CHAPTER-4
ANALYSIS AND INTERPRETATION

4.1 Introduction:

This chapter deals with the analysis and interpretation of data collected from the questionnaires administered to the class ix pass out students of the selected schools JNV Rajgarh and PM Shri Kendriya Vidyalaya 39 GTC Cantt Varanasi. After collecting the data, it is necessary to organize, analyze and interpret the same to get the true picture out of the raw information collected.

Analysis is the process of evaluating data using analytical and logical reasoning to examine each component of the data provided. This form of analysis is just one of the many steps that must be completed when conducting a research experiment. Data from various sources is gathered, reviewed, and then analyzed to form some sort of finding or conclusion. There are variety of specific data analysis method, some of which include data mining, text analytics, business intelligence, and data visualizations.

It is the process by which sense and meaning are made of the data gathered in qualitative research, and by which the emergent of knowledge is applied to clients' problems. This data often takes the form of records of Google form questionnaires but is not limited to this. Through processes of revisiting and immersion in the data, and through complex activities of structuring, re-framing or otherwise exploring it, the researcher looks for patterns and insights relevant to the key research issues and uses these to address the client‟s brief. Keeping the objective in view, the analysis of the data means studying the organized materials in order to discover inherent facts. These data are studied from as many angles as possible either to explore the new facts or to reinterpret already known existing facts. Efforts were made to present the collected data in a proper visualisation form in order to make analysis and interpretation systematic for achieving the results.

4.2 Procedure of the analysis:

The analysis was carried out in terms of percentage. The analysis was done as per the objectives of the study which are stated as follows:

4.3 Objectives of the study:

The following are the objectives of the present study:

1) To understand the overall nature of the student towards the science subject.
2) To identify the most difficult areas for the student in the science subject of class IX standard.
3) To identify the issues related to the teaching process used for those difficult chapters of class IX standard.

4.4 Analysis and interpretation of the data

Objective 1: To understand the overall nature of the student towards the science subject.

Table 4.1 (a) Showing students' response on the identification of the overall nature of the student towards the science subject.

Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5

S. No.	Statements		1	2	3	4	5
1.	I like science subject.		12%	13%	7%	35%	33%
2.	Give rating based on your interest or likeness towards different portions in the science subject? (1 represents least liked and 5 represents most liked)	Physics portion	4%	27%	25%	23%	21%
		Chemistry portion	15%	20%	18%	33%	14%
		Biology portion	16%	20%	7%	27%	30%
3.	The knowledge of the science subject is useful to me.		10%	16%	2%	28%	44%
4.	I complete my homework regularly.		9%	15%	13%	36%	27%
5.	I have a personal routine for study.		11%	17%	23%	34%	15%

Explanation

From the response of statement 1, it is found that 68% of the students like the science subject the most and 32% of the students do not like the science subject the most. This may be because these students would have found the teachers' delivered part unrelatable to any interesting part of their life experiences.

From the response of statement 2, it is found that 44% of the students like the physics portion the most and 56% of the students do not like the physics portion the most. It is also found that 47% of the students like the chemistry portion the most and 53% of the students do not like the chemistry portion the most. It is also found that 57% of the students like the biology portion the most and 43% of the students do not like the biology portion the most. So, biology is the most liked portion then chemistry and lastly physics. This may be because the teachers' ineffectiveness in presenting the physics portion in easy to understand way and ineffectiveness in relating greater to life experiences. Similarly in case of chemistry portion when compared to the biology portion.

From the response of statement 3, it is found that 72% of the students believed that knowledge of the science subject is useful to them and 28% of the students do not believe

that science subject is very much useful to them. This may be because these students would have found the teachers' delivered part unrelatable to any interesting part of their life experiences or unrelatable to their any current works in their life

From the response of statement 4, it is found that 63% of the students who complete their homework regularly and 28% of the students do not complete their homework regularly. This may be because these students would have found the teachers' delivered part unrelatable to any interesting part of their life experiences.

From the response of statement 5, it is found that 49% of the students have a personal routine for study and 51% of the students do not have a personal routine for study. This may be because these students would have found the teachers' delivered part unrelatable to any interesting part of their life experiences that would have supplemented in learning.

Table 4.1 (b) Showing students' average percentage of scores in class IX.

