Learning Approach Preferences By Students: Rote Learning V/S Creative Learning

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Introduction

Modern society places a high value on education. It is an intentional act with specific goals in mind, like as passing on knowledge or developing civic virtues. These objectives might include the growth of comprehension, sagacity, kindness, and sincerity. In the modern world, teaching knowledge to kids in a classroom just produces information bankers; instead, we need kids who are developing holistically. Additionally, a child's learning style plays a significant part in their overall development. Learning is described as a process that combines one's own experiences and influences with those from the outside world in order to develop, enhance, or change one's knowledge, abilities, beliefs, attitudes, behavior, and worldviews (As per International Bureau of Education). Learning is the process of gaining new insights, skills, information, values, attitudes, and preferences. There are numerous approaches to learning. Children and teenagers learn through listening, trying new things, experimenting, and asking questions. There are many theories on how children learn and develop; two well-known theorists are Piaget and Vygotsky. When it comes to a person's cognitive development, Lev Vygotsky and Jean Piaget contend that social interaction is crucial. The primary distinction between Vygotsky and Piaget is that Vygotsky holds that cultural and social factors play a significant role in how people learn. Piaget, on the other hand, supports a child's productive approach. The key tenet of Vygotsky's theory is that social interaction is the foundation of learning. In contrast, Piaget's theory contends that a kid goes through four phases of mental development. According to Piaget, cognitive growth is a process that results from biological maturation and interaction with the environment. He argued that intelligence is a fixed trait. The methods of learning are crucial in deciding how successful educational activities are (Hasnoor, Ahmad, & Nordin, 2013). Learning can happen at any age, in any location, and at any time. Additionally, whereas formal education requires that learning take place in a classroom setting, this is not a requirement. A student's learning is influenced by three key factors: their peers, their courses, and their teachers (Mayya, Rao, & Ramnarayana, 2004).

Each of the components influences how students choose to approach learning (Hasnoor, Ahmad, & Nordin, 2013). These days, classrooms are being transformed into play spaces, and learning is being taught via play-based methods. According to Vester, any subject may be learnt in a variety of ways that are appropriate for the various learning styles of students, regardless of how difficult it is. The following four categories of learning exist.

• **Additive learning -** Students pick up listening skills when information is spoken aloud to them.
• **Visual Learning -** Using visual imagery, learners engage in this style of learning.
When knowledge is provided to learners in a way that includes clear graphics, they are better able to retain it and do so for longer periods of time.

•**Reading & Writing** - Learners thrive with written information on writing pads and other materials because they concentrate on the written word. These students take notes, and they perform well when they can refer to written material.

•**Kinesthetic –** This kind of learning involves all of the learner's senses and is mostly hands-on. In the labs for physics, chemistry, and biology, for instance, students engage in hands-on learning.

Other forms of education include rote learning and creativity-based education. Students have been actively involved in a learning technique called creativity-based learning (CBL). In a creative or activity-based learning environment, students actively engage in the learning process rather than simply listening to lectures. Examples include teaching with skits, teaching through games and puzzles, and creating storyboards. The technique of memorizing particular new items as they are met is known as "rote learning." The fundamental concept is straightforward and simple to implement within a computer programme: Each time a special and priceless piece of information is identified, it is archived for later use. Memorizing the alphabet, numbers, and multiplication tables is an illustration. Surface learning and deep learning are the two main types of learning strategies. The surface technique, sometimes referred to as rote learning, involves memorization of material without understanding the deeper knowledge, whereas the deep approach involves students in the study process to grasp the deeper comprehension of the content (Duff, Boyle, Dunleavy, & Ferguson, 2003).

Comparison between Creative learning and rote learning

● *Creative learning*	● *Rote learning*
Activity-based	Lecture-based
In addition to the chalkboard, students can use the environment actively and a variety of learning resources.	Mainly active use of blackboard only
Allows the learner to active (move and discuss)	Learners are supposed to be silent
Students centric approach	Teacher centric approach
Textbooks are for reference only	Textbook focused approach
Oriented toward acquiring skills	Exam, marks, and grades oriented.
Peer learning is promoted.	Less interaction with peers while teaching
Note-taking as per learners' convenience	Exact note-taking and copying

Benefits of creative learning

Both teachers and students like activity-based learning. The mechanism of this type of learning is what the pupils value most. Students effectively understand the concepts and principles. Other advantages are:

• **Aids in personality development:** This approach promotes children's independence and curiosity. Instead of just memorising information from the books, they address their difficulties via observation and analysis. In a way, children become more perceptive and insatiably curious.

• **Supports the social - emotional development:** This fosters cooperation while supporting the development of social abilities. As a result, people improve their confidence in their ability to make good decisions in addition to improving their leadership, sharing, and communication abilities.

• **Improves memory:** Concepts acquired in practical ways stick in kids' memories longer.

