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Perception of students about Quality teaching for the Subject of Biology at Secondary School Level

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Abstract
This study was conducted to find perception of students about quality teaching and learning of students in the subject of biology at secondary school level. The objectives of study were: (i) to find the medium of instruction, (ii) to explore different aspects of quality of teaching to the students. There were six groups of participant students of Biology selected through purposive sampling technique from secondary schools of district Rawalpindi. The research was qualitative in nature. In-depth interviews were used as a data collection tool. For analyzing the data thematic analysis was used. Conclusion and recommendations were drawn on the basis of common aspects and theme. The research was beneficial for biology teachers to improve the quality of teaching for motivating students learning. It was concluded that teachers used English, Urdu and Punjabi as a medium of instruction. Students learnt Biology in the class by understanding concepts from teacher through taking notes, in group discussion, elaboration of concept in native language and by focusing diagrams in the text book. All the students perceived that their teachers linked Biology lessons with other subjects like Biophysics, Biochemistry and Bio-economics etc. Students mostly liked practical work, diagrams making and solving exercise questions during the class. Students proposed that teachers can improve the lesson by explanation of concepts with diagrams, models and daily life examples. The study will be significant for teachers to improve the teaching of Biology. In this way the academic performance of the students will also increase.

Keywords: Elements of teaching, connectedness, Background knowledge, knowledge integration, world beyond classroom, representative participation, medium of instruction, knowledge sharing, assessment, weak students, performance improvement, concept observation.

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Introduction

Education is the most effective means of enlightening individuals and society. A quality education provides individuals with the skills to comprehend and apply information in daily life. Quality education comprises of various elements such as learning resources, technology, completed programs and modules, lecturing techniques, attachments, qualifications, extracurricular activities, performance awards, and feedback from both students and lecturers on the institution's management and education.

Problem of quality teaching and learning in Pakistan

In Pakistan, the most serious challenge facing education system today is how to improve the quality of teaching and learning that prepares the next generation with the qualities of a life-long learner, and to build up students' ability and self-assurance to function as independent learners in the new information world. In Pakistan, the efficiency and competency of teachers is a major problem. It stated that teaching is a specialized profession that requires an understanding of the philosophy of education, theories of learning, child psychology, teaching methodologies and evaluation techniques. But Pakistani teachers are seen as being not properly aware of these concepts, ideas and practices of teaching and learning, and not having developed a mastery over them" (Govt. of Pakistan, 1998 & Khawaja, 2002). Luke (1999) states that there are a pedagogical problem and lack of intellectual engagement.

Quality of Education and Related Problems regarding Quality Education

In the pursuit of quality education, one must overcome a myriad of obstacles that often seem insurmountable. Limited access to resources, socio-economic disparities, and cultural biases all stand as formidable barriers on the path towards academic excellence. However, it is in the face of these challenges that the true tenacity and resilience of individuals are revealed. The hunger for knowledge and
the desire to break free from the constraints of one's circumstances fuel the determination to overcome these obstacles. For it is in the face of adversity that the seeds of greatness are sown, and with each hurdle conquered, the value of education is reaffirmed. The pursuit of quality education is not merely an individual endeavour; it is a collective responsibility to ensure that every person, regardless of their background, has the opportunity to unleash their full potential. Quality in education is not uniformly defined, and there is disagreement on the best way to maintain and improve it at the university level (Bruçaj, 2014). Quality can be thought of in terms such as superiority, flawlessness, cost-effectiveness, or suitability. According to (Harvey, 2005), as mentioned in (Bruçaj, 2014). According to (Mukhopadhyay, 2020), the idea of educational quality encompasses several diverse facets. Some scholars have proposed the following definitions of quality: Quality is meeting and exceeding customer expectations; Quality is everyone's responsibility; Quality is an ongoing process of improvement. Quality is rewarded and acknowledged. Leadership, collaboration, metrics, and methodical problem resolution are the pillars of

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quality. According to multiple sources (Gibbs & Armsby, 2010; Lewis & Smith, 1994; Lopez Fernandez & Molina-Azorín, 2011) they all agreed upon the same statement.