6. What is the average percentage of scores you have in the class IX			
	Less than 60%	60 - 80%	Above 80%
Percentage	3%	39%	58%

From the response of question number 6, it is found that 58% of the students have the average percentage of scores above 80% and 42% of the students have the average percentage of scores below 80% in class IX. This may be because these students would have found the teachers' delivered part unrelatable to any interesting part of their life experiences and hence less interest that leads to low performances.

Objective 2: To identify the most difficult areas for the student in the science subject of class IX standard.

Table 4.2(a) Showing students' response on whether the science subject is easy to understand during the classroom teaching.

1. The science subject is easy to understand during the classroom teaching.					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Percentage	8%	21%	20%	38%	13%

Explanation

It is found that 51% of the students clearly consider that science subject is easy to understand during classroom teaching and 49% of the students do not consider science subjects easy to understand during the classroom teaching. This may be because these students would have found the teachers' delivered part difficult to easily understand and unrelatable to any interesting part of their life experiences.

Table 4.2(b) Showing students' response on the identification of the most difficult chapter in the chemistry portion of science subject of class IX.

2. Which is comparatively the most difficult chapter in chemistry portion?				
	Chapter 1 Matter in our surroundings	Chapter 2 Is matter around us pure?	Chapter 3 Atoms and Molecules	Chapter 4 Structure of the Atom
Percentage	3%	8%	31%	58%

Explanation

It is found that 58% of the students clearly stated that "Structure of the atom" is comparatively the most difficult chapter in the chemistry portion. Whereas 31%, 8% and 3% of the students stated that "Atoms and Molecules, Is Matter around us and Matter in our surrounding" respectively are comparatively the most difficult chapter in the chemistry portion. This may be because the students who consider "Structure of the atom" is the most difficult chapter would have found the teachers' delivered part difficult to easily understand and unrelatable to any interesting part of their life experiences.

Table 4.2(c) Showing students response on the identification of the most difficult chapter in biology portion of science subject of class IX standard.

3. Which is comparatively the most difficult chapter in biology portion?			
	Chapter 5 The fundamental unit of life	Chapter 6 Tissues	Chapter 12 Improvement in food resources
Percentage	12%	79%	9%

Explanation

It is found that 79% of the students clearly stated that "Tissues" is comparatively the most difficult chapter in the biology portion. Whereas 12% and 9% of the students stated that "The Fundamental unit of life and Improvement in food Resources" respectively are comparatively the most difficult chapter in the biology portion. This may be because the students who consider "Tissue" is the most difficult chapter would have found the teachers' delivered part difficult to easily understand and unrelatable to any interesting part of their life experiences for that chapter.

Table 4.2(d) Showing students response on the identification of the most difficult chapter in physics portion of science subject of class IX standard.

4. Which is comparatively the most difficult chapter in physics portion?					
	Chapter 7 Motion	Chapter 8 Force and laws of Motion	Chapter 9 Gravitation	Chapter 10 Work and Energy	Chapter 11 Sound
Percentage	7%	12%	45%	24%	12%

Explanation

It is found that 45% of the students clearly stated that "Gravitation" is comparatively the most difficult chapter in the physics portion. Whereas 24%, 12%, 12% and 7% of the students stated that "Work and Energy, Sound, Force & Laws of Motion and Motion" respectively are comparatively the most difficult chapter in the physics portion. This may be because the students who consider "Gravitation" is the most difficult chapter would have found the teachers' delivered part difficult to easily understand and unrelatable to any interesting part of their life experiences for that chapter.

Table 4.2(e) Showing students response on the identification of the most difficult portion in the science subject of class IX standard.

5. Which portion in science subject is comparatively difficult to understand.			
	Physics portion	Chemistry portion	Biology portion
Percentage	54%	33%	13%

Explanation

It is found that 54% of the students clearly stated that "Physics" is comparatively the most difficult portion in the science subject. Whereas 33% and 13% of the students stated that "Chemistry and Biology" respectively are comparatively the most difficult portion in the science subject. This may be because the students who consider "Physics" is the most difficult portion in science would have found the teachers' delivered part difficult to easily understand and unrelatable to any interesting part of their life experiences for that chapter.

