INFLUENCE OF TEACHING METHODS ON LEARNING OUTCOMES: A STUDY OF PG STUDENTS OF MANAGEMENT

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THESIS COMPLETION CERTIFICATE

This is to certify that this research thesis titled "**Influence of teaching methods on learning outcomes: a study of PG students of management**", submitted by **Pious Thomas** in partial fulfilment of the requirements for the award of the Degree of Doctor of Philosophy in Management is an original work carried out by under my guidance. It is certified that the work has not been submitted anywhere else for the award of any other Degree or Diploma of this or any other University. I also certify that he complied with the Plagiarism Guidelines of the University.

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ABSTRACT Higher Education in India and various developed and developing nations have developed to an extent in which the redefining the purpose of education, the role, importance and guidance by the teaching community, use of technology and digital devices in education etc. have made tremendous progress. Education for employment, education for entrepreneurship and education for better living are the purposes of education in recent times. The question arises whether these purposes are met by the education system in India and in various countries. Another question arises in this area is the possibility of evaluation of the outcome of higher education.

This research work focuses on the effectiveness of teaching pedagogy in to the learning outcome of the students. Though various teaching methodologies are practiced in higher education, this study has taken three teaching methodologies in particular for testing the effectiveness. Socratic Method of teaching is a pedagogy used by the teachers by asking questions to the students. Students' learning occurs when the right questions are asked and they search for finding their answers to the questions. Case Study Method is representing an event, a business, an organization, a problem, a situation etc. like a story in the classroom. Students read, understand, analyze the case and bring out optimum solutions to the direct and hidden problems in the case. Project Based Learning is a type of study by action. Students do projects by their own under the guidance of a teacher or a guide. Self-management and team work is important in completing the project successfully. All other teaching methods are briefed into one as 'Any Other Teaching Method' for the purpose of this study.

Measurement of the learning outcome is a difficult task especially when it comes to education for better living. For the purpose of this study different measures are considered, however, Bloom's Taxonomy is a viable measure for the learning outcomes. Cognitive learning of an individual is measured in six levels namely, Memorizing, Understanding, Applying, Analyzing, Evaluation and Creating. Various literature in this area are referred and taken the output for preparing the basics of this study. Many books related to Teaching Methodologies and Learning Outcomes are referred in addition to various scholarly articles related to teaching and learning for the purpose of the review of literature.

A population of around 100000 students in Bengaluru doing the Post-graduate management studies, a sample size of 387 are considered for this study. Stratified random sampling technique is used for the study and collected the primary data through a detailed questionnaire.

The statistical tools like One-way ANOVA, T-test, and Correlation used for analyzing the data. Item validity was established by calculating discrimination index and difficulty index content validity of the tests and instructional materials were processed by a through and systematic examination of relevant objectives. Content validity was well established by the scrutiny of the chosen examiners and critical analysis done by the experts in the field of management. Instructional materials and items in the tests were refined and modified based on the modifications suggested by the panel of experts in the field.

Major findings include the influence of the teaching pedagogies like Socratic Method, Case Method, Project Based Learning and Any Other Teaching Method on the learning outcomes like Analytical Ability, Evaluation and the Creativity among the students.

Key words: Teaching Pedagogy, Socratic Method, Case Study Method, Project Based Learning, Bloom's Taxonomy, Outcome based education.

DECLARATION OF AUTHORSHIP

I declare that this research thesis titled **'Influence of teaching methods on learning outcomes: a study of PG students of management',** submitted by me in partial fulfillment of the requirements for the award of the degree of Doctor of Philosophy in Management by the ICFAI University, Jharkhand, Ranchi is my own work. It contains no material previously published or written by another person, nor material that has been accepted for the award of any other degree or diploma of the University or other Institute of higher learning, except where due acknowledgement has been made in the text. I further state that I complied with the plagiarism guidelines of the University while preparing the thesis.

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ABSTRACT

Higher Education in India and various developed and developing nations have developed to an extent in which the redefining the purpose of education, the role, importance and guidance by the teaching community, use of technology and digital devices in education etc. have made tremendous progress. Education for employment, education for entrepreneurship and education for better living are the purposes of education in recent times. The question arises whether these purposes are met by the education system in India and in various countries. Another question arises in this area is the possibility of evaluation of the outcome of higher education.

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Key words: *Teaching Pedagogy, Socratic Method, Case Study Method, Project Based Learning, Bloom's Taxonomy, Outcome based education*.

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LIST OF ABBREVIATIONS

Acronym	Full form
SM	Socratic Method
CM	Case Study Method
PBL	Project Based Learning
LO	Learning Outcome
AOM	Any Other Teaching Method
BT	Blooms Taxonomy
WT	Williams Taxonomy
TLR	Teaching and Learning Resources
RPP	Research and Professional Practice
GO	Graduation Outcomes
OI	Outreach and Inclusivity

CHAPTER- 1
INTRODUCTION

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INTRODUCTION

1.1 Introduction

The curriculum is defined as the process of decision-making on the goals of education and how best they can be achieved (*What Is Teaching?: Journal of Curriculum Studies: Vol 3, No 1*, n.d.) In academics, there are different curriculum plans designed for teaching and evaluation. Each of the curriculum has its own specific features that can effectively communicate the lesson plan to the students. However, it has often been argued that students usually forget much of what they have learnt and even will not develop a self-critical awareness of the various subjects that they have studied. This habit of forgetting starts from school and continues till their higher studies (Havnes et al., n.d.). Hence, it becomes a big challenge for the teachers in transforming the course descriptions into learning outcomes. Indian educational system is very diverse with public as well as private funded institutions and hence the instructional tools used to disseminate course descriptions differs in these institutions. This, in effect creates wide differences in the learning outcome and the students come out with varied levels of knowledge. Thus, the learning process can be seen as an important change from the teacher's teaching perspective to students' learning perspective(higher & 2013, n.d.)

Cognition, motivation, and emotion form the three fundamental classes for the mental operation of a human being(O. Liu et al., 2009) For the education settings emotions are considered as an integral part, which is existing among both students and teachers, researchers and theorists in current higher education tend to have focused mainly on cognition and motivation, leaving emotional experience in academic life largely unacknowledged.