• **Gives learning time as per requirement:** The students can take their time to understand and interpret as the learning is individual-oriented. They can go to the next topic or activity only when there are through with one topic

• **Keeps the students motivated:** Provides students with a sense of success and comprehension once they have finished a topic.

• **Allocates learning time according to needs:** Because learning is personalised, students are free to take their time comprehending and interpreting. Only after finishing one topic or activity can they move on to the next one.

• **Keeps students inspired:** gives students a feeling of accomplishment and comprehension once they have concluded a lesson.

Rote Learning's Advantages

More significant effects on cranial capacity are caused by rote learning. It has been discovered to give the brain's function more plasticity. Repeating words, numbers, or any other pattern in your head helps your brain develop new memories. The following are some additional benefits of rote learning:

• **Longer retention:** The students' memory recall can be improved by frequent updates. They may hold onto the idea for a significantly longer period of time. Concept retention can occasionally last a lifetime. Don't we all retain our rote memorization of multiplication facts till later in life? This straightforward illustration shows how teaching through repetition helps students build their skills over the long run.

• **Concept recall is quicker:** Every time a student is asked to respond to a question, a phase in the response process called concept recall is required. The students can perform better on written and oral exams anywhere they are asked to write conceptual definitions, etc. This is due to the fact that kids memorise and repeat the written material by rote learning. Thus, it helps them score better.

• **Better demonstration of knowledge:** Spelling, vocabulary, and grammatical rules must all be carefully followed when writing an essay or any other work of literature. In order to develop these crucial abilities for handling difficult jobs, rote memorization is necessary.

• **Correctly remembering the steps of any procedure:** All educational levels and years after graduation call for rote learning. If you want to become a surgeon or have chosen to study medicine, where you must learn how to evaluate patients, you must memorise each step in the right order several times.

• Both creative and rote learning are significant, but a poll of students was undertaken to see which approach worked best for them. This study's major goal is to determine whether or not creative learning occurs. To find out how their learning technique affected their academic achievement, a quantitative study methodology was applied.

Objective of study

The main objective of conducting this research was to study the preference of rote and creative learning styles of school students and the impact of the preferred learning style on their academic performance. Thus two hypotheses were derived for this study:

1. Creative learning is significant in students of grade 11th and 12th.
2. Rote learning also is significant in students of grade 11th to 12th.

Methodology

This study followed a Survey method amongst students of class11th and 12th.The survey was done through online Google survey. In this study, rote learning approach effectiveness was compared with the effectiveness of creative learning approach.

Research tool

The information was gathered using a revised two-factor Study Process Questionnaire (R-SPQ2F), which was created by Biggs (2011) and uses a two-factor study process. The updated survey now includes a demographics component. The questionnaire comprised 20 statements, and it was made sure that each one matched the study's goals. Two constructs were developed from the 20 statements in order to evaluate how pupils approach learning. Deep strategy and surface strategy are the constructs. To find out how the kids preferred to learn, a questionnaire (R-SPQ2F) was distributed to all class 11 and class 12 students who attended schools run by the Delhi state government.

**Total population** - all students of class 11th and 12th studying in Delhi government schools.

Sample - In this study, only class 11th and 12th students from school Education were considered. The sample was collected through Google forms using snowball sampling technique. The sample size consisted of 46 students from different demographic conditions, districts and schools out of which 27 were female and 19 were male students. The students of class 11th and 12th belongs to different discipline; Humanities, Science, Commerce.

Result

SCALE:
1 — this item is never or only rarely true of me
2 — this item is sometimes true of me
3 — this item is true of me about half the time
4 — this item is frequently true of me
5 — this item is always or almost always true of me

1. Studying provides me with a deep sense of satisfaction
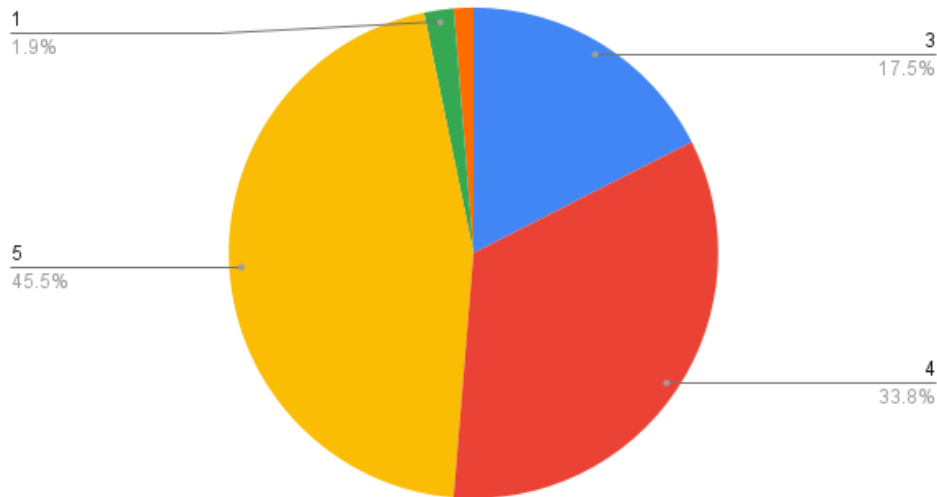
Analysis - **80% of the students feel satisfied with studying, which means they are interested in learning and increasing their knowledge. Only 20% of the batch disagrees.**