Students' Response on the possible reasons for finding those chapters' difficult

According to students the reason because of which they felt those chapters or portions most difficult are due to Incompetent teachers, Poor teaching strategy and skills, Dominantly lecture method based teaching, Impatient teacher, Poor explanation given, Poor way of concept visualisation and abstract concept given, Poor introduction of new concept, No smooth transition to a difficult or new concept, Insufficient time given for developing understanding in depth, Unclarity in prior knowledge, Lacking understanding and depth, Unable to connect with daily life and understand practical examples with interest,

Understandable day to day life examples, Unrelatable and not able to relate mathematical portions in science real life, Unable to imagine the concept, Memorisation load, encouragement to rote learning and hard to remember, Lesser problem solving portion, Difficult diagrams, formula, numerical questions, chapter wordings, Sudden increase in difficulty and detailing level as compared to previous class, Poor teaching learning materials used, Uninteresting, Unenjoyment in learning, Lesser practice time given and Lesser concentration.

Objective 3: To identify the issues related to the teaching process used for those difficult chapters of class IX standard.

Table 4.3 Showing students response on the identification of the issues related to the teaching process used for those difficult chapters of class IX standard.
Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5

S. No.	Statement	Chapter	1	2	3	4	5
1.	The teacher introduced open ended questions and promoted open ended discussion connecting my previous knowledge with the present learning experiences of those chapters.	Physics chapter	9%	27%	22%	32%	10%
		Chemistry chapter	12%	25%	22%	32%	9%
		Biology chapter	10%	22%	20%	31%	17%
2.	The open ended questions and discussion generated interest and curiosity to learn those chapters further.	Physics chapter	8%	18%	25%	33%	16%
		Chemistry chapter	16%	13%	21%	36%	14%
		Biology chapter	12%	17%	18%	33%	20%
3.	The teacher gave examples from my life experiences related to those chapters before starting to teach them.	Physics chapter	8%	21%	22%	32%	17%
		Chemistry chapter	16%	14%	23%	32%	15%
		Biology chapter	11%	15%	18%	41%	15%
4.	The given example generated interest and curiosity to learn those chapters.	Physics chapter	7%	20%	20%	33%	20%
		Chemistry chapter	15%	14%	22%	35%	14%

		Biology chapter	10%	19%	13%	40%	18%
5.	The teacher helped to recall the previous knowledge related to those chapters.	Physics chapter	4%	21%	20%	37%	18%
		Chemistry chapter	14%	15%	17%	38%	16%
		Biology chapter	10%	15%	14%	42%	19%
6.	I like the teacher's way of introducing and engaging us with the chapter overall.	Physics chapter	5%	23%	22%	29%	21%
		Chemistry chapter	18%	14%	18%	31%	19%
		Biology chapter	13%	15%	16%	36%	20%
7.	The teacher facilitated discussion cum investigation of other real life examples and experiences related to the concepts of those chapters.	Physics chapter	4%	24%	26%	32%	14%
		Chemistry chapter	14%	20%	17%	37%	12%
		Biology chapter	13%	14%	22%	36%	15%
8.	The facilitated discussion cum investigation of other real life examples and experiences related to the concepts of those chapters generated further interest and curiosity to learn them.	Physics chapter	7%	20%	17%	43%	13%
		Chemistry chapter	13%	16%	18%	41%	12%
		Biology chapter	11%	14%	19%	41%	15%
9.	I liked the overall teacher's way used to explore the concept and it's related life experiences and examples related to those chapters.	Physics chapter	6%	23%	18%	36%	17%
		Chemistry chapter	17%	19%	16%	35%	13%
		Biology chapter	16%	15%	18%	35%	16%
10.	The teacher allowed me to share my understanding developed from the discussion cum investigation of other real life examples and experiences	Physics chapter	7%	25%	21%	32%	15%

	related to the concepts of those chapters.	Chemistry chapter	13%	21%	20%	37%	9%
		Biology chapter	11%	21%	19%	35%	14%
11.	The teacher facilitated further understanding by providing further information sequentially based on the understanding developed from the discussion cum investigation of other real life examples and experiences related to the concepts of those chapters.	Physics chapter	6%	28%	14%	39%	13%
		Chemistry chapter	13%	18%	16%	44%	9%
		Biology chapter	13%	13%	17%	44%	13%
12.	The teacher helped effectively to relate the newly learned concepts of those chapters with the previously learned concepts.	Physics chapter	5%	25%	16%	40%	14%
		Chemistry chapter	13%	17%	18%	36%	16%
		Biology chapter	16%	11%	15%	44%	14%
13.	The teacher used easy to understand language for explaining those chapters.	Physics chapter	4%	24%	21%	32%	19%
		Chemistry chapter	14%	13%	20%	33%	20%
		Biology chapter	15%	9%	16%	41%	19%
14.	The teacher explained all the newly introduced terms properly for those chapter?	Physics chapter	5%	27%	18%	28%	22%
		Chemistry chapter	15%	15%	15%	35%	20%
		Biology chapter	15%	10%	16%	37%	22%
15.	There were no gaps remaining in the explanation portion for those chapters.	Physics chapter	11%	25%	27%	22%	15%
		Chemistry chapter	13%	23%	24%	27%	13%
		Biology chapter	17%	18%	20%	28%	17%

