Investigation of Effective Teaching Methodologies & Student Learning Outcomes at BS Level

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Abstract: Teaching has always been a fundamental part of education, addressing essential questions like how, when, and with what impact to teach. The present exploratory single case study focuses on Government Postgraduate College Nowshera (GPGC NSR) to investigate the effectiveness of various teaching methodologies used at the BS (Bachelor of Studies) level in achieving Student Learning Outcomes (SLOs). The study examines students' perceptions of these teaching methodologies and explores factors that influence their effectiveness. A sample of 10 respondents was selected through purposive sampling technique. Primary data was collected through semi-structured interviews and secondary data from the college's official records. Using thematic analysis, the data was transcribed, categorized, and summarized to identify key findings. The findings reveal a close relationship between teaching methodologies and SLO attainment, with effective methods positively impacting skills such as critical thinking, problem-solving, decision- making etc. The study also highlights challenges in implementing teaching methodologies, including resource limitations, inadequate teacher training, financial constraints, and language barriers. Recommendations include the use of multiple teaching methodologies, conducting orientation sessions for new students, and devising a proper mechanism for assessing student performance throughout the semester.

Keywords: Investigation, Effective, Teaching methodologies, SLOs, BS Program, Education, Learning

1. Introduction

Teaching is one of the indispensable components of the teaching learning process in the whole educational process since the ancient times. In this regard teacher's pedagogical or methodological knowledge is of immense importance. Education means a modification in the life style of a person. It means enhancing a person's ability to choose the best alternative available in any given situation. Education plays a significant role in the development of any nation; because the socioeconomic development of any country is dependent on quality education. Through education the knowledge and skills are transmitted to the individuals. It also molds the individual's personality. Education should be a mean of empowering all individuals to actively participate in the transformation of societies (Idris et al, 2012).

Jalbani (2014) explored different elements on which the quality of education is dependent i-e teaching methodologies and student learning outcomes (SLOs) and their integration. These elements have a remarkable influence on the efficiency of the education system. Therefore, it is important to understand the relationship between different teaching methods and student learning outcomes (SLOs). The teacher's role is very significant in the process of teaching a specific curriculum. It is up to teachers to plan for it and use effective methodologies and strategies to achieve the predetermined objective and student learning outcomes (SLOs) within a particular period

or duration. Teachers must be dedicated to their job and have passion for teaching, learning and also understands the demands and interests of their students. To meet the dynamic global needs and demands, the teachers must possess technical and practical knowledge.

Teaching and learning process consists of the transferring of knowledge from educators to learners. It revolves around various elements e.g., effective teaching and learning strategies, curriculum, appropriate learning environment, student engagement, evaluation and use of Information Technology to enhance the learning and maximize the students learning outcomes (Munna & Kalam, 2021). Learning is referred as permanent change in student's nature and behavior due to interaction with educator. The teacher modifies student's behavior and brought change in his/her nature through various techniques (Sequeria, 2012).

Teaching methods are the instructional approaches that are used by the educators for delivery of content and knowledge to the students, in order to achieve the desire objectives and students learning outcomes (SLOs) with the help of contents (Farooqi et al., 2020).

Teaching strategies can be divided into two main categories:
   i. Teacher or Educator -Centered (This method is also known as direct instruction)
   ii. Learner or Student-Centered (This method is also known as indirect method of learning)

An effective and good instructor can be defined as the one who are aware of the modern innovative teaching strategies and can mold himself according to the needs of the modern changing world. To obtain a specific lesson's objectives and their students learning outcomes (SLOs) for a specific group of students, a teacher uses single effective teaching method or a combination of various teaching methods (Method of Teaching HEC Course Guide, 2012).

For improving and enhancing students learning outcomes (SLOs), teacher knowledge, expertise, and professionalism is very important according to OECD. With the help of successful achievement of students learning outcomes (SLOs), we can gauge the overall learning success. Learning outcomes indicates the achievement of students. Whether or not a student achieves high or low learning outcomes depends on many factors that influence them. Factors that affect student's learning outcomes (SLOs) include the way teachers (lecturers) teach and the way students learn. Teachers who are progressive in nature and don't hesitate in taking risks to adopt new teaching approaches help their students in improving learning activities and motivation. For students to learn well, teaching methods must be relevant, effective and efficient (Megawati, 2022).