2. When I study something I feel that I should work on it a lot so I can form my own conclusions and become completely satisfied
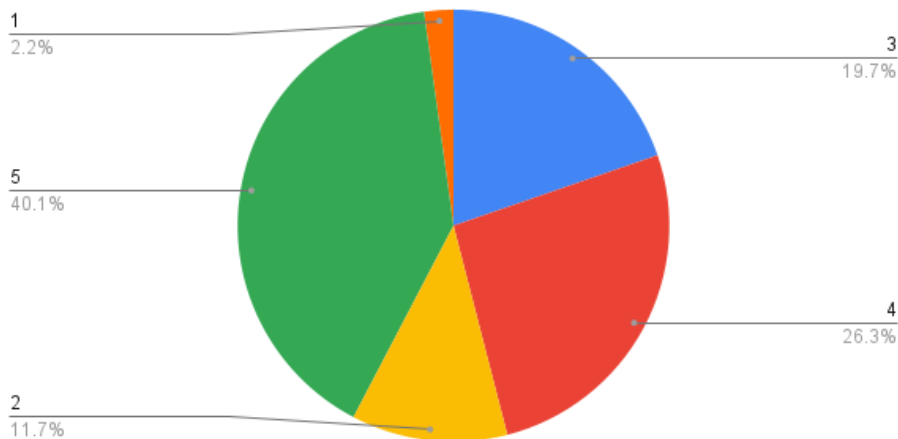
Analysis - **66% of students believe that they should work hard independently to enhance their understanding and be satisfied with their learning. 20% of students say they are willing to do the same about half of the time. Only 13% of students don't feel the need to learn independently to enhance their understanding. A majority of the students acknowledge the need to work hard to form their conclusions and be satisfied, creative learning promotes this learning style**.

3.My objective is to pass the grade with the least amount of effort

- 3 — 12.7%
- 4 — 23.7%
- 1 — 9.3%
- 2 — 11.9%
- 5 — 42.4%
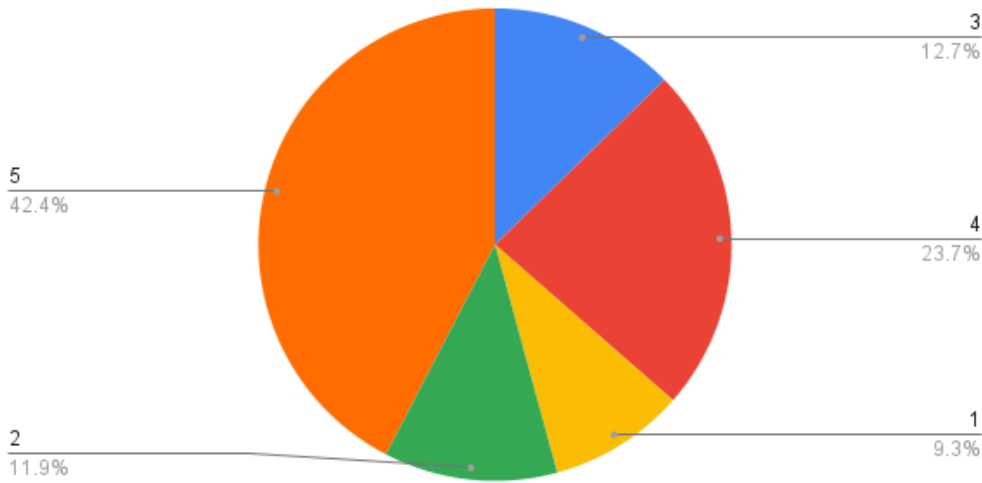
Analysis - **42% of students' objective is to pass the grade with the least amount of effort. More than half of the students agree that their objective is not limited to always passing the grade with the least amount of effort, which helps us understand that the students are willing to put extra effort into developing their sense of understanding.**