16.	I liked the overall teacher's approach to explain the concepts related to those chapters.	Physics chapter	8%	19%	23%	34%	16%
		Chemistry chapter	11%	16%	24%	33%	16%
		Biology chapter	16%	8%	19%	41%	16%
17.	The teacher encouraged us to apply the learned concepts of those chapters in different real life contexts.	Physics chapter	8%	23%	17%	37%	15%
		Chemistry chapter	15%	15%	23%	32%	15%
		Biology chapter	17%	14%	15%	39%	15%
18.	I like the overall teacher's approach to elaborate the topics further and it's related life experiences and examples to solidify the understanding related to those chapters	Physics chapter	4%	24%	24%	36%	12%
		Chemistry chapter	12%	18%	23%	34%	13%
		Biology chapter	15%	17%	17%	35%	16%
19.	The teacher heard all the doubts from us related to those chapters and responded effectively.	Physics chapter	8%	21%	22%	31%	18%
		Chemistry chapter	14%	17%	16%	35%	18%
		Biology chapter	17%	11%	17%	38%	17%
20.	The teacher asked questions during and at the end of teaching those chapters to check, identify, clear misconceptions and enhance the understanding of students.	Physics chapter	4%	24%	19%	33%	20%
		Chemistry chapter	14%	13%	24%	31%	18%
		Biology chapter	12%	15%	19%	36%	18%
21.	The teacher identified the difficult areas related to the topics from those chapters.	Physics chapter	8%	25%	21%	32%	14%
		Chemistry chapter	12%	17%	24%	37%	10%

		Biology chapter	19%	12%	20%	35%	14%
22.	The teacher gave further emphasis, explanation and elaborated those difficult areas from the topics related to those chapters.	Physics chapter	10%	17%	23%	31%	19%
		Chemistry chapter	15%	17%	16%	38%	14%
		Biology chapter	16%	14%	21%	33%	16%
23.	I liked the overall teacher's approach to evaluate the student's understanding to enhance learning for concepts related to those chapters.	Physics chapter	5%	23%	27%	29%	16%
		Chemistry chapter	13%	19%	15%	42%	11%
		Biology chapter	18%	12%	17%	40%	13%
24.	I liked the overall teaching process used for teaching concepts from those chapters.	Physics chapter	8%	20%	20%	36%	16%
		Chemistry chapter	14%	17%	13%	42%	14%
		Biology chapter	18%	8%	16%	41%	17%

Explanation

From the response of statement 1, it is found that 42%, 41% and 48% of the students clearly agree that the teacher introduced open ended questions and promoted open ended discussion connecting their previous knowledge with the present learning experiences related to the most difficult physics, chemistry and biology chapters respectively. Whereas 58%, 59% and 52% of the students are either neutral or stated that the teacher did not introduce open ended questions and promoted open ended discussion connecting their previous knowledge with the present learning experiences related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 2, it is found that 49%, 50% and 53% of the students clearly agree that the open ended questions and discussion generated interest and curiosity to learn it related to the most difficult physics, chemistry and biology chapters respectively. Whereas 51%, 50% and 47% of the students are either neutral or stated that the open ended questions and discussion did not generate interest and curiosity to learn it related to the most difficult physics, chemistry and biology chapters respectively. This may be because these students would have found the delivered open ended questions and discussion unrelatable to any interesting part of their life experiences.

From the response of statement 3, it is found that 49%, 47% and 56% of the students clearly agree that the teacher gave examples from their life experiences related to the most difficult physics, chemistry and biology chapters respectively. Whereas 51%, 53% and 52% of the students are either neutral or stated that the teacher did not give examples from their life experiences related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 4, it is found that 53%, 49% and 58% of the students clearly agree that the given example generated interest and curiosity related to the most difficult physics, chemistry and biology chapters respectively. Whereas 47%, 51% and 42% of the students are either neutral or stated that the given example did not generate interest and curiosity related to the most difficult physics, chemistry and biology chapters respectively. This may be because these students would have found the delivered example unrelatable to any interesting part of their life experiences.