1.1 Statement of the Problem
Teaching methodologies significantly influence the quality of education, particularly in terms of student learning outcomes. Despite this, there is limited research conducted on effective teaching methods and their impact on student learning outcomes within the Pakistani context, especially at the BS level in public sector colleges. Although the BS program is designed to provide a solid foundation for higher education, teachers often prioritize academic performance over student learning outcomes. As a result, students miss opportunities to develop essential soft skills. This gap highlights the need for research into investigating effective teaching methods and their role in achieving SLOs at the BS level.

1.2 Objectives of the Study
   i. To investigate different teaching methods used at the BS level to achieve the student learning outcomes (SLOs).
   ii. To check the students' perceptions regarding different teaching methods at the BS level.
   iii. To explore different factors interconnected with the effectiveness of different teaching methodologies & their role in the attainment or failure of students learning outcomes (SLOs) at the BS level.

1.3 Research Questions
   i. How do teachers' chosen teaching methodologies influence student learning outcomes (SLOs) at the BS level?
   ii. To what extent do different teaching methodologies impact student learning outcomes (SLOs)?
   iii. What are the students and teachers' views about the relationship between teaching methodologies and students learning outcomes (SLOs)?

1.4 Limitations and Delimitations

Due to time and financial constraints this research study was delimited to BS Political Science Department of the GPGC NSR. Therefore, the study focused exclusively on one department over a single semester. Consequently, the findings of the study may not be broadly applicable to the other departments of the college or other educational institutes. Despite the researcher's efforts to maintain data reliability and validity, the subjective nature of qualitative research may influence the robustness of the study's conclusions. Hence, there is a need of more extensive studies in other departments of Public Sector Colleges, Universities and Higher Education Institutions.

2. Literature Review

In a traditional classroom, the teacher plays the role of an instructor, solely delivering knowledge to the passive learners and expecting that the learners accept the provided information blindly without interrogating any questions and utilizing critical and analytical skills (Stofflet, 1999). Although activities are done in activity-based subjects, however they are often done in group form without encouraging discussions and exploring new concepts (Yore, 2001). The teacher-centered approaches don't consider the diverse backgrounds and understanding level of the learners. This approach assumes that all learners have the capability to absorb the provided information at the same pace (Lord, 1999). On the other hand, constructivist classroom is a student-centered approach, where students pose questions and work collaboratively in small groups to discover knowledge and find out solutions. Students actively contribute to the teaching learning process and through experiences reach out to the conclusions. These both approaches have their own benefits and drawbacks; however, it is notice that the students of constructivist classrooms are more enthusiastic and take keen interest in their studies. It is an effective and productive approach for enhancing and achieving the learning outcomes of the learners (Zoller, 2000). Therefore, Constructivism Learning Theory is used as theoretical framework in this study to investigate the relationship between effective teaching methodologies and student learning outcomes through the lens of constructivism.

2.1 Constructivism Learning Theory

The constructivism learning theory is foundationally based on the active engagement of learners in the learning process with emphasize that knowledge is creative in nature and individuals create knowledge through experiences. Every individual contemplates his own experiences, and for effective comprehension, incorporate new knowledge with the already existing knowledge and information. Learners organize the learned concepts in a specific framework or schemas for better understanding and memorization. The Dewey, Piget, Vygotsky, Gagne, and Bruner' learning theories strongly established this strategy. Educators need to understand this crucial theory to know the learning style and approaches of their students. The foundational doctrine of the constructivism theory is that the learners actively participate in the construction of knowledge. Learners do experiences and add their new knowledge and experiences to the current knowledge base. According to Woolfolk (1998), Learning incorporates intellectual exertion, and not just the acquisition of passive directions. It is significant for teachers to grasp the constructivism learning theory in order to enhance the teaching-learning process. A classroom is a space, where diverse learners are present and each of them has their own unique perception, based on their life experiences and backgrounds. This diversity and changes in perspectives significantly impact their learning process. The constructivism learning theory states, that the learners build new knowledge upon their current comprehension. Therefore, the early stages of any individual are crucial for building new knowledge. Learning theories play a significant role in improving and enhancing the teaching-learning process. For educators, it is as important as their academic qualifications. Therefore, educators need to comprehend these learning theories and gain mastery over them, because it helps them in understanding the factors that influence students' learning and subsequently their learning outcomes.