4.I only seriously study what is taught on in class or is in the course syllabus

- 1 — 3.0%
- 3 — 22.7%
- 4 — 15.2%
- 2 — 13.6%
- 5 — 45.5%
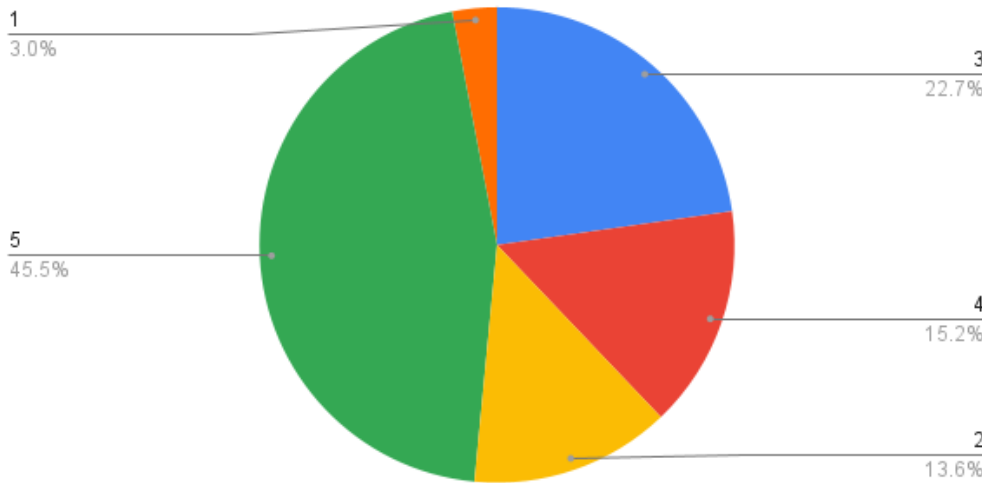
Analysis - **60% of the students only believe in studying what is taught in the class or the syllabus. 40% of students are keen on studying things that are out of the syllabus. The majority of the students stick to the syllabus which is a crucial feature of rote learning. On the contrary, there is a significant percentage of students who want to broaden their horizons and equip themselves with learning**

that is out of their syllabus which is a crucial feature of creative learning.

6.I find most of the content interesting and sometimes dedicate additional time to add to it searching for more information on it
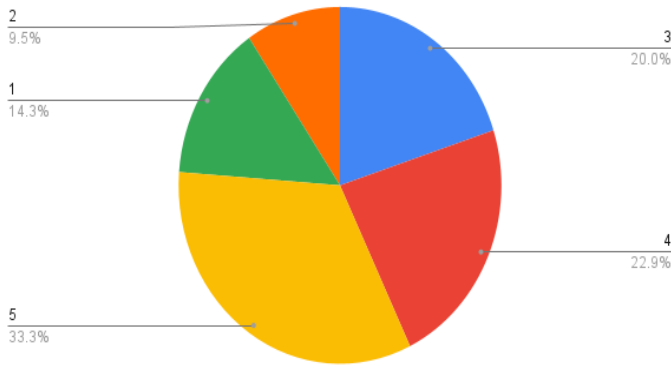
2
5.2%

3
15.6%

5
42.2%

4
36.4%
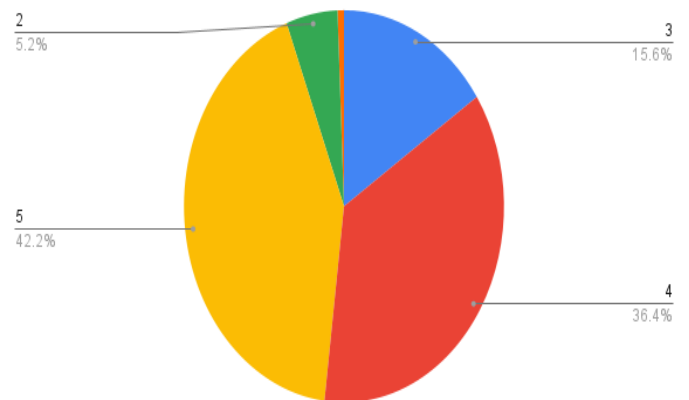
5. I think that any topic can be interesting once you submerge yourself in it

2
3.7%

3
16.6%

4
14.7%

5
64.4%
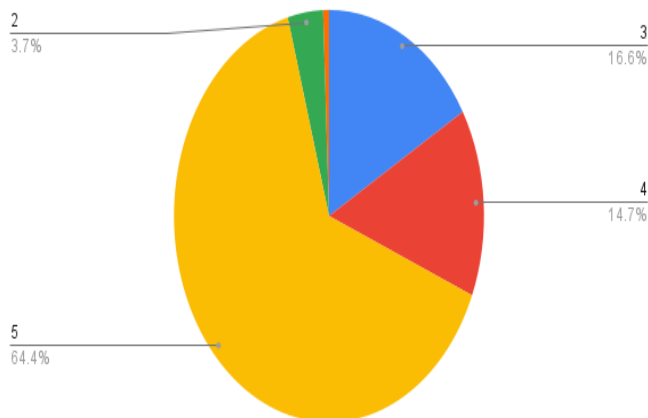
Analysis - Almost 80% of the students believe that any topic can be interesting once you deep dive into it and dedicate additional time to know and learn more about it. Less than 20% of students disagree with it. Creative learning gives students the independence to take their time to learn about
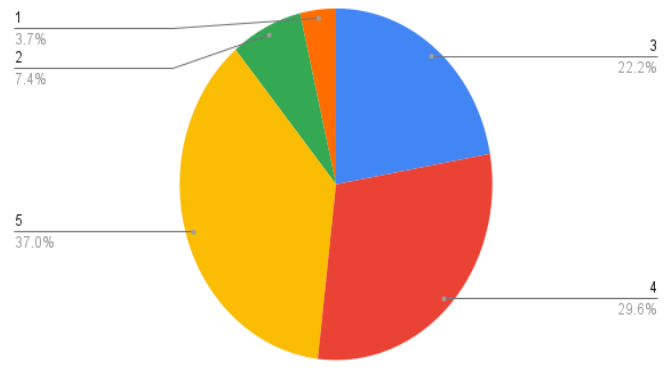
a particular topic in various ways which can ensure that their interests are developed and even basic knowledge-based concepts can also be made interesting.