According to the (Turnbull et al., 2010), education is described as the action or procedure of conveying or gaining specific knowledge or skills, especially for a specific occupation, while quality is 3 defined as the aspect of one's character that relates to its level of refinement or degree of superiority day lives to sustain themselves even after graduation.

Rationale of the Study

Pakistan is facing different educational problems which hinder in the way of quality education like lack of uniformity, education without direction, outdated curricula, lack of professional development of teachers, lack of quality teachers, alarming dropouts, system of examination, poor supervisory standards, lack of resources, political instability, policy implementation, low budgetary allocation for education and last but not the least is corruption. All these issues are point out in different studies like (Ali, Sultana, Shaheen, Thalho, & Ibrahim, 2022; Kaloi, Maitlo, Solangi, & Mughal, 2021; Noh, 2021; Rehman & Khan, 2011; Shahzad, 2019).

In the present study, the perception of six groups of biology students was explored about quality teaching and learning at secondary schools in Pakistan. There is currently little research for improving the quality of teaching and learning practices in Pakistan. Most studies give emphasis to the duration of the teacher training program and improvement of curriculum and instructional material, but no one appears to have addressed pedagogical practices and student motivation related to teachers' use of these in an individual class for enhancing student learning outcomes (Siddiqui, 1997; Khawaja, 2002).

The objective of the study was to explore the perception of students about quality teaching for the subject of Biology at secondary level.

Procedure of the Study

Qualitative Research Design

The goal of qualitative observations, focus groups, interviews, documents or artifact analysis, and other approaches are commonly used in qualitative research designs to collect data. Researchers can get comprehensive, descriptive data regarding the view points, experiences and settings of participants using these techniques (Jain, Farzans & Lee, 2023). The present study was qualitative in nature.

Population

The term population to the complete collection of peoples, things, or events that a researcher interested in studying. A collection of individuals belonging to the same species that exist and breed in a certain area is called a population. A populations members frequently share resources and experience comparable conditions. Environmental restrictions rely on the availability of other participants to endure over time (Banker & Manning, 2023). The population of the study included all students studying Biology at secondary level in the province of Punjab.

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Sampling Technique
In convenient sampling the researcher might choose participants because of their physical proximity, their availability at a given time or their willingness to participate (Simkes, 2022). Six groups Biology students of class 9th and 10th were chosen from three secondary schools through purposive sampling technique.

Research Instruments
A research instrument is a tool use to collect, measure and analyze data related to your research interests. These tools are most commonly used in health sciences, social sciences and education to assess patents client, students, teacher, staff etc. (Wibour & Hariadi, 2024). The interview is defined as the method of asking questions to gain both qualitative and quantitative data (Taheratoost, 2021). In this study a semi structure interview for students was developed.

Data Collection
In order to answer specific research questions, test hypothesis and assess results, data collection is the act of enquiring and analyzing information on variables of interests in an organized method logical way (Shukla, Mahuri, & Abraham, 2020). The data was collected through semi structure interview of the students.

Data Analysis
Applying statistical order and logical methods in a systematic manner to explain and display, summarize and assess, and rate data is known as data analysis (Shukla, Mahuri, & Abraham, 2020). The data was analyzed through thematic analysis.

Review of Literature
In this section, the literature was reviewed related to feature of quality teaching, pedagogy of quality teaching and learning, innovative science.

Features of Quality Teaching
Quality in teaching means “fitness for purpose” (Teaching Times Online News Service, 2004). It means selecting of the most appropriate methods of teaching for a particular quality teaching means creating and maintaining an effective learning purpose. Environment by the teacher within a framework provided by the school and the national education and curriculum polices (Teaching Times News, 2004). In an effective learning environment, the teacher performs those teaching practices, which leads to thorough and lasting acquisition of the knowledge, skills and values the students have to acquire (Felder and Brent, 1999). Summarizing the work of an international number of researchers the main features of quality teaching are considered as:

1. Drawing objectives of the lesson and achieving in lesson’ by focusing attention on these aims.
2. Flexibility in the lesson content that meet the needs of individual students.
3. Support of teacher to the students that they are treating individually, and direct helps ‘at risk’ students.
4. Creation of supportive learning environment in which complex learning activities extend and challenge their thinking in a broad range of

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capabilities. They work in group and take responsibilities for their own learning.