2.2 Teaching Method

Al-Rawi (2013) suggested that teaching method is a process that is employed by the educator in order to organize and apply various instructional resources and activities to accomplish the desired learning outcomes.

2.3 Effective Teaching Strategies

Effective teaching strategies are the approaches that describe the successful accomplishment of the learning outcomes as well as the capabilities of the educators. Competent teachers always seek new strategies to deliver their knowledge and often find the traditional methods ineffective in this modern technological era. Effective teaching emphasizes the need and interest of the learners, it is crucial to blend different teaching methods to deliver content

and ideas to the learners effectively (Bourner, 1997).

2.4 Teaching and Learning as Interdependent Phenomenon
Teaching and learning, both are interdependent on one another; hence the term "Teaching and Learning Method" is more acceptable than the "Teaching Method".

2.5 Measuring Criteria of Effective Teaching
The learners' amount and quality of learning form the measuring criteria of fruitful and effective teaching (Sajjad, 2011).

2.6 Assessing the Quality of Teaching Methodology
The aim of the learning process is the successful achievement of the desired learning outcomes. Before selecting any teaching methodology, the educators must consider different criteria of that particular teaching method. For example;
1. Up to what extent the selected teaching method is suitable for the allocated time period?
2. Will it give a fair chance of participation to the learners?
3. Is it applicable to the real-life situations?
4. Does it help out the students in self-improvement and development?
5. Is it promoting cooperative learning?
6. Does it provide a chance to the students for self-assessment?
7. Is it helpful in making students enthusiastic and responsive?
8. Is it flexible and deal with student's personal differences?
9. Does it correlate different topics?
10. Is it flexible enough to incorporate the use of technology?

2.7 Selection Criteria of Teaching Methods
It is significant for a teacher to know that all students learn in different way at different pace. In any particular subject, the students' level of understanding varies; therefore, it is significant that the teacher must consider the learner's diverse levels of understandings while selecting a particular teaching methodology and make sure the effective content delivery. The world is changing rapidly, so it is the need of the hour that the teachers adopt innovative teaching approaches to equip the learners with advance technology, communication skills and enhance the students learning outcomes (Al- Rawi, 2013).

2.8 Types of Teaching Methodologies
There are different types of teaching methodologies such as traditional teaching method, interactive teaching method, and constructivist teaching method. Following are the common types of these teaching methodologies:

2.8.1 Lecture Method (Traditional Teaching Method)
It is the traditional method of teaching and most of the schools, colleges, and even universities teachers employ this common method of teaching for delivering knowledge. It is a teacher-centered approach and the learners remain passive and primarily listen to their teacher. In this teaching approach the teacher role is active and he spoon-feeds the learners by delivering the prepared lecture. This approach is often considered as a homogenous instructional method. Lack of learners' motivation is highly associated with this approach that result in low learning process and students learning outcomes.

2.8.2 Discussion Method (Interactive Teaching Method)
According to Mckeachie & Svinicki (2006), to promote learning at university level, the lecturers should adopt the discussion method among the available teaching methods. However, most of these teachers failed in realizing the dynamic nature of the discussion method (Forrester & Jones, 2003). Research shows that the discussion method is an efficient method of teaching and it plays a significant role in producing and achieving the students' performance and learning outcomes, especially when it is based on team learning and student-led discussion. It also helps in fostering self-confidence and leadership qualities (Yoder & Hochevar, 2005).