7.I do not think the course I am taking is very interesting so I only do the minimum amount of work

2
9.5%

1
14.3%

5
33.3%

3
20.0%

4
22.9%

8. I learn some things mechanically, reviewing them again and again until I know them by memory, even if I do not understand

1
3.7%

2
7.4%

5
37.0%

3
22.2%

4
29.6%

Analysis -**More than half of the students who do not find the course interesting, do the minimum amount of work. They do not indulge in the course to understand it better or develop their understanding. 66% of students learn things mechanically even if they do not understand a particular concept. This is one of the major drawbacks of rote learning.**

9.I think that studying academic topics can at times be as interesting as reading a good book or watching a good movie

1
1.4%

5
47.6%

3
18.4%

4
24.5%

2
8.2%
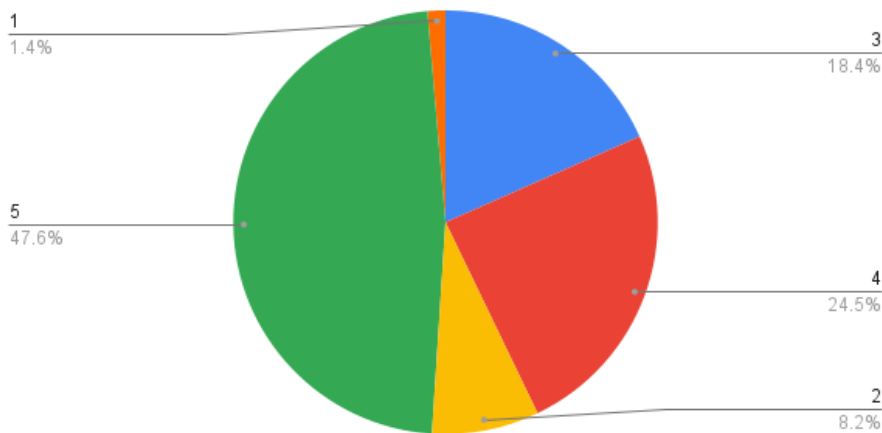
Analysis-**More than 90% of the students agree that academic topics are interesting more than 50% of the time as reading a good book or watching a good movie. Only 10% of the students disagree with this. This means that their learning can be made more fun and interesting with creative learning.**

10.I quiz myself on topics I think are most important until I am sure that I completely understand them

1
3.4%

2
5.4%

3
12.1%

4
18.8%

5
60.4%
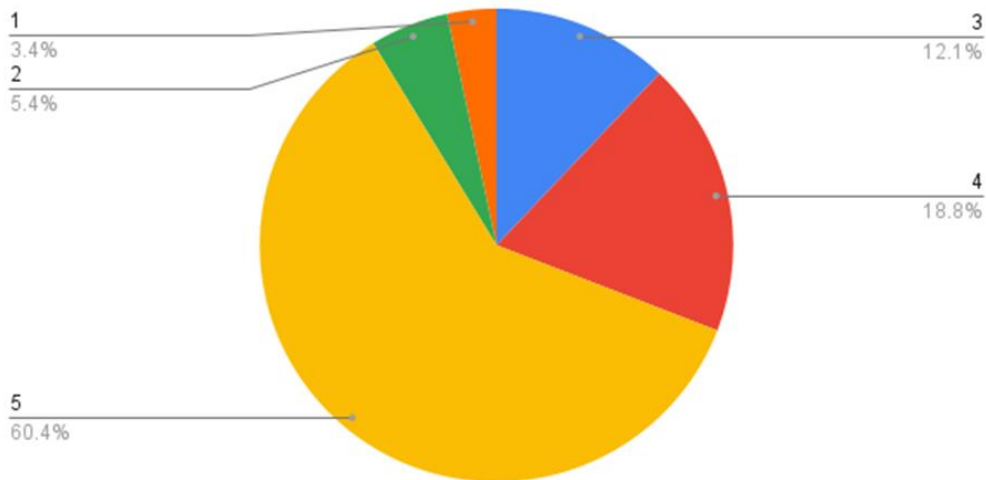
ANALYSIS- 60% of the students practices their learning to achieve a complete understanding of the topic. 31% of students test their understanding of topics more than 50% of the time. There are only around 9% of students who do not quiz themselves. This shows that a majority of the students (90%) take ownership of their learnings and work hard to understand a particular topic. A creative learning style also pushes the students to do the same.