The main teaching and learning methods for master's courses are through Lectures, Seminars and tutorials, Independent study, Laboratory and practical learning, Field trips, Problem-based/enquiry-based learning, Projects, e-learning, and Learning through research(Butler, 1992) Many believed that no single method is suitable for all subjects or all contexts. However, it is important for teachers to develop a repertoire of teaching and learning approaches to cater for the diverse nature of subjects and learners. Therefore, the selection of certain teaching method is primarily based on the subject that the teacher teaches. However, prominent institutes like the Harvard Business School follow the case study method, but the Stanford University and London School of Economics follow Socratic Method and project-based methods respectively.

The concepts taught in the capstone courses are equally applicable to start-ups and small businesses. Shmueli from Indian School of Business, Hyderabad experimented with the new pedagogical tools like introducing the flipped classes in which her students before attending the classes will have to listen to hear to her lectures and watch videos first. Adding to this Shmueli feels that these courses will have to be a part of the core management programmes, not remain electives.(*Evaluating and Developing Your Practice as a Teaching Assistant*, n.d.)

At Indian Institute of Management (IIM), Tiruchirappalli, the teachers handling the post graduate programmes use a variety of pedagogical approaches. Key elements across these varied approaches are participant-centered approach to learning, learning from peers in groups, experiential and application-oriented learning. (*Evaluation Session 1 Introduction Session 2 Background Information*, n.d.)Apart from this at IIM Tiruchirappalli the faculty use Case Method, Learning from peers in Groups, Learning From Simulations And Experiential Exercises, Learning From Real Life Applications, Guest Lectures From Practicing Professionals, and Learning From Movies.

At the Department of Management, BITS Pilani, the faculty follow the following pedagogy Case Supplement, Team Activities, Experiential learning, Continuous Evaluation, Guest Lecture, and Workshop.

At Indian Institute of Management, IIM Ahmedabad, the faculty follows the following pedagogy as they believe that effective management requires decisions based on contextual analysis and insights. Case discussions are supplemented with lectures, seminars, games, role plays, industrial visits, and group exercises, practical application and expose students to both leading edge research and current practice. Cases are reviewed every year to reflect current managerial practices and trends(Chaudhary, 2011)

1.2 Motivation for the study

Every teacher sincerely wishes for his or her students to learn and apply what they have learned in the classroom to better their lives. This research is being conducted to determine the effectiveness of teaching and learning outcomes for students.

The way teachers offer subjects to students by employing specific approaches that correlate to the characteristics of pupils encountered is referred to as teaching method. Each pupil possesses unique traits, ranging from the extremely bright to the somewhat intelligent, as well as the inability to receive lessons rapidly. As a result, a teacher must be able to adapt the teaching style

to the peculiarities of the students. Protégés (learners), aim, situation, facilities, and teachers are all aspects that influence the teaching approach. In terms of teaching methods, they should be able to transform the atmosphere of teaching interaction into one that is instructive or educative, encouraging learners to engage in active learning, as well as foster and develop an interest in learning and increase learning spirit. This will improve learning outcomes and prolong the ongoing teaching processes (Hospitality et al., n.d.)

According to Djamarah (2010), a teaching approach is a plan for achieving the desired outcomes. The teacher will attain the goal of seamless instruction by using an exact method. When goals are set in order for pupils to learn specific skills, the techniques used must be adjusted.

1.3 Relevance of the Topic

Various research studies have found that these three methods have been very successfully used internationally in higher education to facilitate effective learning across a variety of subjects and learning contexts. Wilbert McKeachie and Marilla Svinicki opined those cases are often actual descriptions of problem situations in the field in which the case is being used; sometimes, they are syntheses constructed to represent a particular principle or type of problem (Wilbert McKeachie, Marilla Svinicki 2013). Case method of teaching immerses students into realistic business situations and that will help in developing their analytical and decision-making skills (Gragg, 1953 and Erskine, Michiel, and Leenders, 1981). Cases provide the reality of managerial decision making – which includes incomplete information, time constraints, and conflicting goals – as students learn how to analyse business situations(Harling et al., 1998)

Conversely, the Socratic Method of teaching is a shared dialogue between the teacher and the students in which both are responsible for pushing the dialogue through questioning. The "teacher," or leader of the dialogue, asks probing questions to expose the values and beliefs which frame and support the thoughts and statements of the participants in the inquiry (Yakovleva & Yakovlev, 2014) Fundamentally, it is not a teaching method, in conventional sense, where the teacher is a bundle of knowledge and transfers the same to students whenever required. In this method, teacher is not a mentor, guide, or a trainer, instead he/she is a person to initiate the thought process of a student. "Every knowledge is already available within a person; it only needs to be brought to action." As the famous saying goes, "Watch your thoughts, they become your words and actions, watch your actions, they become your habits, watch your habits, they become your character, watch your character, they become your destiny" (Quote by Lao Tzu)

Project-based learning is generating a great deal of buzz in the world of education and is often portrayed as an alternative to passive learning and rote memorization. It is a Business Situation given to a group to complete the task with optimum solutions and implementation. It is a type of group-based experiential learning where the responsibility of achieving the target is allocated to each member of the team. Unlike the other classroom-bound styles of curriculum, experiential learning attempts to apply theories to real-world situations. This is not to say that all experiential learning occurs outside the classroom, but rather than its method is to use real experiences, even if those are examples or simulations used to educate business students. (Blumenfeld et al., n.d.)Unlike the lecture and discussion methods, which focus on theory, experiential learning examines these theories in a more practical context, encouraging students to learn by doing. Examples of experiential learning include team challenges, simulations, field work and extracurricular activities. The ability to work in a team is essential in today's workplace. (*Project Based Teaching and Learning - Google Scholar*, n.d.)

The present study reflects on the ever-present educational question of surface and deep approaches to learning. The conditions used in Marton's original experiment allowed students to decide for themselves whether they would seek to understand the meaning of the article for themselves. (Marton, F., & Saljo, R. 1976). Generative learning theory is introduced to reflect on how surface learning might be used to achieve deep learning. Our interest is not on psychological quantitative phylogeographic studies (Entwistle, 1981; Biggs and Collis, 1982) since the research interest is educational not psychological.