2.8.3 Socratic Teaching Method (Interactive Teaching Method)

A thought-stimulating dialogue between the teacher and students is generally known as Socratic Method. As Socrates (Greek Philosopher) used this strategy of thought-provoking dialogue or question-answer technique, therefore, this strategy is called Socratic Method because it is based on the Socrates approach.

In this method, the teacher asks questions from his/her students instead of providing them information. This series of questions consist of open-ended questions, students share their perspectives, and the teacher engage students' mind in purposeful conversation. Students also pose questions to clear their ambiguities.

In this method of teaching the educator plays the role of a facilitator who guide and facilitate students in the class by engaging them in a thought-provoking conversation rather than just delivering knowledge and providing information. In this method teacher emphasizes that the students pose questions and try to discover and find out reasons behind things (Saint Leo University, 2022).

2.8.4 Constructivist Teaching Methods
Constructivism emphasizes on active learning because it is an action-based strategy of learning. Learners build new knowledge upon their prior knowledge and relate different concepts to the real-life situations. Teachers facilitate students by devising classroom activities and mentoring their cognitive processes to discover knowledge and apply it to the real-life situations. Following are some examples of constructivist classroom strategies:

2.8.5 Cooperative Learning
Cooperative learning is different from the traditional group work, as it requires interdependency among the team members to complete the assign task or solve a problem. In this type of learning students work with a limited number of students forming small groups, sharing their perspectives and ideas, thus consequently foster their learning process. Each individual in the group is responsible for their own learning as well as their peers' learning. This strategy develops and enhances different skills i-e collaborative, listening, observation, empathy, critical thinking, and problem solving skills.

2.8.6 Inquiry Based Learning
Inquiry based learning is a question posing strategy of learning, where the students interrogate questions, choose topics, and conduct research utilizing observation and critical thinking. They develop a connection between previous and new knowledge, and discover evidence to answer their queries. At the end, draw conclusions of findings and pinpoint the gaps and areas of further research. This approach develop questioning, critical thinking, analytical thinking, research, observation skills and independence of learners.

2.8.7 Problem Based Learning
The main difference between the inquiry-based and problem-based learning is that; students gain knowledge by formulating solutions to the real-world problems. Learners work collaboratively for devising solutions. This consequently fosters their learning, and polishes their skills such as communication, collaborative, decision making, social engagement, and problem solving (National University, n.d).

2.8.8 Flipped Classroom
In this technique teachers provide pre-record lectures, educational videos, or reading material to the students. The students viewed those videos or lectures at home or outside the classroom, and then through hand-on activities they apply their knowledge in the classroom.

2.8.9 Active Learning
Students are engaged in different activities e.g. discussions, group work, problem-solving activities, or case studies. This technique enhances students' understanding and deeper retention of the material.

2.9 Student Learning Outcomes
Student learning outcomes (SLOs) are the statements that determine the knowledge, skills, and abilities an individual student should acquire, and be expert or capable of demonstrating after the successful completion of his/her learning experience (BU Office of the Provost, 2017).

When a learner undergoes any learning activity or experience, they accomplish certain knowledge and skills. That achieved and measurable knowledge and results can be defined as Student learning outcomes (SLOs). Through

SLOs, educators gauge the effectiveness of students learning experiences.

Student learning outcomes (SLOs) are significant elements of the higher education and graduate education system, as it reflects the mastery and achievement of educational objectives. Hence, it chalks out a framework for curriculum designers and educators for the curriculum and course designing, selection of appropriate teaching methods, and establishing authentic and reliable assessment techniques and criteria.

Each course or program has its own SLOs, but their general construction criteria and main aims are the same. The basic purpose of SLOs is students' mastery of knowledge, development and enhancement of specific skills i-e critical thinking, problem solving, decision-making, interpersonal skills and practical implementation of theoretical knowledge into real-life situations (Akari Software, n.d).