From the response of statement 5, it is found that 55%, 54% and 61% of the students clearly agree that the teacher helped to recall the previous knowledge related to the most difficult physics, chemistry and biology chapters respectively. Whereas 45%, 46% and 39% of the students are either neutral or stated that the teacher did not help to recall the previous knowledge related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 6, it is found that 50%, 50% and 56% of the students clearly like the teacher's way of introducing and engaging us with the most difficult physics, chemistry and biology chapters respectively. Whereas 50%, 50% and 44% of the students are either neutral or did not like the teacher's way of introducing and engaging them with the most difficult physics, chemistry and biology chapters respectively. This may be because these students would have found the delivered introductory and engaging part unrelatable to any interesting part of their life experiences.

From the response of statement 7, it is found that 46%, 49% and 51% of the students clearly agree that the teacher facilitated discussion cum investigation of other real life examples and experiences related to the most difficult physics, chemistry and biology chapters respectively. Whereas 54%, 51% and 49% of the students are either neutral or stated that the teacher did not facilitate discussion cum investigation of other real life examples and experiences related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 8, it is found that 56%, 53% and 56% of the students clearly agree that the facilitated discussion cum investigation of other real life examples and experiences related to the most difficult physics, chemistry and biology chapters respectively generated further interest and curiosity to learn them. Whereas 44%, 47% and 44% of the students are either neutral or stated that the facilitated discussion cum investigation of other real life examples and experiences related to the most difficult physics, chemistry and biology chapters respectively did not generate further interest and curiosity to learn them. This may be because these students would have found the delivered facilitated discussion cum investigation part unrelatable to any interesting part of their life experiences.

From the response of statement 9, it is found that 53%, 48% and 51% of the students clearly liked the overall teacher's way used to explore the concept and its related life experiences and examples related to the most difficult physics, chemistry and biology chapters respectively. Whereas 47%, 52% and 49% of the students are either neutral or they did not like the overall teacher's way used to explore the concept and its related life experiences and examples related to the most difficult physics, chemistry and biology chapters respectively. This may be because these students would have found the delivered exploration part unrelatable to any interesting part of their life experiences.

From the response of statement 10, it is found that 47%, 46% and 49% of the students clearly agree that the teacher allowed them to share their understanding developed from the discussion cum investigation of other real life examples and experiences related to the most difficult physics, chemistry and biology chapters respectively. Whereas 53%, 54% and 51% of the students are either neutral or stated that the teacher did not allow them to share their understanding developed from the discussion cum investigation of other real life examples and experiences related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 11, it is found that 52%, 53% and 57% of the students clearly agree that the teacher facilitated further understanding by providing further information sequentially based on the understanding developed from the discussion cum investigation of other real life examples and experiences related to the most difficult physics, chemistry and biology chapters respectively. Whereas 48%, 47% and 43% of the students are either neutral or stated that the teacher did not facilitate further understanding by providing further information sequentially based on the understanding developed from the discussion cum investigation of other real life examples and experiences related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 12, it is found that 54%, 52% and 58% of the students clearly agree that the teacher helped effectively to relate the newly learned concepts related to the most difficult physics, chemistry and biology chapters respectively with the previously learned concepts . Whereas 46%, 48% and 42% of the students are either neutral or stated that the teacher did not help effectively to relate the newly learned concepts related to the most difficult physics, chemistry and biology chapters respectively with the previously learned concepts. This may be because these students would have found the teachers' delivered part unrelatable to any interesting part of their life experiences.

From the response of statement 13, it is found that 51%, 53% and 60% of the students clearly agree that the teacher used easy to understand language for explaining the concepts related to the most difficult physics, chemistry and biology chapters respectively. Whereas 49%, 47% and 40% of the students are either neutral or stated that the teacher did not use easy to understand language for explaining the concepts related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 14, it is found that 50%, 55% and 59% of the students clearly agree that the teacher explained all the newly introduced terms properly related to the most difficult physics, chemistry and biology chapters respectively. Whereas 50%, 45% and

41% of the students are either neutral or stated that the teacher did not explain all the newly introduced terms properly related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 15, it is found that 37%, 39% and 45% of the students clearly agree that there were no gaps remaining in the explanation portion related to the most difficult physics, chemistry and biology chapters respectively. Whereas 63%, 61% and 55% of the students are either neutral or stated that there were gaps remaining in the explanation portion related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 16, it is found that 50%, 49% and 57% of the students clearly liked the overall teacher's approach to explain the concepts related to the most difficult physics, chemistry and biology chapters respectively. Whereas 50%, 51% and 43% of the students are either neutral or did not like the overall teacher's approach to explain the concepts related to the most difficult physics, chemistry and biology chapters respectively. This may be because these students would have found the teachers' delivered part unrelatable to any interesting part of their life experiences.