11.I think that I can pass most exams by memorizing the important parts instead of trying to understand them



2
4.4%

3
17.5%

5
43.8%

4
29.2%

1
5.1%
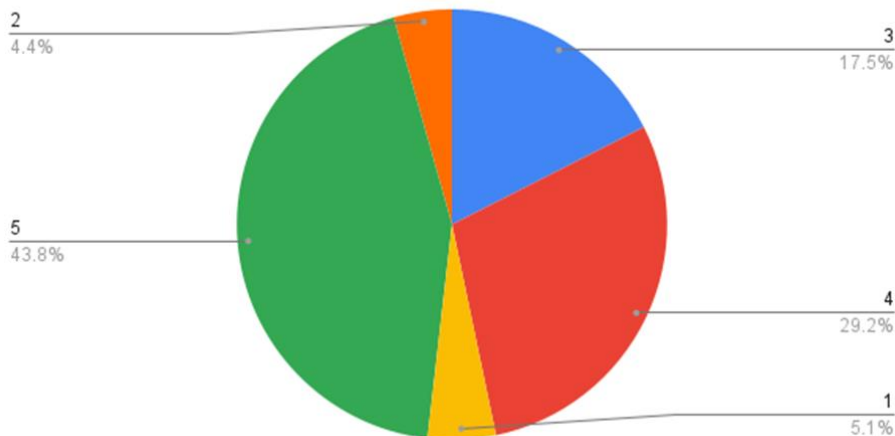
Analysis- More than 70% of the students feel that they can pass most of the exams by memorizing the important parts instead of understanding them. This is a drawback of rote learning exam patterns. The students know that they can pass the exams just by memorizing things which hamper their growth in knowledge.

12. Normally I only limit myself to studying what I am assigned in class because I do not think it is necessary to do additional


- 2: 22.6%
- 3: 28.3%
- 4: 22.6%
- 5: 18.9%
- 1: 7.5%
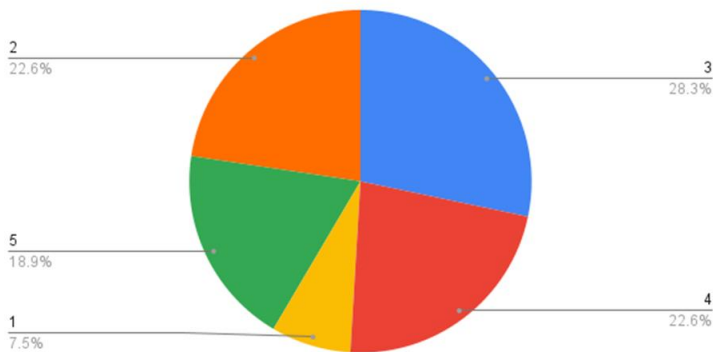
18. I try to take a look at most readings and books that professors recommend in class

- 1: 0.7%
- 2: 7.9%
- 3: 15.9%
- 4: 29.1%
- 5: 46.4%
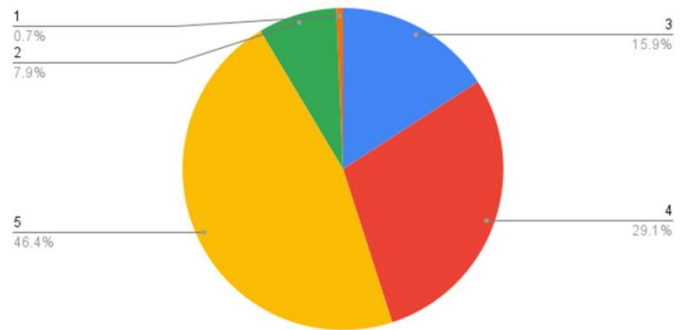
Analysis - 40% of the students limits themselves to classroom learning and do not indulge themselves in additional work. 60% of the students accept that they do work/study in addition to what they are assigned in the class. Around 75% of students refer to the **books/other study material recommended to them to enhance their conceptual clarity. This shows that the students are willing to learn things even outside of the classroom which can help them grow. Creative learning promotes such actions.**
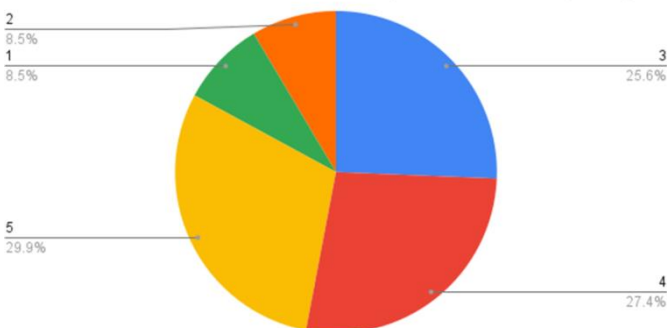
13. I put a lot of effort into my studies because I think the content is interesting