5. Designing lesson that encourage them to be actively involved in learning and help to develop understanding of concepts and ideas.
6. Assessing students' performance by engaging them in discussion, written assessments, group work and provide feedback with suggestions to improve their work.
7. Students engagement in experimental learning in which they are working on realistic problems and acquire wide range of capabilities like problem solving skills, acquisition, assimilation or creation of new knowledge and understanding personal development, goal setting and self-assessment (RMIT, 2002; Teaching Times News, 2004).

Features of Quality Learning and Motivational Aspects of Learning. Learning is a cognitive process of acquiring skills or knowledge (Bourke, Bulluss, Chamberlin, England, Mc Phec, 1994). Quality learning means active participation by students in learning by sharing ideas, asking questions, consulting references and resources of information and taking challenging tasks (Bourke et al., 1994). According to the Bourke et al. (1994), the major features of quality learning relate to purposeful learning activities with well-defined goals that are related directly to intended outcomes. Active involvement of students in planning and development of their own learning which directed them to their self-reliance and independence. Motivating students by creating learning environment that are cantered on challenging issues / problems / themes that have contemporary meaning and interest for students (Bourke et al., 1994). Bond (2002) states that quality learning encourages students to utilize knowledge and understanding acquired in the classroom in their real life, make valid and informed decisions and enhance their learning abilities in the involvement of activities like sharing ideas, understandings and opinions. Bond further states that the main feature of quality learning is an environment which incorporates the development of attitudes, values, essential skills and effective learning.

Costello (1996) states that to enhance students learning outcomes it is necessary that students take responsibility for their own learning in class and develop strategies for learning, collaboration and communication

Pedagogy of Quality Teaching and Learning

In this section different aspects like techniques/methods, cooperative learning, learning cycle and related researches.

Definition of Pedagogy

Pedagogy means the art and science of teaching, including teaching strategies that raise students' achievement, or the principles and methods of instruction (Harvey, 1970). Pedagogy refers to the interaction that occurs between students and teachers in teaching- arising Situations. It also includes theories about teaching, learning and environment that inform teaching practice (Chamberlain, 2001).

Innovative Science techniques/methods

The effect and influence of this perspective on learning led to the creation of

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innovative science teachings techniques like the learning cycle, cooperative learning, and concept mapping, which place a strong focus on students' active engagement in the learning process (Bennett, 2003;Trowbridge & Bybee, 1996a). All three teaching methods have the complementary goals of involving learners in the process of learning, encouraging critical thinking, and encouraging more real-world behaviours that are necessary for the advancement of science and technology. Wise and Okey (1983) stated that students, who are engaged, kept informed of educational goals, and given feedback about their progress towards certain goals are seen to be in a successful science classroom. Learners have the chance to actively connect with educational content and take part in a variety of exercises in a class wherein constructivism is integrated into both learning and instruction, According to this viewpoint. Learners should constantly participate in the learning process for effective learning to occur. Below is a discussion of the three constructivist-inspired teaching techniques.

Cooperative Learning

Cooperative learning is an educational technique in which students are organized into small groups to work together to optimize their own and others' learning. In particular, the cooperative learning method of education places students in small groups or pairs to assist one another in understanding the subject that has been taught (Borich, 2004a). Cooperative learning groups have continuous and intense student Interactions (Trowbridge & Bybee, 1996b; Trowbridge et al, 2000b).

Borich (2004b) and Trowbridge et al (2000c) outlined four fundamental components of cooperative learning frameworks. There must be individual accountability, face-to-face contact, and the utilization of interpersonal and small-group skills in small groups for there to be constructive interdependence. In contrast to self-directed inquiry, students increasingly assume responsibility for one another's learning in cooperative learning groups.

The fact that cooperative learning has been associated with an improvement in the academic accomplishment of students of all levels of ability seems to be another justification for its adoption as if all the other advantages weren't enough. Cooperative learning has a reputation for actively involving learners in the educational process and aims to enhance the learner's capacity for critical thought, reasoning, and abstract reasoning (Bramlett, 1994; Webb et al, 1995).