According to (*Learning Outcomes in Higher Education - Google Scholar*, n.d.) opined a good learning outcome depends basically on four pillars consisting of first organising a curriculum around generative topics that are central to the subject matter. Secondly clarify explicit learning goals, which in the course plans are called learning outcomes. These should be focused on fundamental ideas and questions in the discipline. Third, engage students in performances of learning that require them to extend, synthesize, and apply what they know. This is called instructional strategies. Fourth, measure students' learning outcomes by conducting ongoing assessments of their performances. The present study will reflect on these issues and examines the relationship between teaching methods and learning outcome.

Pask asked students to learn the defining features of imaginary animals. He found that, in tackling this task, they used distinctively different strategies - holist and serialist - which seemed to reflect more consistent, underlying learning styles - comprehension learning and operation

learning (Pask 1976, 1988). In Pask's studies, students were required to reach a form of conceptual understanding, but they still went about it in quite different ways.

1.4 Scope of the study

1.4.1 The study's overall goal

This research is being carried out to better understand the learning outcomes of management students using Bloom's Taxonomy. Improved education in management courses allows for higher cognitive levels of learning outcomes.

1.4.2. The population or sample

The study's target population is Bangalore's post-graduate management students. They are pursuing an MBA or a Post-Graduate Diploma in Management. There are around 150000 students in the entire population, and data is collected using a stratified sample technique. A total of 400 students were included in the study, with 200 from associated institutions and 200 from independent institutes.

1.4.3. The length of the research

The project will last five years, with three of those years dedicated to data collection. The entire study took place between June 2017 and July 2022. This term's first two years are dedicated to finalizing the topic, creating a synopsis, and performing a pilot survey.

1.4.4. The subjects or beliefs you'll talk about

Three teaching techniques, namely the Socratic Method, Case Method, and Problem-based Learning, were chosen from among the different teaching methods utilized by teachers at various institutes and universities throughout the world to determine their impact on students' learning outcomes.

1.4.5. The study's geographical area of interest

The research is being carried out in Bangalore, India. Students population in Bangalore is a mixture of South, North, West, East and Central states of India. Therefore, demographic variables and cultural factors used for the study is representative of India.

1.5 Teaching Methods

It is important for teachers to develop a repertoire of teaching and learning approaches to cater for the diverse nature of subjects and learners. No one method is suitable for all subjects or all

contexts. The researcher considered that the prominent use of case studies by the Harvard Business School, Socratic methods by Stanford University and project-based methods by the London School of Economics, contributed positively to the reputation and brand image of those institutions.

The study found that Socratic, case study and project-based teaching methodologies have been very successfully used internationally in higher education to facilitate effective learning across a variety of subjects and learning contexts. We should take into consideration of objective based education. Why do students go for higher education? Is it for employment, knowledge creation, entrepreneurship, and fulfilment of life? Are teachers helping them to fulfil their objective?

1.5.1 Case Study Methods

Case Studies are like stories. It is a representation of a business event to the classroom. McKeachie has explained in his book "McKeachie's Teaching Tips" while using a Case Study approach, the teachers have to explain students the methods and skills required for using it successfully. Initially, it must start off with the everyday examples as cases so that the students learn the art of solving the cases from basics. (Wilbert McKeachie, Marilla Svinicki 2013). Better decision-making happens because the students are not under pressure, not emotional and no time constraints. Case method of teaching immerses students into realistic business situations. Cases provide the reality of managerial decision making – which includes incomplete information, time constraints, and conflicting goals – as students learn how to analyze business situations (Kunselman et al., n.d.) The case method packs more experience into each hour of learning than any other instructional approach. It stimulates students' thinking and encourages discussion. Not only is it the most relevant and practical way to learn managerial skills, but it's also exciting and fun.

1.5.2 The Socratic Methods

The Socratic Method of teaching is a shared dialogue between the teacher and the students in which both are responsible for pushing the dialogue through questioning. The "teacher," or leader of the dialogue, asks probing questions to expose the values and beliefs which frame and support the thoughts and statements of the participants in the inquiry (Lam, 2011) Fundamentally, it is not a teaching method, in conventional sense, where the teacher is a bundle of knowledge and transferred to students when required. In this method, teacher is not a mentor, guide, or a trainer, instead he/she is a person to initiate the thought process of a student (The Stanford University 2020). "Every knowledge is already available within a person; it only needs

to be brought to action." As the famous saying goes, "Watch your thoughts, they become your words and actions, watch your action, they become your habits, watch your habits, they become your character, watch your character, they become your destiny.

1.5.3 Project-based learning - PBL

Project is a Business Situation given to a group to complete the task with optimum solutions and implementation. It is a type of group based experiential learning where the responsibility of achieving the target is allocated to each member of the team. Unlike the other classroom-bound styles of curriculum, experiential learning attempts to apply theories to real-world situations. This is not to say that all experiential learning occurs outside the classroom, but rather that its method is to use real experiences, even if those are examples or simulations used to educate business students. Unlike the lecture and discussion methods, which focus on theory, experiential learning examines these theories in a more practical context, encouraging students to learn by doing. Examples of experiential learning include team challenges, simulations, field work and extracurricular activities. The ability to work in a team is essential in today's workplace. When students do their project, they need to identify the objectives, finding the difficulties and arranging resources become important. Therefore, learning happens in multi-faced manner(Blumenfeld et al., n.d.)

1.6 Learning Outcomes

1.6.1 Bloom's Taxonomy

Bloom's Taxonomy of learning domain has a role to play in understanding the 'Learning Effectiveness'. Dr. Benjamin Bloom created 'Bloom's Taxonomy' in 1956 in order to promote higher forms of thinking in education such as evaluation and analysis rather than just remembering facts and figures. Bloom's Taxonomy is a standardized categorization of learning objectives in an educational context. It is a set of three hierarchical model used to classify educational learning objectives into levels of complexity and specificity. The three lists cover the learning objectives into Cognitive, Affective and Sensory domains.

1.6.2 William's taxonomy of divergent thinking and feeling

William speaks of eight skills divided into two groups of four, the cognitive and affective domains. Namely cognitive skills (fluency, flexibility, originality, and elaboration) and affective skills (risk taking, complexity, curiosity, imagination).