2.10 Recommendations for Developing Student Learning Outcomes

While constructing the student learning outcomes of a subject or program, it is necessary that the concerned educators or curriculum designers must consider the following points:

1. Learning Outcomes Should Be Clear and Precise
2. Learning Outcomes Should Be Practical
3. Use of Active Verbs in Future Tense
4. Learning Outcomes Should Be Program Based
5. Use of Simple Language
6. Focus on Learning Product

2.11 Constructing Learning Outcomes

Before constructing student learning outcomes, it is necessary to consider Bloom Taxonomy of Educational Objectives as it provides a complete framework for developing effective and comprehensive student learning outcomes (SLOs).

2.12 Role of SLOs in Teaching Methods

Explicit SLOs help the educators in assessment of students' accomplishments. Teachers can utilize it for selection of suitable methodologies, as well as enhancement of their effectiveness, as SLOs can highlight the weak areas of students, where they need extra help and attention.

2.13 SLOs Impact on Learners' Motivation & Engagement in the Classroom

SLOs develop and increase students' motivation and engagement in the classroom, as it provides the participation opportunities to the students in the teaching-learning process. Well-designed SLOs aids students in their conceptual clarification and practical application of theoretical knowledge. In addition, mastering knowledge boosts students' confidence level and leads to enjoyment in the learning process. As a result, it promotes effective learning.

3. Research Design and Methodology

In qualitative research approach, the researcher delves into and provides an in-depth insight of the real-world problems. Instead, of focusing on numerical data, the researcher focuses on the participants' life experiences, perceptions, views, behaviors, and attitudes. (Tenny, Brannan JM, Brannan GD, 2022). According to Creswell (2014), case study is a qualitative research design, in which the researcher delves into an experience, program, procedure, project, institution, individual or individuals. In addition, De Vaus (2001) suggested that in a case study, the components or segments of a unit of analysis, or the major constituents of an investigating inquiry can be a single individual, individuals, a family, an institute or organization, and even a decision or event. Following the qualitative research approach, the researcher adopted a case study research design; hence this is a single institutional case study of Government Postgraduate College Nowshera (Creswell, 2014).

3.1 Sample

For this study purposive sampling technique was used. This sampling technique helped in recruitment of only those respondents who were voluntarily participated in semi structured in-depth interview. According to Palinkas et al. (2013) 'Purposive sampling was one of the best and very popular method of sampling among qualitative researchers and fulfill the purpose of the researcher in obtaining enrich and detailed information regarding the problem under investigation. As per, Iregbu, et al (2022), 19 respondents are sufficient to obtain a reliable data in

qualitative studies.

Further, according to Creswell (2013), collecting in-depth information regarding individuals from a case study approach, the sample size of four to five cases is sufficient in single study.

Hence, in the light of above a sample size of 10 was selected and the researcher, through purposive sampling technique, among 11 departments selected only 01 department after obtaining consent from the HOD, with permission of the college principal. After seeking permission, sample size N= 10 was selected as per the following detail;

Table 1: Sample of the Study

Principal	1
HOD	1
Controller of Examinations	1
Teachers	3
Students	4
Sample Size N = 10	

Among the students 2 male and 2 female students were selected for the interview, whereas due to absence of the female faculty members at the selected department, only male faculty members were interviewed.

3.1 Data Collection

By adopting and fully comprehending the interpretivist paradigm, the researcher collected the primary data by utilizing semi-structured interviews as a research tool. The participants of this study were well informed before the interview conduction; further the researcher audio recorded the interviews meticulously and made sure to note the important points in the diary. The data was collected by examining and investigating the perceptions of students, their teachers, and administration of the concerned college. In order to strengthen the data, observation was also carried out throughout the interview sessions, the researcher keenly observe the participants' facial expression, body language, eye contact, voice tone and gestures. The secondary data was obtained from reports, college official record and other relevant documents such as syllabus, course outlines, and assignments etc.

3.2 Data Analysis

The obtained data was analyzed manually. The audio recordings were transcribed into text format. After transcription, the text data were coded. After this, the coded data categorized and summarized to get the findings of the study. In this study thematic analysis approach was adopted for analyzing the data. Further thematic analysis is an analytical tool which is widely used in qualitative research to identify, analyze and generate themes in data. Usually, thematic analysis process consists of six stages i) Familiarization with data, ii) Generating codes, iii) Searching for themes across data, iv) Reviewing the themes, v) Define and name themes then vi) producing report (Braun & Clarke, 2006).