Cooperative learning has been proven to be beneficial in several areas, including assisting students in developing the fundamental cooperative values and attitudes they need to function freely both within and outside of the classroom (Borich 2004c: Johnson et al, 1990a; Trowbridge et al, 2000d; Trowbridge & Bybee, 1996c); Facilitating the transmission of pre-social behavior, supporting higher-order mental processes and enhancing idea understanding (Borich, 2004d: Johnson et al, 1990b). When well planned and carried out., cooperative learning brings people together in conditions similar to those seen in adulthood and can offer useful examples of social conduct (Steven & Slavin, 1995).

Learning Cycle

The leaning cycle is an attempted planning strategy for science education that is in line with modern learning theories (Walbert, 2003). Any approach of

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systematic investigation that enables learners to construct their knowledge of a scientific topic, investigate and enhance that understanding, and afterward transfer the notion to novel contexts is referred to as the "learning cycle" in general. It aids in providing possibilities for scientific education (Lorsbach & Tobin, 1997). The three-phase model, four-phase model and five-phase model are some of the most well-known models of the learning cycle.

Related Researches

Butt (2005) study focused on productive Pedagogy – Minhaj, Mohammad and Fadigil research addressed use of reciprocal teaching to enhance academic achievement. Ahmed, Tayyab and Ismail (2020) study investigated classroom environment for improving student learning. Hafeez (2021) in his experimental study checked impact of teacher training on interest and academic achievement of student in computer science. Naz (2023) in her phonological study explore science teachers liked experiences of teaching. All these studies have their own dimension regarding nature, type, subject and level. These studies did not addressed the perception of students. That was why the researches selected the problem of this study titled "Perception of the students about quality teaching for the subject of Biology at Secondary School level".

Methodology

In this section the procedure of the study, analysis and interpretation of data and thematic analysis of the study has been addressed.

Procedure of the study

Six groups of Biology students were selected through purposive sampling technique from three secondary schools of District Rawalpindi Pakistan. The research was started in the month of April when the academic years begin. Necessary permission for conducting research was gained from heads of institutions and the class teachers. Six groups of Biology students studying 9th and 10th classes were formed with the help of class teacher to engraver. For knowing the perception of students about quality teaching and learning a semi structure interview was used. The research was completed in four weeks. In the first week the relationship was developed among students and teachers. In 2nd week of the interview was started. In the 3rd and 4th week interviews were completed from all the groups. Each school had two groups. Finally the collected data was analyzed through thematic analysis.

Analysis and Interpretation of Data

Analysis of Semi Structured Group Interview of Students

Student Group-A

1. The students learned the subject of biology in the classroom by understanding concepts from teachers and taking notes.
2. They mostly performed experiments in biology period.
3. They learned the subject in English language.
4. The teacher used English language to explain the contents of the lesson.
5. The students shared their views in class by group discussions.

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6. If the students feel difficulty to understand the lesson, they ask their teacher for further explanation of the topic.
7. They said that biology lesson was linked with many other subjects like biophysics, biochemistry, bio economics etc.
8. According to the students the teacher explained the lesson with the help of diagrams which the students explained the next day.
9. After the completion of lesson, the students solved the exercises by themselves with the help of concepts they understood during the lesson.
10. The class monitor regulated the discipline in class by making sure students followed the rules in class.
11. If the students talked in the class, the teacher punished them.
12. The students interacted with the teacher by keeping their complete focus and attention on the lesson.
13. The concepts of students were assessed by the teacher in the form of worksheets.
14. The students mostly liked practical work during period because it was more interesting.
15. The academically weak students took more time to understand the concepts.
16. The teacher presented the lesson in the class by giving clear concepts about the lesson.
17. Students liked studying botany more because they found it more interesting.
18. Teacher can improve the lesson by presenting diagrams with detailed explanation