1.7 Research Problem

In the present study, the researcher has attempted to study whether student learning outcomes largely depend on teaching strategies or instructional strategies. However, the students arrive at generative learning when they learn concepts, views, and academic process knowledge at a very early stage in their academic studies. Student learning outcomes also depend on other factors such as learning environment, social background, fellow students, and other factors.

The proposed study tries to understand teaching effectiveness on learning outcome. The teaching effectiveness has been evaluated through three teaching methods, namely case study method, Socratic methods, and project-based method. Several scholars such as (Wilson 1997, Harvey and Knight 1996) have argued that teaching method should effectively cultivate the habit among the students to think, stimulate interest in the subject and motivate students to learn.

1.8 Summary

This study is trying to establish the relationship between the teaching methods and the learning outcome of the students. Though various teaching methods are used by the teachers for different subjects; three prominent methods like Socratic Method (SM), Case Study Method (CM), and Project Based Learning (PBL) are culmination of the different teaching methods. Cognitive Learning, Affective Learning and Psychometric Learning, are the threelevels of measurement of learning outcome suggested in Bloom's Taxonomy, however, it would be difficult to measure the learning outcome of Affective Learning and Psychometric learning. These levels are learned by the students in more of experimental and experiential learning. Primary and Secondary schools will teach the lower level of learning outcomes like memory, understanding and application. In degree and post graduate studies higher learning outcomes will be tested. This study is trying to find out the higher learning outcome of the higher studies by these teaching methods.

CHAPTER-II

REVIEW OF LITERATURE

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2.1 Introduction

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Influence of Teaching Methods on learning outcomes: a study of post graduate students of management in Bengaluru” is taken for studies as it influences the learning outcome of the students for deciding ‘What they are studying?’ and ‘Why should they study?’. Many students and teachers are confused about the learning outcome and how it is measured? I have reviewed the literature for this study starting from teaching methods, and learning outcomes. Out of the many teaching methods referred, the three methods selected for the study are 1. Socratic Method (SM), 2. Case Study Method (CM), and 3. Project Based Learning (PBL). Learning outcomes are usually measured by the evaluation process like written examinations, viva-voce, projects and assignments. Students’ perceptions on learning outcomes are important, however, Bloom’s Taxonomy (BT) and Williams Taxonomy are referred. Bloom’s Taxonomy of learning domain has a role to play in understanding the ‘Learning Effectiveness’. Dr. Benjamin Bloom created ‘Bloom’s Taxonomy’ in 1956 in order to promote higher forms of thinking in education such as evaluation and analysis rather than just remembering facts and figures. Bloom’s Taxonomy is a standardized categorization of learning objectives in an educational context. It is a set of three hierarchical model used to classify educational learning objectives into levels of complexity and specificity. The three lists cover the learning objectives into Cognitive, Affective and Sensory domains.

2.2 Literature reviewed with citation on the Topic

The Literature reviewed for the purpose of this study include various books on teaching and learning, scholarly articles on teaching methodologies and learning outcomes and measurement of learning outcome.

2.2.1 Teaching Methods

The 'Teaching Method' comprises the principles and methods used by a teacher to enable students learning. The primary responsibility of a teacher is to engage the students in a learning atmosphere where understanding is more important than listening, knowledge is more important than opinions and practical application is more important than theories. Therefore, engaging students in activities of learning and understanding from teamwork brings the classroom effectively. (*What Is Teaching?: Journal of Curriculum Studies: Vol 3, No 1*, n.d.)

The teachers use various methods/techniques for effective classrooms. Traditionally, explanation to the students was the concept of teaching, where the students memorize something and reproduce it in the examination paper. Course objectives are a goal term used those successful learners will achieve at the end of the course, whereas the learning outcomes are the statements about what students would be able to do at the end of a teaching session.

Roy Morrison: With the pace of change accelerating in the 21stcentury, a key requirement to thrive is lifelong learning and the ability to acquire new skills quickly. How can "learning to learn" and the ability to continually reinvent oneself be fostered in children from a young age? [Morrison, 2018] The purpose of education is considered important in selecting teaching and learning methods. To have an enhanced life with happiness, improve the standard of living, and serve society at large can be considered the intrinsic value of education.

2.2.1.1 Lecturing

Traditionally Lecturing belongs to nomological teaching methods where the knowledge is transmitted from the teacher to students. Though this method is cost-effective, especially for a large group of students, it has its demerits. Due to its demerits of one-way communication and non-involvement of students make it is less interactive and has minimum learning. The success of this method depends on the teacher's knowledge, language, and ability to present. (*Effective Teaching Methods - Google Books*, n.d.)

2.2.1.2. Demonstrating

Demonstrating is also known as the coaching style, Lecture-cum-demonstration is the process of teaching with examples. This style is also known as the experimental method using the lab or computers. The advantage of this method is the active participation of the students using

instructional materials. Experimental learning is good for internalizing the subject matter. However, it may have the disadvantage of lack of interaction with individual students when a large number of students are present in the classroom.

2.2.1.3. Collaboration

Collaboration allows students to actively participate in the learning process because they talk to each other about the topic. This method helps students to show their skills like leadership, presentation, and listening skills. The demerits of this method are sometimes the students deviate from the topic and involve in arguments instead of constructive discussions. It would be important for teachers to provide students with instructions on how to collaborate.

2.2.1.4. Classroom discussion

The most common type of collaborative method in a class is classroom discussion. It is a democratic process by which each student gets an opportunity to talk and involve in the discussion. A discussion taking place in a classroom can be either facilitated by a teacher or by a student. A discussion could also follow a presentation or a demonstration. Class discussions can enhance student understanding, add context to academic content, broaden student perspectives, highlight opposing viewpoints, reinforce knowledge, build confidence, and support community in learning. The classroom discussions can be used for identifying and clarifying the values of students. Different models or events can be presented in the classroom and based on those events discussions can be held. (*Using Teaching Methods for Development Student Competencies | Usarov | International Journal of Progressive Sciences and Technologies*, n.d.)