From the response of statement 17, it is found that 52%, 47% and 54% of the students clearly agree that the teacher encouraged them to apply the learned concepts related to the most difficult physics, chemistry and biology chapters respectively in different real life contexts. Whereas 48%, 53% and 46% of the students are either neutral or stated that the teacher did not encourage them to apply the learned concepts related to the most difficult physics, chemistry and biology chapters respectively in different real life contexts. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 18, it is found that 48%, 47% and 51% of the students clearly liked the overall teacher's approach to elaborate the topics further and its related life experiences and examples to solidify the understanding related to the most difficult physics, chemistry and biology chapters respectively. Whereas 52%, 53% and 49% of the students are either neutral or did not like the overall teacher's approach to elaborate the topics further and its related life experiences and examples to solidify the understanding related to the most difficult physics, chemistry and biology chapters respectively. This may be because these students would have found the teachers' delivered part unrelatable to any interesting part of their life experiences.

From the response of statement 19, it is found that 49%, 53% and 55% of the students clearly agree that the teacher heard all the doubts related to the most difficult physics, chemistry and biology chapters respectively and responded effectively. Whereas 51%, 47% and 45% of the students are either neutral or stated that the teacher did not hear all the doubts related to the most difficult physics, chemistry and biology chapters respectively and responded effectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 20, it is found that 53%, 49% and 54% of the students clearly agree that the teacher asked questions during and at the end of teaching related to the most difficult physics, chemistry and biology chapters respectively to check, identify, clear misconceptions and enhance the understanding of students.. Whereas 47%, 51% and 46% of

the students are either neutral or stated that the teacher did not ask questions during and at the end of teaching related to the most difficult physics, chemistry and biology chapters respectively to check, identify, clear misconceptions and enhance the understanding of students. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 21, it is found that 46%, 47% and 49% of the students clearly agree that the teacher identified the difficult areas related to the most difficult physics, chemistry and biology chapters respectively. Whereas 54%, 53% and 51% of the students are either neutral or stated that the teacher did not identify the difficult areas related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 22, it is found that 50%, 52% and 49% of the students clearly agree that the teacher gave further emphasis, explanation and elaborated those difficult areas from the topics related to the most difficult physics, chemistry and biology chapters respectively. Whereas 50%, 48% and 51% of the students are either neutral or stated that the teacher did not give further emphasis, explanation and elaborated those difficult areas from the topics related to the most difficult physics, chemistry and biology chapters respectively. So the teacher should incorporate the above discussed factors into their teaching approach.

From the response of statement 23, it is found that 45%, 53% and 53% of the students clearly liked the overall teacher's approach to evaluate the student's understanding to enhance learning for concepts related to the most difficult physics, chemistry and biology chapters respectively. Whereas 55%, 47% and 47% of the students are either neutral or did not like the overall teacher's approach to evaluate the student's understanding to enhance learning for concepts related to the most difficult physics, chemistry and biology chapters respectively. This may be because these students would have found the teachers' delivered part unrelatable to any interesting part of their life experiences.

From the response of statement 24, it is found that 52%, 56% and 58% of the students clearly liked the overall teaching process used for teaching concepts related to the most difficult physics, chemistry and biology chapters respectively. Whereas 48%, 44% and 42% of the students are either neutral or did not like the overall teaching process used for teaching concepts related to the most difficult physics, chemistry and biology chapters respectively. This may be because these students would have found the teachers' delivered part unrelatable to any interesting part of their life experiences.

Students' Response on the possible ways for making the teaching process more effective and interesting.

According to students the teaching process can be more effective and interesting by having teaching learning based on Interactive activity based, Real world connections, Integrating all the senses of the students in learning, Breaking down complex topics, Emphasising on curiosity development, Focus on engagement, Promoting self learning, No confinement to classroom learning, Animation based, Greater discussion time, Focus on effective communication, By creating positive learning environment and encouragement of everyone, Making sure the concepts are experienced in a way by the teacher, By listening more to students and their problems, Fun based learning and addressing the issues and

reasons for difficulty in learning the most difficult chapters or portions mentioned in the second objective above.