Student Group B

1 in group discussion and next day test
2 Teacher ask to draw diagram to clear the concept e.g. nervous system.
3 In English, Punjab and urdu
4 Reading in English, difficult words in urdu and the detail
5 Teacher Question, textbook reading then discussion
6 Discuss the difficult concepts with teacher.
7 Link with biochemistry metapolton copohydrate protein fats Biochemistry, Biophysics topic can be related e.g. stonic reaction and matapolism and liver with joint like machine movement.
8 Diagram in assignment in class. Taught topic in own words and make diagram.
9 Teacher give assignment of short question if the time is short we attempt at home
11 Teacher said them to focus on their lesson and give advices to them.
12 First we raise hands and then ask difficulty about the lesson
13 At the end of lesson ask
14 Diagram making
15 Through pear learning they participate in the class and sometime ask questions to their teacher
16 At the white board detail of the topic and diagram of the topic. Those concept which are not experienced through diagram teacher verbally

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explain it.
17 Plants and disease and joint topic are liked most.
18 Through performing experiments the lesson can be improved eye model, brain finding about.

Student Group C

1 After teaching concept, then started reading and then in native language detail so that the concept can be elaborated.
2 Concept clearance write note which you have learnt and then draw diagram.
3 In English, Punjab and urdu
4 Basic in urdu and detail in English
5 If the concept is not cleared use discussion. Teacher help to remove the difficulty.
6 Discuss the difficult concepts with teacher.
7 Link with biochemistry metapolism carbohydrate, protein, fats, Biochemistry and Biophysics topic can be related e.g. stonic reaction and matapolism and liver with joint like machine movement.
8 Short questions as assignment in class.
9 Teacher give exercise for home work then next day teacher check it and remove the deficiency in the answers.
10 If the teacher is present then teacher control it sometime the teacher give task.
11 Teacher says to students to focus on their lesson and give advises to students.
12 First we raise hands and then ask difficulty about the lesson
13 Some questions to assess
14 Solving exercise questions
15 Through pear learning they participate in the class and sometime ask questions to their teacher
16 At the white board detail of the topic and diagram of the topic. Those concept which are not experienced through diagram teacher verbally explain it.
17 Nutrition and digestive system are liked most.
18 If we are reading plants then show models regarding plants so that in practical life these can be used.

Student Group D

1 in group discussion and next day test
2 Teacher ask to draw diagram to clear the concept e.g. nervous system.
3 In English, Punjab and urdu
4 Reading in English, difficult words in urdu and the detail
5 Teacher Question, textbook reading then discussion
6 Discuss the difficult concepts with teacher.
7 Link with biochemistry metabolism corbohydrate protein fats Biochemistry, Biophysics topic can be related e.g. stonic reaction and matabolism and liver with joint like machine movement.
8 Diagram and assignment in class. Taught topic in own words and make

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diagram.

9 Teacher give assignment of short question if the time is short we attempt at home

10 If the teacher is not present in the class then monitor control. The monitor note the names of problematic students when teacher came back he advised the students.

11 Teacher said them to focus on their lesson and give advices to them.

12 First we raise hands and then ask difficulty about the lesson

13 At the end of lesson questioning

14 Diagram making

15 Through pear learning they participate in the class and sometime ask questions to their teacher

16 At the white board detail of the topic and diagram of the topic. Those concept which are not explained through diagram teacher verbally explain it.

17 Plants and disease and joint topic are liked most.

18 Through performing experiments the lesson can be improved through model.

Student Group-E

1. The students learned the subject by student-teacher discussions.
2. The students commonly performed classroom activities.
3. The students learned the subject in both English and Urdu language.
4. Mostly, the contents of the lessons were explained in urdu.
5. The students shared their views in class by discussing their concepts with teacher and students.
6. If the students feel difficulty to understand a topic, they go to the teacher and discuss their problems .
7. The biology is linked with all subjects in one way or another.
8. The teacher assigned the students to make conceptual questions from every day's lecture.
9. The students try to attempts their exercise questions by themselves and ask the teacher if they don't understand something.
10. The teacher regulated discipline in class by making strict rules and boundaries everyone needed to follow.
11. The teacher gave the students engaging tasks when they started talking.
12. The students interacted with teacher whenever they didn't understand something from the lesson.
13. The teacher assessed the performance of students by asking them conceptual questions about the lesson.
14. The students mostly liked making diagrams during the period.
15. The academically weak students participated in the class by taking help of good students as well as teachers.
16. The biology lesson was presented in the class in the form of elaborate lecture.
17. The students mostly liked studying about plants because they liked it.
18. The teacher can improve her lesson by making sure that all students are completely engaged in the lesson.