2.2.1.5. Outbound training

Teaching students with lecturing and activities is known as outbound training. This method is used more as a training method than a teaching method. Debriefing is a key term used in outbound training. The term "debriefing" refers to conversational sessions that revolve around the sharing and examining of information after a specific event has taken place. Depending on the situation, debriefing can serve a variety of purposes. It takes into consideration the experiences and facilitates reflection and feedback. The debriefing may involve feedback to the students or among the students. (Havnes & Prøitz, 2016)

2.2.1.6. Spaced Learning

To reinforce a particular lesson, a teacher will repeat the lesson multiple times, at 10-minute intervals. This is done to allow the brain to refresh, usually through physical activity or mindfulness techniques.

2.2.1.7. Flipped Classroom

In this technique, students are asked to do the preliminary work of a particular lesson at home, such as watching a video tutorial or conducting an online search. The homework (traditionally done at home) is then completed in class to optimize the time and learning experience of the students.

2.2.1.8. Self-learning

Modern teaching techniques encourage self-dependency. By planting the seeds of curiosity, students are pushed toward exploring the subjects they find the most interesting in more depth. (O. L. Liu et al., 2012)

2.2.1.9. Gamification

Teaching through video games has served as one of the most useful modern teaching strategies, particularly in the elementary and preschool systems. This relatively new teaching technique is an effective modern teaching method in higher education. (Havnes & Prøitz, 2016)

2.2.1.10. VAK Teaching

Visual, Audio, and Kinesthetic (movement) teaching, or VAK teaching, is the latest teaching method where teachers identify the category in which a student falls—that is, whether they are visual learners, audio learners, or kinesthetic learners. Upon this categorization, a teacher can better prepare a lesson to cater to their abilities. (Zlatkin-Troitschanskaia et al., n.d.)

2.2.1.11. Crossover Learning

Crossover learning is a mixture of formal and informal learning. In crossover learning, formal classroom learning is accompanied by the use of the students' everyday experiences and interactions with their surroundings, which forms the informal part of this method of learning.(Nusche, 2008)

2.2.1.12. Case study method

Case Studies are like stories. It is a representation of a business event in the classroom. "Cases are often actual descriptions of problem situations in the field in which the case is being used; sometimes, they are syntheses constructed to represent a particular principle or type of problem" (McKeachie, 1999, p. 177). Better decision-making happens because the students are not under pressure, not emotional, and no time constraints. The case method of teaching immerses students in realistic business situations. Different types of cases can be discussed in the classroom, Individual case study, Organizational Cases, Case study of events, Group cases, Community studies, Social group studies etc.

Figure 2.1 Types of case Study

[Source:https://www.google.co.in/url?sa=i&url=https%3A%2F%2Fwww.researchgate.net%2Fpublication%2F344780835_Case_Study_Method&psig=AOvVaw3tKIArjg6EcpGb_t7HJWm6&ust=1672573298834000&source=images&cd=vfe&ved=0CBAQjRxqFwoTCMiAqpzjo_wCFQAAAAAdAAAAABAE]

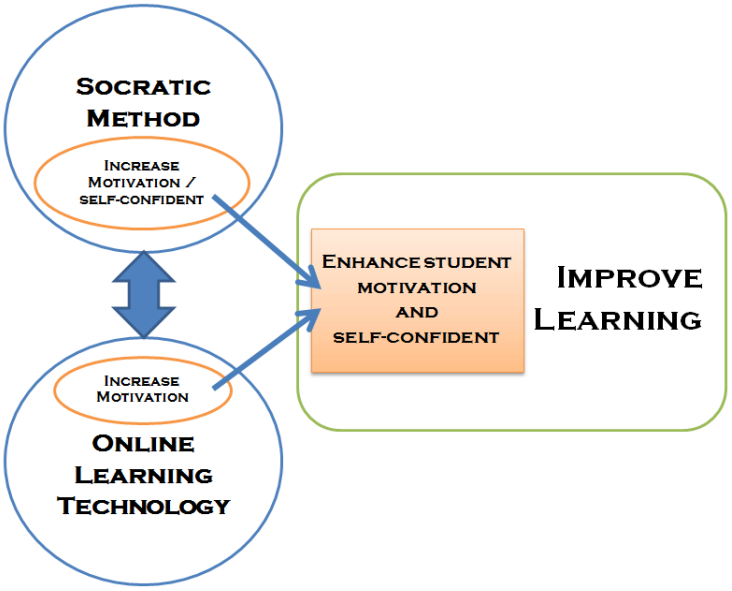
Cases provide the reality of managerial decision-making – which includes incomplete information, time constraints, and conflicting goals – as students learn how to analyze business situations [The HBS Case Method, 2003]. The case method packs more experience into each hour of learning than any other instructional approach. It stimulates students' thinking and encourages discussion. Not only is it the most relevant and practical way to learn managerial skills, but it's also exciting and fun.(Barnes et al., 1994)

2.2.1.13. Why Socratic method is taken for consideration

In the Socratic Method of teaching, the teacher and the students engage in a conversation in which both are accountable for advancing the conversation through questioning. To reveal the values and ideas that define and support the participants' thoughts and words, the "teacher" or conversation facilitator poses probing questions [Rob Reich, 2003]. Essentially, it is not a teaching strategy in the traditional sense where the teacher possesses a wealth of information that is disseminated to students as needed. With this approach, the teacher serves as a catalyst for the

student's cognitive process rather than a mentor, guide, or trainer. "Everything a person needs to know is already inside them; they just need to apply it."