- 2: 2.6%
- 3: 27.8%
- 5: 39.7%
- 4: 29.1%
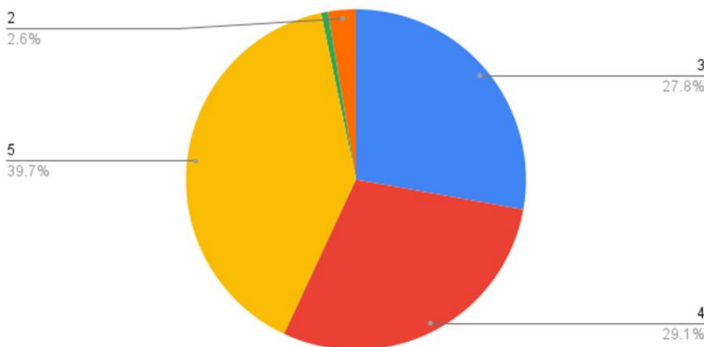
14. I spend a good chunk of my time finding out more about interesting topics that have been covered in class


- 2: 6.6%
- 1: 1.3%
- 3: 15.9%
- 4: 26.5%
- 5: 49.7%
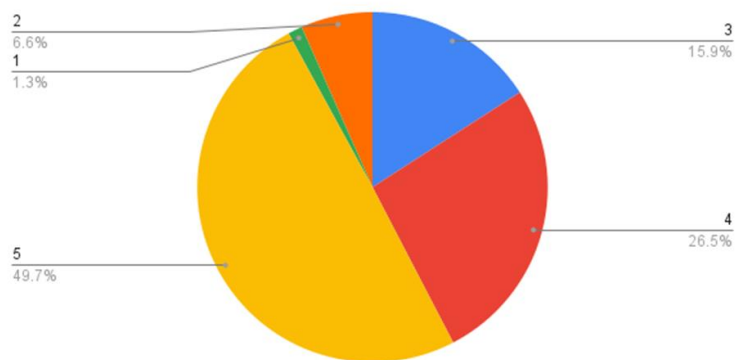
15. I do not think it helps to study topics thoroughly. This confuses me and makes me waste my time, so the only thing is

- 2: 8.5%
- 1: 8.5%
- 3: 25.6%
- 5: 29.9%
- 4: 27.4%

16. I think that teachers should not expect for their students to dedicate much time studying content that everyone knows is not

- 1: 12.5%
- 3: 20.2%
- 5: 28.8%
- 4: 23.1%
- 2: 15.4%
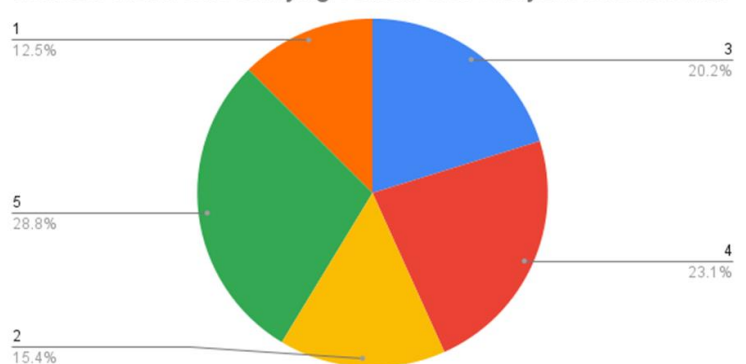
I19. do not think it makes sense to learn material that is likely to not be on the exam
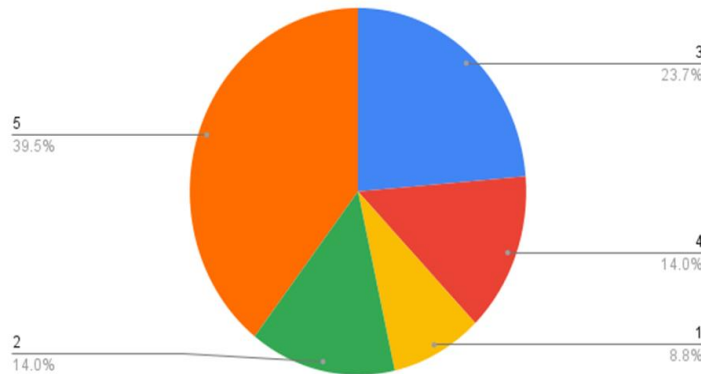

Analysis-**More than 65% of the students dedicate their there time and effort to their studies because they think that the content is interesting and they can spend more time finding about the topics in the class. 27% and 16% of students put effort half the time and spend time finding interesting topics covered in the class half the time respectively. 3.4% and 7.3% of the students are not keen on putting effort, even if they think the content is interesting and don't spend more time fining about those topics respectively. This again shows how the majority of students are keen to work hard to strengthen their understanding of the interesting topics**.

