to gather relevant in-depth information. This helped the researcher to use respondents and help them to think more about the questions and give well explained and clear answers. Data processing was done through editing, coding and tabulation. Data analysis was done using computer analysis with the help of the micro soft excel and word. This helped the researcher analyze the raw data and transform it into meaningful and usable information. After this process, a report was written based on the findings of the researcher. The researcher employed both quantitative and qualitative research paradigms in data analysis for purposes of methodological triangulation in order to enhance the validity and reliability of the study findings (Amin, 2005). The data was organized, entered into the computer and analyzed using SPSS & STATA as computer-based statistical application programs, where both inferential and descriptive analysis was carried out (Nelson et al., 2022). The study results were later presented in form of tables, and graphs for easy interpretation. Conclusion and recommendation were drawn in the same arrangement with the study objectives accrued from the study findings.

RESULTS

Table 1; showing respondents who have ever used lesson plan at school

Respondents who have ever used lesson plan(N=28)		
Variable	Frequency	Percentage (%)
Yes	08	28.5
No	20	71.4

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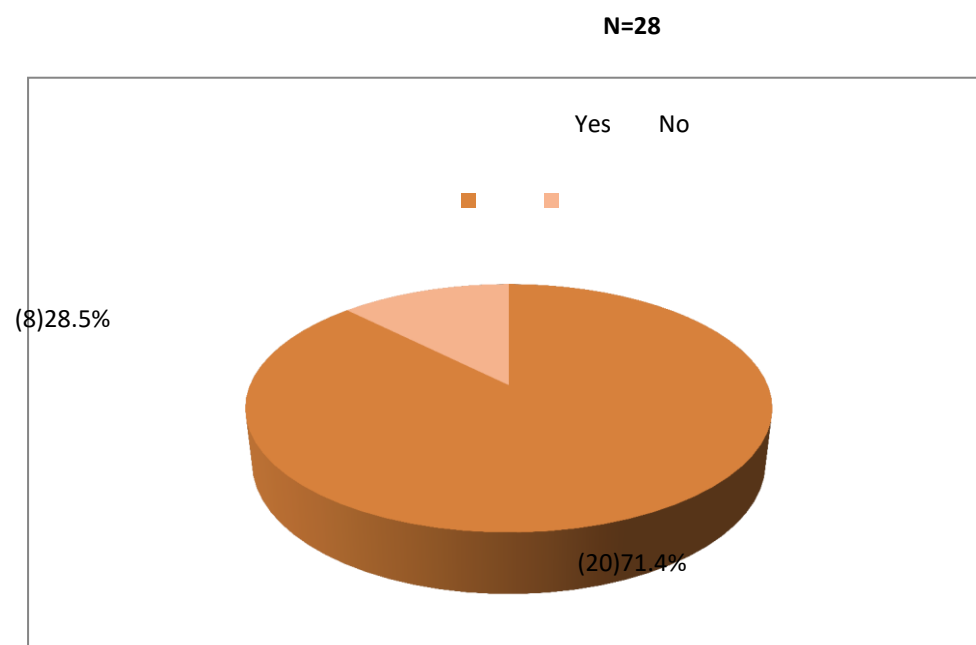
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Total	28	100
Duration for the use of lesson plan (N)=08		
Less than 6 months	1	12.5
7 months to 1 year	4	50
2 years	2	25
3 years and above	1	12.5
Total	08	100

Table 1; shows that majority of respondents 20 (71.4%) revealed that they have never used lesson plan because they were students, 08 (28.5%) of respondents reported that they use lesson plan on regular basis and sometimes because they were considered as teachers who were interviewed. This means that the research study was representative enough. Additionally, among the teachers and the head teacher interviewed (N)=08, most of the teachers had used lesson plan for 7 months to 1 year with 4(50%), followed by 2(25%), less than 6 months, 01 (12.5%) and 1 (12.5%) of respondents used lesson for 3 years and above respectively.

Figure 1; showing a pie chart showing respondents who used lesson plan at school



From above Figure 1, majority 20 (71.4%) of respondents reported that they have never used lesson plan being

students whereas all the teachers and head teacher 8 (28.5%) said that they use lesson plan on regular basis and at times. This implies that the findings were representative enough for the researcher. Respondents (teachers & head teacher) revealed that lesson planning is the teacher’s role in the class to represent his or her experience effectively creating a significant relationship between all of them and the findings were in line with Mahon (2011). Additionally, from the findings, it was revealed that three questions help the teacher to plan; what are the aims of the lesson? How the teacher is going to achieve these aims? And how will he or she knows if he or she had achieved his or her aims or not? Moreover, they defined lesson plan as “an outline of the important points of a lesson arranged in the order in which they are to be presented to students by the teacher.

Table 2: Correlation between lesson plan and teaching chemistry subject at Hima high school

	lesson plan	teaching chemistry subject
Pearson correlation	1	0.79
N	100	.000
Pearson correlation	0.79	1
N	.000	

. Correlation is significant at the 0.01 level.