Figure 2.2 Socratic Method and Learning outcome



[Source:https://www.google.co.in/url?sa=i&url=https%3A%2F%2Fwww.researchgate.net%2Ffigure%2FCorrelation-of-Socratic-Method-and-Online-Technology-in-improving-Motivation_fig1_280387075&psig=AOvVaw07lBlZZEMql_ba0l8QT2xr&ust=1672573777457000]

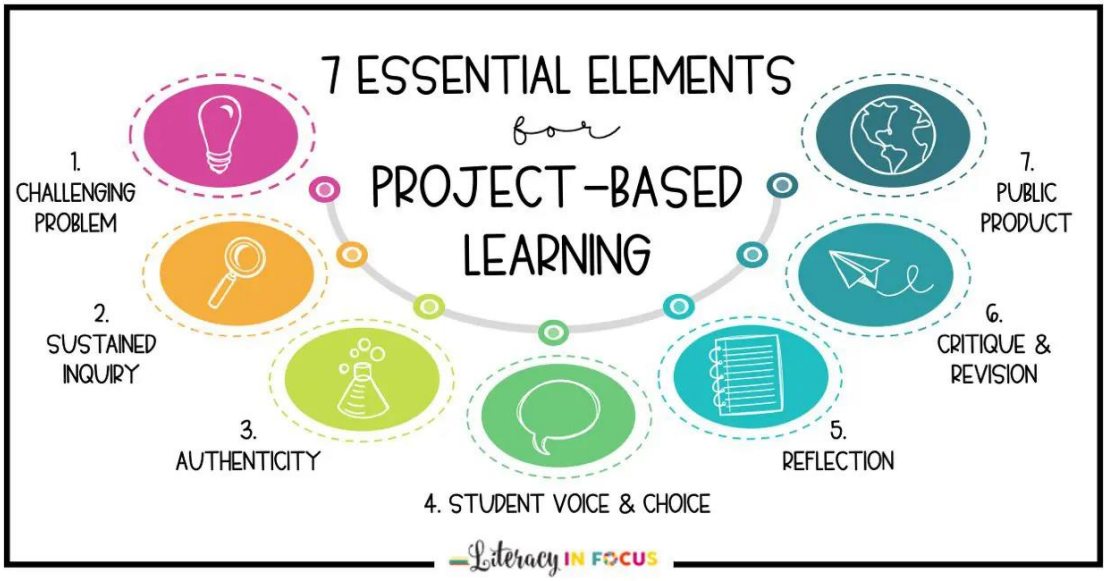
2.2.1.14 Problem-based teaching method

In research from Colliver (2000), Problem-based learning has an active role in the learning outcome of the students. Students' involvement in the activities of reading and writing combined with the application of formulae helps them to internalize the concepts. Problem-based Learning (PBL) is useful in subjects like Mathematics, Accountancy, Economics, and Statistics where the numerical problems are solved by using the formulae and analytical ability.

2.2.1.15 Project-based teaching and learning method

Project-Based Teaching and Learning (PBL) is basically given for students to have curiosity and initiative in the activities they do it. Small projects are given to the group of students to complete it. The students will identify the problems and objectives of the project and bring out solutions and models. This process will bring the learning as it is internalizing the process. (Diaz Lantada et al., 2006) There are basically seven elements in Project-based Learning.

Figure 2.3 Elements for Project Based Learning



[Source: https://www.litinfocus.com/wp-content/uploads/2021/10/7PBLTITLEIMAGE.jpg]

2.2.2 Learning Outcomes

Learning outcomes are the knowledge, skills, and abilities possessed by the students once the teaching or training sessions are completed. They should be able to demonstrate what they have learned through the learning experience. The learning experience is a process, but the learning outcome is a product. (O. L. Liu et al., 2012)

Learning outcomes should possess the following characteristics:

1. Learning outcomes should be specific and well defined
2. Learning outcomes should be realistic
3. Learning outcomes should rely on active verbs in the future tense
4. There should be a sufficient number of learning outcomes
5. Learning outcomes should align with the program's curriculum. (Liu et al., 2012)

2.2.2.1 Constructing Learning Outcomes

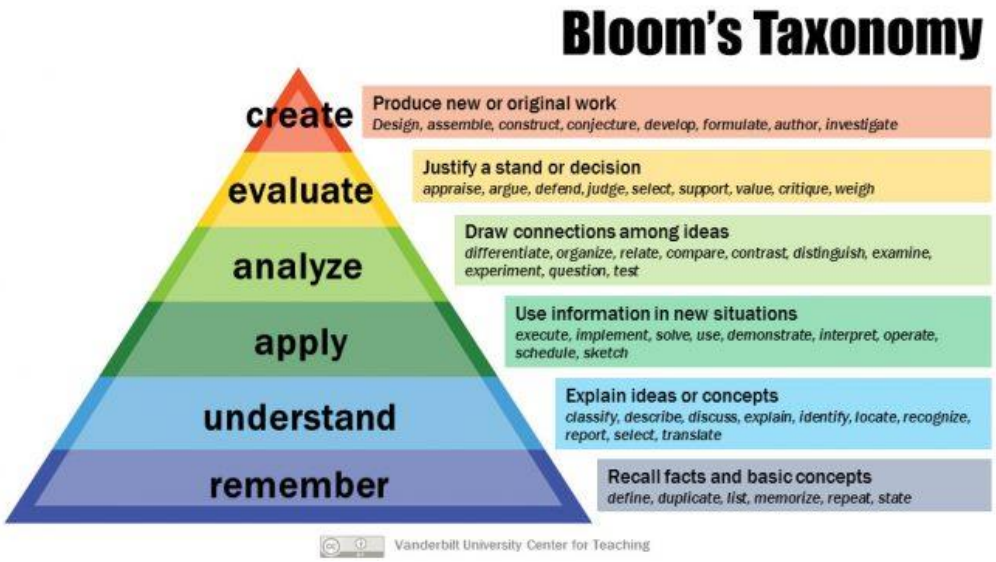
Taxonomies of Learning outcomes can be considered as useful guides for developing a comprehensive list of learning outcomes. Taxonomies attempt to identify and classify all types of learning. Their structure usually attempts to divide the learning into three types of domains (Cognitive, Affective, and Behavioural) and defines the level of performance for each level. (higher & 2013, n.d.)

2.2.2.2 Bloom's Taxonomy

Bloom's Taxonomy is a set of three hierarchical models used to classify educational learning objectives into levels of complexity and specificity. The three lists cover the learning objectives in the cognitive, affective, and psychomotor domains. The cognitive domain list has been the primary focus of most traditional education and is frequently used to structure curriculum learning objectives, assessments, and activities. It is named after Benjamin Bloom, who chaired the committee of educators that devised the taxonomy in 1956. He has also edited the first volume of the standard text "Taxonomy of Educational Objectives – The classification of educational goals". In 1956, in the original version of the taxonomy, the cognitive domain is broken into six levels of objectives namely, knowledge, comprehension, application, analysis, synthesis, and evaluation. In the 2001 revised edition of Bloom's taxonomy, the levels have slightly different names and their order was revised: Remember, Understand, Apply, Analyze, Evaluate, and Create (rather than synthesize). The first 3 levels are the basic learning outcomes and the next three learning outcomes are for a higher education level. (Teaching & 2016, n.d.)