4. Results

The data was transcribed and coded, on the basis of codes, 6 major themes were emerged. These are discussion method, lecture method, question answer, conducive environment, interactive approach, and learning resources. These major themes are further divided into sub themes as shown in the following table:

Table 2: Themes and Sub Themes Emerged from the Data

Themes	Sub-themes
Teaching Method	Discussion & lecture method **Focus group discussion,**
Approach and techniques	Question Answer Technique, **Critical thinking, collaboration, motivation**

Conducive Environment	Adaptation, medium of instruction
Interactive Approach	Communication skill
Learning resources	Library, social media consultation, mobile use, Use of technology
Content delivery/ course completion	Assignment, homework, project

4.1 Teaching Methods

Majority of the respondents opined that most of their teachers use lecture and discussion methods. Lecture method is widely used method especially in higher education throughout the world including Pakistan. In discussion method each student fully participates in the discussion process and express their views and also clarify their ambiguities regarding any point. Thus interactive teaching-learning is created which help in enhancing the learning process. However, teachers also use assignment method, although usually the students are unaware or have inadequate knowledge that assignment is also a teaching method. One of the respondents mentioned "Group discussion is one of the best and effective methods of teaching. It yields a way for open discussion and comprehension and our questions are answered in the class by our teachers. Some of our teachers also communicate and interact with us via WhatsApp groups, guiding us even during their private time".

4.2 Approach and techniques

For conceptual and deep learning successful teacher always use a variety of techniques to enhance and maximize learning of the students. Most of the respondents expressed explicitly that our teachers use various approaches like posing thought- provoking questions to inculcate and built thinking habits among them. In this way teachers stimulates students' critical thinking and develops their analytical skills. One of the respondents said "Apart from that, all conceptual questions and general knowledge also engage me in the class." An effective teacher always relates his/her teaching with daily life examples and move towards practicability, that's why most of the respondents narrated that, "When we discuss in the class, so, our teachers give us a lot of general information. Since our subject is related to daily life, so in this way we understand all things that what is bad and what is good." It enhances practical implementation of the theoretical knowledge and also improves students' understandings.

4.3 Motivation of the Students

Teachers motivate students through positive reinforcement "To keep my students motivated and active during the lecture I apply a certain strategy. I believe that students' participatory approach is very fruitful and beneficial. Effective learning is increased by students' active involvement in the learning process. My strategy is that at the end of the lecture, I ask my students, what new things did you learn today? What did you achieve from the class discussion? If they have any ambiguities regarding their concepts, I clarify them. In my opinion, the lecture must be goal-oriented, in this way; we can achieve the intended learning outcomes. My first priority is to boost students 'confidence, because a lack of confidence leads to many hurdles in practical life."

"I engage my students through interaction methods e.g. question-answer and presentation etc. I give importance to reading books and always encourage them to borrow books from the college library. To further enhance their skills, I have introduced a novel approach: students write reviews of standard books like Oxford etc., after writing reviews they present their analysis in front of the class. Such a practice is very helpful to build their confidence and also improves students' writing skills, critical thinking and learning experiences."

One of the respondents shared "Some teachers motivate us through casual chit-chat in the classroom. Their

motivation and encouragement means a lot and motivate us to focus on our studies."

4.4 Questions Answers Techniques
Simple telling is not teaching and in the same way simple listening is not learning. Teaching is always a two-way process and occurs at best when there is two way trafficking of information between teachers and students. For this purpose, the best way to judge or assess the students learning is question- answer technique. Hence, an effective teacher always uses various strategies to create interest and thinking habit among students. One of the respondents mentioned "At the start of his class, he conducts a question-answer session. It promotes active learning and also helps in assessing the students' understanding."

4.5 Interactive Approach
Teachers use interactive approaches to benefit the maximum number of students and maximize their learning. Most of the respondents opined that teachers must tailor their approaches to accommodate high, medium, and low achievers. Challenges are everywhere, but we should work to overcome them and create a supportive and interactive learning environment for enhancing students' learning and engagement.