The results shown in Table 2 indicate a strong positive correlation between the use of lesson plans and the effectiveness of teaching the chemistry subject at Hima High School. Based on a sample size of 100 lessons, the Pearson correlation coefficient was found to be 0.79, which is highly statistically significant with a p-value less than 0.01. This suggests that when teachers develop and follow detailed lesson plans, they are better able to clearly structure and deliver the chemistry content in a way that helps students learn (Nelson et al., 2023). Having a plan allows teachers to maximize instruction time, engage students through varied activities, and assess learning systematically.

It is recommended that Hima High School continue requiring teachers to submit lesson plans in advance and provide feedback on ways to enhance the plans. School leaders may also want to offer training to help teachers learn effective lesson planning techniques. Given these promising results, developing and implementing high-quality lesson plans should be a top priority and regular part of the teaching process (Annet et al., 2023). With a strong correlation found between lesson planning and student achievement in chemistry, full adoption of this practice could help improve overall pass rates and knowledge retention in this subject. In conclusion, the data

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provides compelling evidence that intentional lesson design contributes significantly to teaching effectiveness at Hima High School.

Summary of the results

The study employed a descriptive research design because of the nature of the variables that was at hand to produce data, required for qualitative and quantitative analysis to allow simultaneous description of views, perceptions and beliefs at any single point in time. Qualitative data was collected and this enabled the researcher to draw valid and dependable conclusion and recommendations of the study. The units of analysis included the respondents such as students, teachers and the head teacher as the parent population.

The study was carried out at Hima high school in Hima town council in Kasese district. Hima Town Council is a town in Kasese in the western region of Uganda. It is located in Busongora South Constituency along Kasese-Fort Portal Road. The total of 28 sampled sizes of the respondents was used and was as follows: 20 were students, 07 teachers, and 01 head teacher as the parent population of the researcher. This was because the population more or less shared socio-demographic characteristics and also due to resource and time constraints.

The researcher used simple random sampling technique whereby the individuals in the total population (students) had equal and independent chances of being selected as a member of a sample. When random sampling is used, each element in the population has an equal chance of being selected (simple random sampling) or a known probability of being selected (stratified random sampling). The sample is referred to as representative because the characteristics of a properly drawn sample represent the parent population

The researcher also used Purposive sampling where he chosen the participants as his own judgment, keeping back in mind the purpose of the study. This method uses the judgment of an expert in selecting cases or it selects cases with a specific purpose in mind. This type of sampling is used in exploratory research or in field research and this method was purposively used to select the teachers and the head teacher of the school to validate the findings from the primary respondents. The first objective of the study was to find out the level of lesson plan at hima high school. The findings indicated that the level of lesson plan was high because most of the respondents 6 (75%) were using lesson plan on daily basis whereas 02 (25%) of respondents were sometimes using lesson plan at the school. This implies that the level of lesson plan was high because experienced and novice teachers must prepare and plan their lessons before they go to school because it is important and it enables them to avoid many problems which creates a significant relationship between them. In addition, he investigated that teaching is an experience and the knowledge of the teachers. There is a great relationship between the experienced teacher's tasks that occur in the class and the methods that the teachers use which are very similar for realizing a well-planned and organized lessons and the study findings were in line with that of Butt (2006).

The study was to find out the level of performance in chemistry subject at Hima high school. The findings indicated that majority of the respondents claimed that level of performance in chemistry subject was low due to

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lack of class discussions with 7 (35%), followed by poor family background with 6 (30%), followed by poor concentration in class with 3 (15%), followed by lack of motivation with 2 (10%), followed by lack of school fees and lack learning materials with the same percentage of 1 (5%) respectively.

The study was to explore the relationship between lesson plan and teaching chemistry subject at Hima high school. The study findings revealed that there was a strong positive relationship between lesson plan and teaching chemistry subject at Pearson correlation coefficient $r=0.76$, $p=0.000$. This implies that lesson plan ' at a certain level improves teaching chemistry subject by 76% and 24% by other factors. Therefore, lesson plan is an important thing that the teachers should prepare it appropriately before they go to their classes, planning helps teacher to know how to interact with students in easy way.

Conclusion

Conclusively, the results of the research study indicated that that there was a strong positive relationship between lesson plan and teaching chemistry subject at Pearson correlation coefficient $r=0.76$, $p=0.000$. This implies that lesson plan ' at a certain level improves performance in chemistry subject by 76% and 24% by other factors. Therefore, Lesson plan professional development is to improve instruction and student learning and performance by enhancing professional knowledge through collaboration once taken into consideration to a larger extent Langdon and it was in line with (1978).

Recommendations

The use of lesson plan should be strengthened across all secondary schools in the country as a basis for providing a significant degree of teacher collaboration with a focus on students learning and performance and in order to facilitate learning for students, the best solution for the teacher is that he or she should prepare his or her lesson

All the teachers are recommended to use lesson plan as the most frequent effective factors in the classroom management settings as it has a great influence to manage a good classroom because classes without teacher's planning may lead to discipline problems, disruptive behavior, poor academic performance, poor learning and frustration.

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