



Managing Attention and Emotions of Learners at the Beginning of a Core Science Lesson in Secondary Schools in Uganda

PROF. JOYCE BUKIRWA REBECCA SESSANGA

MUNI UNIVERSITY, ARUA, UGANDA

Abstract: Performance in science subjects has always been a great concern to many stakeholders and many studies have been carried out to address this concern. Improving the quality of teaching and learning in the 21st Century requires the highest quality of teaching and professional training. This study focuses on how teachers start lessons of core science subjects and how students feel about it. The preferences of the learners on how core science subjects should be started are highlighted. For many years researchers and teachers have tried to find the secrets of successful teaching. Although there are many factors that influence learning, there can be considerable variations in the local context in which the teachers work. Indeed teachers manage their science classes skillfully. The principle aim of this study, therefore is to give the fresh teachers some basic notions and precepts about beginning a core science lesson and also to enable experienced teachers of core science subjects to examine their own practices and it is hoped, improve it. The study was guided by the following objectives; to establish from teachers how they begin lessons in core science subjects; to identify students' preferences on how to begin a core science lesson and to find out from students what stimulates their concentration at the beginning of a lesson. Two hundred(200) students and eighty (80) teachers of core science subjects participated in this study. A cross-sectional survey research design was used and stratified sampling was used in selecting the secondary schools to participate and the strata included three(3) girls only schools, three(3) boys only schools and four (4) mixed schools. Simple random sampling was used to select senior four students to participate in the study while purposive sampling was used in selecting the subject teachers for this study.

Key words: Attention, Emotion, Beginning of a lesson, Core Science Subjects

I. Introduction

Teaching science is not just about the subject matter but is about ways and means, the contexts, of how the subject can be taught. The beginning of a lesson is usually given a lot of importance because it introduces the students to a new lesson or topic and make them enthusiastic about it. The beginning of a science lesson may also introduce learners to a new project. The start of a lesson should provide the learners with a framework and inform them about the path of the lesson, adapt to the previous experience of the learners and connect the knowledge of the learners with the new topic; control the learners and prepare them for the lesson; enable action-oriented access to the new topic and build up the self-confidence of the learners.

It is clear that in many schools the teacher directs the learning process and the learners are expected to conform to the way their teacher has planned the flow of the lesson. Generally, a lesson has three phases namely; the introduction phase, the development phase and the conclusion phase. Traditionally, a professional

teacher prepares to begin a lesson by recapping the previous lesson to create a linkage between the current lesson and the previous lesson. The teacher at this moment is trying to prepare the learners for the new lesson. The recap takes on different modes by different teachers for example a teacher may begin a lesson by asking questions about the previous lesson, other teachers begin by summarizing the previous lesson or this could be done by a student. However, other teachers may begin by introducing the new lesson straight away.

Vierstra (2016) explained five ways of starting a lesson and these include starting with a video, starting with an object that is related to the content, starting with a question about what learners know or think about the lesson topic, starting with movement or starting with a mistake.

A study was carried out to find out how teachers start teaching the following science subjects namely; Mathematics, Chemistry, Physics and Biology across Uganda. Teachers start lessons in different ways and for a variety of reasons. *The question at hand is which way of starting a lesson is most effective in aiding learning?*

According to Arihant Experts (2020), the law of readiness by Thorndike states that when a conduction unit is ready to conduct, to do so is satisfying. When a conduction unit is ready to conduct not to do so is annoying and when a conduction unit is not ready to conduct for it to conduct is annoying. Therefore learning takes place when an action tendency is aroused through preparatory adjustment, set or attitudes. If learners are not prepared to learn, learning cannot be automatically instilled in them. Thus, before starting to teach in the classroom the learners should be properly motivated. With the help of this theory the teacher can control the negative emotions of the children such as anger and jealousy. It is very important for the teacher to raise the attention of the learners and make them ready to learn right from the beginning of the lesson.

There are usually many things that run in a learner's mind including unfinished assignments of other subjects. Many times a learner carries work of other subjects in form of assignments or upcoming tests and this would eat up the mind of the learners that instead of concentrating on the current lesson they will be grappling with what is yet to come in the next classes. Similarly, there are several other social and physical challenges that learners have and all these cause emotions that affect their attention and performance in class. Althoff (2015) hinted that at the beginning of the lesson, the students also often have other things in their minds. For example, they may have just written a math exam or may have been involved in an argument during break. Often, they cannot immediately get involved in the new lesson topic. It is therefore even more important to make the start of the lesson varied, interesting and motivating so that the students can focus completely on the new topic and move on from the previous lesson. Teachers start the lessons in different ways depending on the content to be taught, the size of class, the ability of the learners, the method of delivery and what the teachers find easy to do.