"Instead of learning to memorize facts and figures, students need to learn how to learn and how to solve problems." [Morrison, 2018] According to new research, when we are looking into the higher learning outcomes like analyzing, evaluating, and creating, we understand their importance in higher education. (Morrison, 2021).

Figure 2.4 Bloom's Taxonomy of Learning Outcomes



[Source:https://cdn.vanderbilt.edu/vu-wp0/wp-content/uploads/sites/59/2019/03/27124326/Blooms-Taxonomy-650x366.jpg]

2.2.2.3 Alternative models for measuring learning outcome

Bloom's Taxonomy has been able to put up a framework that is extremely vital in monitoring progress throughout the learning process of a student. Teachers use it as a tool to gauge how far a student has come along in terms of learning outcomes or goals. Teachers create a lesson plan based on the learning outcomes for the effective transfer of knowledge.

Bloom's Taxonomy provides a set of key verbs for each category or level of the taxonomy. It ranks the 6 categories/ levels from the lowest to the highest order of complexity. Thus, giving Bloom's Taxonomy fame amongst educators.

Frank Williams developed his own learning taxonomy or the way he believed people learned. The Williams model was built on processes that encouraged original thought and creative thinking in both the cognitive and affective (feelings/emotional) spheres. He claimed there were eight levels of cognitive ability (Alessa, 2020).

Besides these two popular models of learning outcomes, many others were proposed as alternatives.

2.2.2.3.1 Marzano and Kendall's Taxonomy

The Marzano and Kendall taxonomy classifies a number of processes into six categories, ranging in complexity from least to most difficult. Each category is accompanied by words and phrases that teachers may find helpful when creating tests and gauging student proficiency levels.

- Retrieval (i.e., executing, recalling, recognizing)
- Comprehension (i.e., integrating and symbolizing)
- Analysis (i.e., matching, classifying, analyzing, generalizing, specifying) (i.e., matching, classifying, analyzing, generalizing, specifying)
- Utilization of Knowledge (i.e., decision-making, problem-solving, experimenting, investigating)
- Metacognition (i.e., monitoring correctness, monitoring clarity, process monitoring, establishing goals, examining motivation)
- Self-System Thinking (i.e., examining emotions, examining efficiency, examining importance)

This new taxonomy is quite similar to that of Bloom's Taxonomy but it differs by its highest level of difficulty i.e., Self-System Thinking (*The New Taxonomy (Marzano and Kendall, 2007)*, n.d.).

2.2.2.3.2 Understanding by Design model

The 6 Facets of Comprehension is a non-hierarchical framework created to aid teachers in evaluating and assessing student understanding. It was developed by Grant Wiggins and Jay McTighe to work with and through their 'Understanding by Design' paradigm.

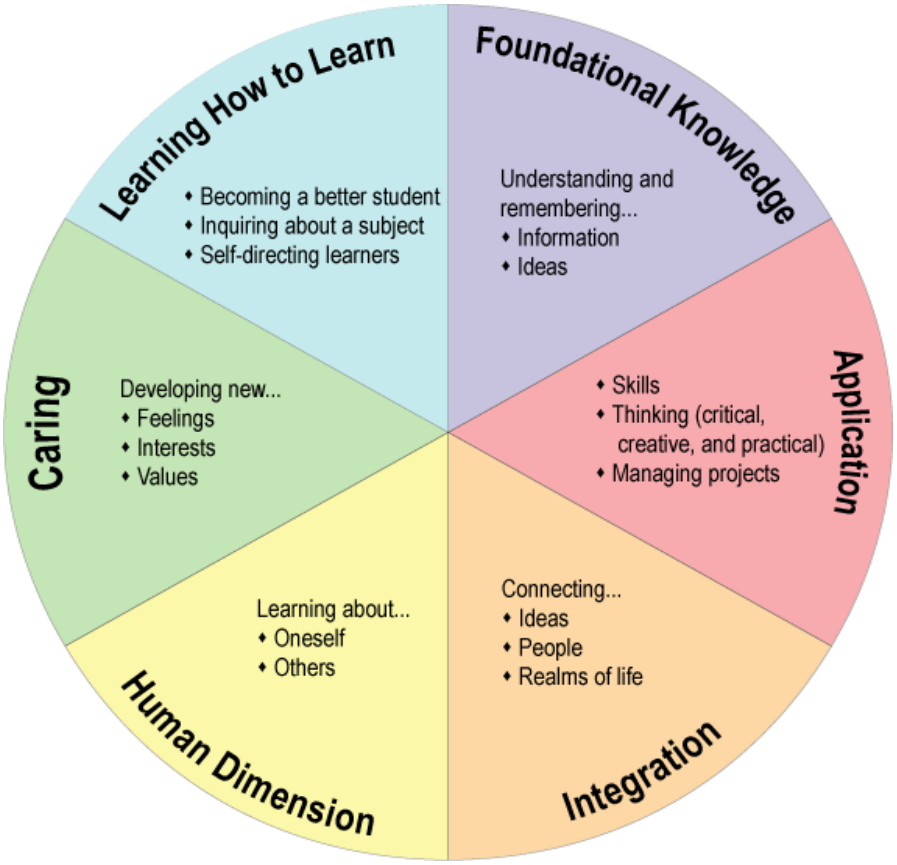
The concept provides a "Backward Design" framework for creating curriculum and content units. Typically, instructors take a "forward design" approach to course development, meaning they think about the learning activities (how to teach the material), create assessments based on those learning activities, and then make an effort to connect those assessments to the course's learning objectives. In contrast, the backward design method requires instructors to think about the course's learning objectives beforehand (Bowen, 2017).