 More than 55% of the students believe that:

-       **it doesn't help to study the topics thoroughly and that learning the overview of the content is sufficient.**

-       **the teachers should not expect the students to spend time studying the content that is not going to be on the exam.**

-       **it doesn't make sense to study what is not on the exams.**

The above data points portray that the students are keen on learning only to pass the exams. A very less percentage of the students understand the importance of learning, irrespective of if it is going to be tested or not. A creative way of learning supports this notion.

17.I attend most classes with doubts that I would like resolved
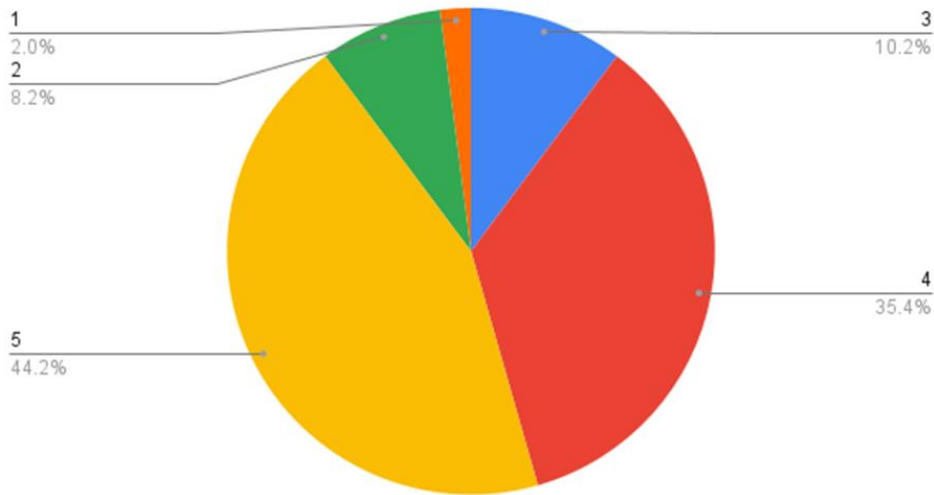
Analysis -Around 80% of the students attend the classes with their doubts to be resolved. The students are keen to develop a better understanding and clarity of the topics discussed in the class. 10% of students have their doubts ready in almost 50% of classes.

20.I think that the best way to pass exams is to answer questions that might appear on them
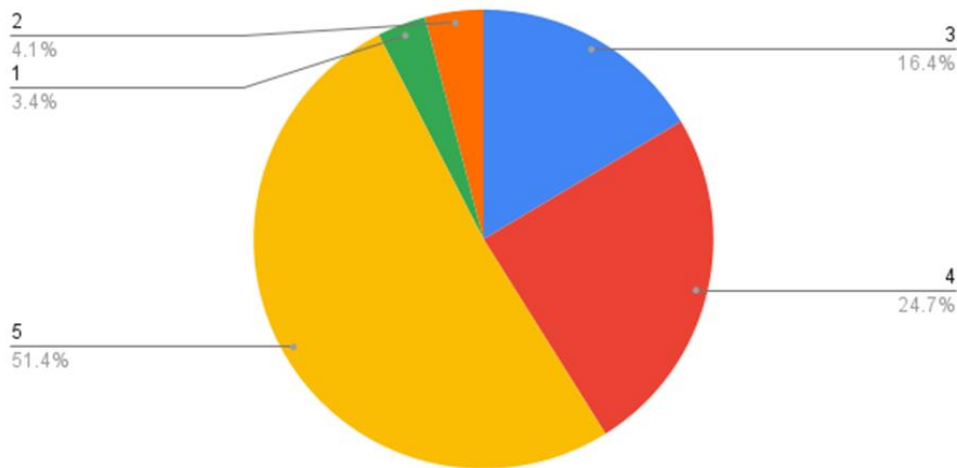
Analysis- 75% of the students agree that the best way to pass the exams is to answer the questions that might appear on them. This leads to them thinking that studying is only limited to passing the exams and restricts them to work hard towards understanding concepts and increasing their conceptual clarity. This drives them towards the rote learning technique.

Conclusion

This study investigated the preference of Senior Secondary school students towards different learning

approaches. Majority of the students (80%) were found satisfied with studying and take ownership of their learning. 66 % of students believed that they should work hard independently to enhance their understanding and at around 80% of the students attend the classes with their doubts to be resolved. Therefore teacher should promote creative and cooperative learning strategy during their teaching learning process to engage students in their holistic development. On the other hand more than 70% of the students felt that they can pass most of the exams by memorizing the topics so teacher should be careful in adopting his/her methodology as rote learning does not need to be rote memorization of the content, but it could help students to understand the content in depth. The results of study suggest that teachers should promote creative learning in their pedagogy to help students to understand content and how it can be useful in real life. Teachers must be trained to identify students learning techniques and how to use creative learning techniques. Students should be encouraged to use their cognitive skills more to develop creative learning abilities. It is also suggested that more research should be conducted at all levels to know impact of other learning types, in different disciplines to know whether learning approaches vary or not.

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