When asked how they start a new lesson, the science teachers in this study gave the following responses as indicated in Figure 1.

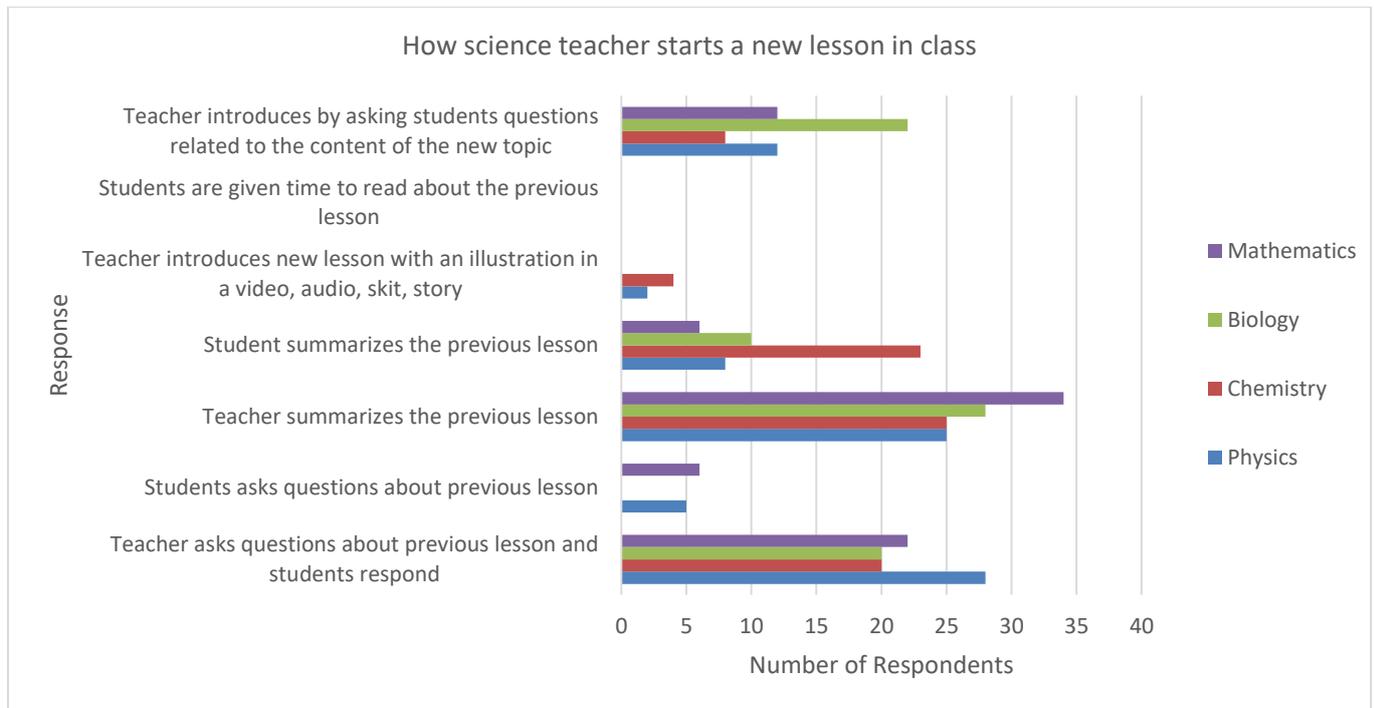


Fig 1: Responses of Teachers on how they start a new lesson of core science subjects

The findings of the study revealed that 35% of the teachers begin physics lessons by either asking students about previous lesson and students respond. 31% of the teachers begin lessons by summarizing the previous lesson. A few teachers (10%) may introduce a new topic by asking students some questions related to the new topic. In chemistry, 25% of the teachers begin the lessons by asking students some questions about the previous lesson. 31% of the teachers summarize the previous chemistry lessons at the beginning of a new one while 29% of the teachers allow students to summarize the previous lesson of chemistry. Only 10% of the teachers of chemistry begin new lessons by asking students questions about new topic. In Biology and Chemistry, no teacher (0%), begins the lessons by allowing students to ask questions about the previous lesson. In Biology and Mathematics, teachers do not use video, skits or story telling at the beginning of a lesson. Except for chemistry, few teachers begin lessons of other core science subjects by asking students to summarize the previous lessons. Notably, all teachers of the core science subjects indicated that they do not give students time to read about the previous lesson at the beginning of a lesson. This implies that teachers do not encourage their learners to do self directed study. In self-directed learning, the responsibility to learn shifts from an external source, the teacher, to the individual. It was also noted that in Biology and Mathematics the teachers do not introduce lessons with an illustration in video, audio, skit or story while the number of teachers of physics and Chemistry who do it is negligible.