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Student Group-F

1. The students learned the subject by focusing on diagrams as well as text given in textbook.
2. Practical activities as well as textbook reading is practiced during the lesson.
3. English and Urdu both languages are mostly used by students to learn the lesson.
4. The contents of the lesson are explained both in English and Urdu so that students can understand well.
5. The students shared their views in class by making assignments.
6. If the students find the lesson difficult to understand, they ask the teacher to explain in an easier and comprehensive way.
7. The lesson is connected to almost all the subjects in some way. For example, while studying metabolism the students study biology as well as chemistry.
8. The teacher gave assignments depending upon the topic and asked students to answer according to their understanding.
9. The students mostly attempted the exercise questions by themselves and asked for the teacher's help when needed.
10. If the students talk in class, the teacher should engage the students in the lecture by using example from each student's life.
11. The teacher-student interactions in the classroom are both professional and friendly so that the student is comfortable in learning.
12. The students are generally assessed with the help of assignments, quizzes and other graded course activities.
13. The students mostly like practical activities during the lesson.
14. Academically weak students are given special attention both by teachers and other students so that they can understand the lesson
15. The lesson is mostly presented on whiteboard in the form of a thorough lecture.
16. The students like performing experiments because it's more interesting.
17. The teacher can improve the lesson by incorporating daily life experiences of students in the lesson.

Thematic Analysis Students' Interview

Group-A: students learnt Biology in the class by understanding concepts from teachers and taking notes, Group B,D&E students learnt biology through group discussion and next day test group C students learnt it after reading and detailed discussion in native language while G.& F group of students understood the concepts by focusing diagrams as well as tests given in the text book. Group A students performed mostly experiment in the Biology period, Group B &D students draw diagram to clarify the concept, Group-E students performed classroom activities while Group F students performed reading of the text book. All the groups of students learnt Biology in English, Urdu and Punjabi languages except the group A students who learnt it through English language. Teachers of the Group A used English language to explain the content of lesson while teachers of Groups B,C,D,E&F explained and read the content in both English as

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well as Urdu and Punjabi languages. Group A,B,C,D F students shared their views in the class through group discussion while Group F students shared their views by making assignment. In case of feeling difficulty to understand the lesson all the groups students asked their teachers for further explanation, telling about making the link of Biology with other subjects. Group A students perceived that their teacher linked it with Biophysics, Biochemistry, Bio-economics etc. Group B&D students perceived that their teachers linked it with Biochemistry concepts like metapolism, carbohydrates, protein, fats and Biophysics topic could be related to stonic reaction, metabolism and liver with joint like machine movement.

Group E&F students said that it could be linked with one way or another way e.g. while studying metabolism the students used this concept both in Biology and Chemistry. The group A,B&D students said that their teachers gave them exercises or assignment of the types related to diagrams, Group B students were given exercises related to short questions, Group E&F students were given exercises related to conceptual questions. Group A,D& F students after completing Biology lesson attempted their exercise questions with their own understanding, Group B,C students attempted short questions in the class and long question at home and next day teachers removed the deficiency students of Group E first attempted the questions themselves and then guided by the teachers about understandable questions. Answering the questions about regulating the discipline in the class Group A,B&D students told that the class monitor regulated discipline under prescribed rules, while Group F&E students told that teacher maintained the discipline in the class with the help of assigning some tasks. Group A students told that teacher punished the student while talking in class, Teachers of Group B&D advised the student to focus on their lesson. Students of Group A interacted with teacher through complete focus and attention in the lesson, Group B&C students interacted with teachers by raising hands to ask difficulty about the lesson while Group B students interacted friendly with teacher. Group A,D&F students told that their teacher assessed their performance in the forms of worksheets, Group B,C&E teachers asked it through asking questions at the end of lesson. According to the students of Group A&F they liked practical work during the period, Group B,D&E liked diagram making, Group G students liked solving the questions. According to Group A student took more time to understand the topic, Group, B&C participated through peer learning and asked questions to their teachers, Group E&F participated through elaboration in lecture. Students took help of meritorious students. Group A students told that history of detail of the lesson was presented through clarity in the concepts, Group B&C students through diagram at while board, Group D students by asking questions, Group E&F through elaboration in lectures students of Group A liked Botany part of the biology, students of Group B, liked nutrition and digestive system, Group D liked disease and joint topics, Group E students liked topics about plant while Group E liked practical performance. Students of Group A suggest that teachers can improve the lesson by presenting diagrams with detailed explanation. Group B&D students suggest that through experiments students learning can be improved. Group C student suggest that their learning can be improved if teacher use model e.g. while reading about plants teacher may show plants so that students learn its use in