4.6 Conducive Environment
For in depth and conceptual learning peaceful and conducive environment is necessary. A successful and effective teacher always develops a rapport with students and motivates them to grasp the information at their own pace. One of the teachers opined "Teachers act as facilitators, build a rapport with students and strengthen the teacher-student relationship for effective teaching and learning process." Similarly, students shared their views "A calm and supportive environment is essential for deep and conceptual learning. Teachers should be gentle, kind, and flexible rather than strict or rigid. Open interaction between students and teachers promotes a family- like atmosphere and creates a positive learning environment."

4.7 Learning Resources
Teachers and students use various online resources like You Tube, Google, and reference books for information gathering and comprehensive understanding. One of the respondents opined "We Google particular topic; watch You Tube videos regarding that topic, and read books, not a single book, but multiple books to collect the desired information." Another respondent shared "As we are studying at higher level, we don't use textbooks; we use reference books and sometimes borrow books from the library." Teachers guide students and motivate them for self-study by utilizing different learning resources. Visual representations or A.V aids, pictures and maps etc. are also crucial tools for effective teaching as well as learning. One of the respondents mentioned "Computer labs and library facilities are available here, but they are insufficient for all students."

4.8 Use of Technology
In the current era of IT, the use of technology is very important for creating interest in the teaching- learning process and motivating students. Modern educational tools like multimedia, projectors, and smart screens etc. enhance comprehensive understanding and clarify difficult concepts. One of the respondents stated "In the previous semester, we used to take our Geography class in the computer lab, our teacher delivered lecture through multimedia, that promoted effective learning. I think teachers should deliver lecture through multimedia for better understanding." The majority of the respondents expressed that, although computers and multimedia are available in their college, they are inadequate for all students.

5. Conclusion and Recommendations
In the light of interpretation and transcription of data following conclusions and recommendations are made;
At BS level different teaching methodologies like Lecture, Discussion and assignment methods are widely used for imparting instruction. Although assignment and presentation methods are essential components of the semester system, the majority of students don't take them earnestly. The study identifies various challenges associated with the implementation of effective and innovative teaching methodologies. Learning resources are meager, and the number of multimedia devices and projectors is inadequate, making it difficult for the institution to cater to the needs of all students and all departments. Similarly, teachers encourage students to utilize online resources, especially YouTube and Google; however, due to the high ratio of unauthentic information, there is a need of

caution when quoting such sources. It is a double- edged sword that can mislead the minds, leading them to assimilate incorrect information. The study also highlights a major issue regarding the language barrier. Since the fee structure at public sector colleges is comparatively lower, students from different backgrounds and socioeconomic statuses join the college. Students from an Urdu medium background encounter a language barrier at the BS level because the medium of instruction is English. Additionally, some students cannot even speak Urdu at this level and prefer to communicate in their mother tongue.

Book reading is the best and most effective way for comprehensive understanding, but unfortunately, the new generation prefers Google and social media for quick and instant knowledge. Consequently, libraries are becoming non-functional. The lack of modern strategies, innovative books, and a conducive environment is also a reason for this. Student learning outcomes (SLOs) determine the knowledge, skills, and competencies of students; however, the study reveals that there is no proper mechanism or practice for informing students about the learning outcomes of a lesson or program. It is crucial that teachers must motivate students by clearly communicating the SLOs. In this way, they will be able to apply their theoretical knowledge to the real-life problems and face future challenges. Recommendations include encouraging teachers to employ multiple teaching methods and innovative strategies and approaches instead of relying on single or traditional teaching method. Proper mechanism should be devised to provide complete orientation of the whole process before the start of a session or semester, ensuring that the desired objectives and learning outcomes of the program will be achieved. During the semester, students' performance should be assessed and evaluated to determine whether the learning outcomes are being achieved or not, and these learning outcomes must be reflected in the form of certain skills or knowledge which can be observed through visible changes in the students.

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