The study sought opinions of learners on their preference of how to start a lesson and the following responses were generated in Figure 2.

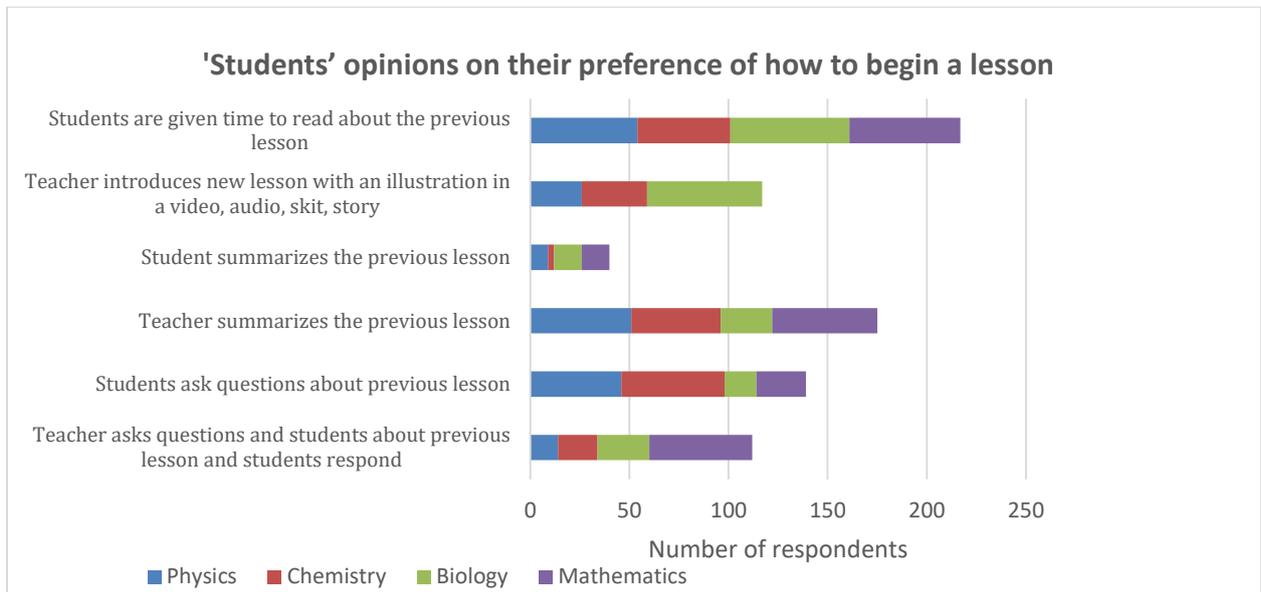


Figure 2: Students' Preferences on how to Begin a Science Lesson

The study revealed that students(57%) preferred learner centered ways of beginning a new lesson In other words they indicated a desire to participate actively in the beginning of a lesson. This agrees with Rohandi (2017) who said that learning science needs to be connected with existing students' life so that students feel that science is practical, familiar with the beliefs and practices of their lives.From students' perspectives they prefer active learning rather than the traditional method of teaching.

The study findings reveal that in all core science subjects, over 24% of the students expressed a desire to be given time to read about the previous lesson before a new topic is introduced and to be allowed to ask their teachers questions about the previous lesson. However, in all science subjects, very few students preferred to summarize the lessons.

In Mathematics, no student (0%) indicated that they preferred teachers to introduce new lessons of mathematics with an illustration in a video, audio, skit or story.

When asked, what stimulates their attention at the beginning of a new lesson, the students responded as shown in Figure 3 below.