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practical life. Group E students suggest that teachers can improve their learning by answering complete engagement in the lesson. Group E students suggest that teacher can improve the lesson by incorporating daily life experiences of the students in the lesson.

Conclusions

Students learnt Biology in the classroom by understanding concept from teachers through taking notes (Group A students), in group discussion next day test (Group B students) by elaborating concept in native language (Group F students) and by focusing diagram in text book. Students cleared the concept through experiment (Group A students) diagram (Group B&D students), classroom activities (Group E students) and reading test book (Group F student). Teachers used English language (Group A students) and Punjabi and Urdu language (Group B,C,D,E,F students). The students shared their views in the class by group discussion (Group C,D&E students) and by making assignments (Group F students). In case the students found difficulty to understand the lesson they asked their teachers to explain the topic further (Group A students) and they discussed it with their teachers (Group B,C,D,E&F students). All the students held that their teachers linked Biology lesson with other subjects like Biophysics, Biochemistry, Bio-economic to study metabolism in Biology as well as chemistry. Students perceived that their teachers explained the lesson with the help of diagram (Group A&B students), short questions, assignments (Group C&D students) and conceptual questions (Group E students). After completion of the lesson the students solved the exercises by themselves and the students solved the exercises by themselves with the help of concepts understanding during the class (Group B students), home class assignment of short questions (Group A students) diagram made by teachers (Group D students), conceptual questions by teacher (Group E students). The discipline in the class was regulated through monitor (Group A&D students), set rules (Group A students), tender (Group C&D students) though presentation, support and restoration. The teachers maintained discipline in the class through punishment (Group A students), focusing on lesson (Group B&C students) and engaging in tasks (Group E students). Teachers assessed the concepts of the subject through work sheets (Group A students), questioning (Group B,C,D students) and assignment question and the graded activities (Group E&F students). The students interested with teachers through complete focus on the lesson (Group A students) raising hands on difficult questions (Group C,D,E&F students) and through friendly interaction (Group B students).

Students mostly liked practical work (Group A students) diagrams making (Group B,D,E&F students) and solving exercise questions (Group C students) during the class. The academically weak students took more time to understand the concept (Group A students), peer learning and worksheets (Group B,C,E students). The teacher presented the lesson in the class by giving clear concept about the lesson in the class by giving clear concept about the lesson (Group A students), using white board for explaining the concept through diagrams (Group B students) asking questions for peer learning (Group C,D students) and elaborating in lecture (Group E,F students). Students liked, plan (Group E

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students) disease and joint (Group B students) nutrition, digestive system (Group C students) and experiment purposing (Group F students) Students proposes that teacher can improve the lesson by explaining with diagram (Group A students) medals (Group B,C students), ongoing the students (Group E students) and incorporating daily life examples (Group F students).

Recommendations

The study revealed that Group-A teacher punished the students for maintaining the discipline in the class. It is therefore, recommended that teachers should use praise or reward to motivate the students to improve their learning like other teacher, Group-A teacher may maintain discipline in the class by focusing on his lesson and by giving classroom activities. The teacher may advise the students if they break the discipline in the class.

The result showed that teacher of Group-A students use only English as a medium of instruction for teaching Biology. It is therefore recommended that teacher may use Urdu or Punjab language for better learning and understanding because national language and mother tongues can be helpful to clear concept of Biology in better way because all the students are not completely master in English language.

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