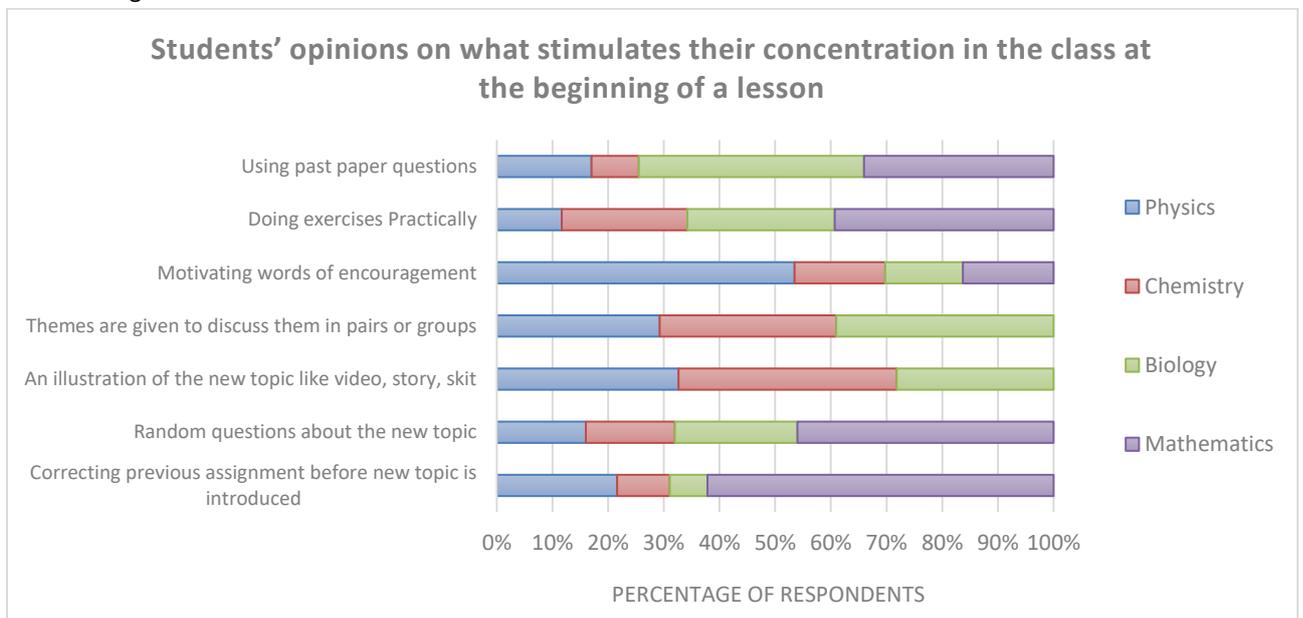


Fig 3: Students' Opinions on what Stimulates their Attention at the Beginning of a Core Science Lesson

When asked what stimulates concentration at the beginning of a new lesson in the different core science subjects, over 24% of the students expressed high interest in doing exercises practically. Similarly, in Physics, Chemistry and Biology, over 35% of the students expressed a high interest in using video, storytelling and skits to introduce a new lesson.

The study revealed that in mathematics students' concentration at the beginning of a lesson is not stimulated by giving them themes for discussion in pairs or illustrations with video, story or skit. Students greatly preferred correcting previous assignment in mathematics before starting a new topic. Notably, more students in mathematics compared to other core science subjects expressed interest in random questions about the new topic as a way of stimulating their attention at the beginning of a lesson. In Physics more students than the rest of the core science subjects indicated that the use of motivating words of encouragement would stimulate their concentration at the beginning of a lesson. Therefore there is need to emphasize the relevance of learning physics to the secondary school students in Uganda.

II. Conclusions

Majority of the core science teachers used teacher centered approaches to begin a science lesson and these include; teacher summarizing the previous lesson; teacher asking students questions about the previous lessons and teacher straight away introducing the new lesson. In this study, all teachers of core science subjects indicated that they do not give students time to read about the previous lesson at the beginning of a lesson. The study also revealed that while very few teachers of Physics and Chemistry use video, skits or stories to begin a lesson there is no teacher of Biology or Mathematics who does it.

In this study students revealed that they preferred learner centered ways of beginning a new lesson to teacher centered approaches. Students revealed that they preferred to be given time to read about the previous lesson before a new topic is introduced. They also expressed an interest in being given random questions about the new topic as a way of stimulating their interest at the beginning of a lesson. It can be concluded that in all science subjects, very few students preferred to summarize the lessons and they all reported that they did not prefer teachers of mathematics to introduce new lesson with an illustration of a video, audio, skit or story.

It is evident that students desire to be given motivational talks in Physics and Biology at the beginning of a new lesson.

III. Recommendations

- There is need for self-directed recap of previous learning of core science subjects where learners take primary charge of beginning a new lesson.
- Learning sciences can be made exciting by introducing lessons with videos, stories or skits. This helps the learners to overcome some of the past emotions that they could be experiencing before the new lesson.
- Students should be given some time to read about the previous lesson before new content of core science subjects is introduced so that they secure previous learning.

IV. References

1. Ramona Frommknecht (2015) the Introduction to the Lesson as a Motivation for Students. Possibilities and Limits, Munich, GRIN Verlag.
2. Vierstra Gretchen (2016) Five Ways to Start your Lessons.
3. Kumari R, M.,A (2004) The Methods of Teaching Educational Psychology.

4. Arihant Experts (2020) Social Sciences & Pedagogy CTET & TETS. Arihant Publications (India) Limited, New Delhi-110002.
5. Student's life so that students feel that science is practical, familiar with the beliefs and practices of their lives.