2.2.2.3.3 Dr. Dee Fink's Taxonomy of Significant Learning

The characteristics of significant learning are a result of the combinatorial effect of these six types of learning:

- Foundational Knowledge
- Application
- Integration
- Human Dimension
- Caring
- Learning How to Learn

Figure: 2.5 Figure showing Dr. Dee Fink's Taxonomy of Significant Learning



[Source:THE TAXONOMY OF SIGNIFICANT LEARNING (Fink,2003)]

Less significant learning is more classroom-focused and less relevant or applicable outside of the classroom, while significant learning has greater endurance, resonance, and the potential to boost student learning. The optimal region of the learning design is at the center of the taxonomy where all the sectors converge (*Student Learning Outcomes | Center for Teaching and Assessment of Learning*, n.d.).

2.2.2.3.4 Webb's Depth of Knowledge Framework

Another framework for determining assessment rigor is Depth of Knowledge (DoK). Rigor is defined as "creating an atmosphere in which each student is expected to learn at high levels." Dr. Norman Webb created the DoK in 1997 to classify activities based on the degree of thought complexity.

DoK was used to align standards to assessments. Standardized tests examined how students conceptualized a subject and the techniques they had acquired, but they did not assess how thoroughly students needed to comprehend and be aware of a lesson to explain answers, offer solutions, and apply what they had learned in real-world settings.

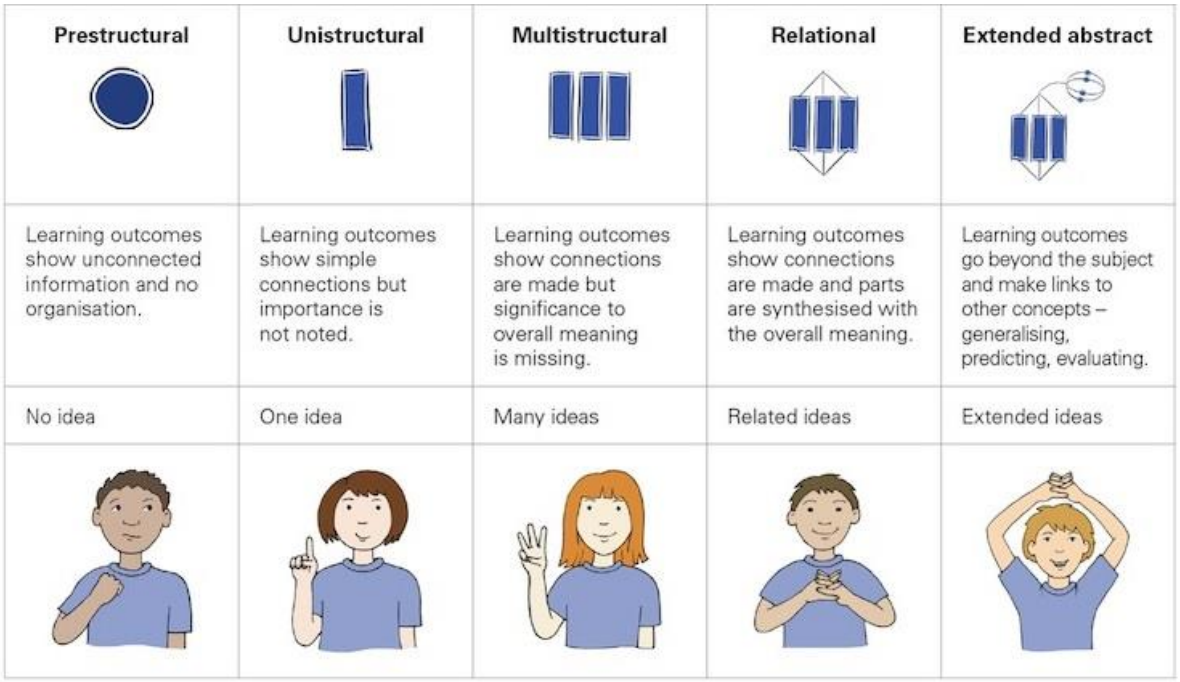
There are four levels in this framework, numbered level 1 through level 4, in descending order of complexity.

- Recall and replication are included in Level 1 (Acquired knowledge). retaining information or outlining a process.
- In Level 2 (Knowledge Application), there are concepts and skills. To respond to questions, students employ previously learned concepts.
- The third level (Analysis) calls for strategic thought. Here, complexity increases and involves complex rationale, planning, and reasoning. demonstrates how ideas and techniques can be applied to produce results.
- Extended thinking is at Level 4 (Augmentation). This calls for going above and beyond what is taught in the classroom and considering other ways to apply what has been learned (*Bloom's Taxonomy and Webb's Depth of Knowledge*, n.d.).

2.2.2.3.5 The SOLO Taxonomy

The "structure of observed learning outcomes" is referred to as SOLO. The SOLO taxonomy, developed by John Biggs and Kevin Collis, consists of five levels of comprehension.

Figure: 2.6 Learning outcomes defined by Figgs



[Source: Biggs, (2011)]

- Pre-Structural Level

The learner is at the beginning of the process and is unfamiliar with the task or subject. The learner learns disconnected information that is poorly organized and makes little sense at this stage.

- Unistructural Level

At this point, the student gains a fundamental understanding of a concept or task and only learns one pertinent part of the work or subject. As a result, although a student can establish simple and obvious connections yet unaware of the significance of the relationships. The student's response also shows that they have a clear knowledge of the assignment.

- Multistructural Level

Students learn about a variety of important independent elements at this point. Despite being aware of the connections between many elements, the relationship to the whole is still unclear.

- Relational Level

In this stage, several aspects come together to create a structure. They are able to link thoughts and ideas, which results in a comprehensive understanding of the subject. Additionally, the student's response demonstrates that they have understood the assignment by merging all of its components, and they can explain how each component benefits the overall.

- Extended Abstract Level

At this level, students are able to relate ideas inside the given activity and across other tasks as well. They learn how to apply and generalize ideas and concepts from one subject to another in a given field. The student's reaction thus suggests that they have conceptual capacity above and beyond what has been taught. The students are now capable of proposing new theories and ideas (MasterSoft, n.d.).

2.3 Conceptual framework

In this research, the researcher tries to find the relationship between the independent variables such as teaching methods, students' background, the knowledge level, previous learning, geographical factors, gender, etc. on the learning outcomes of the students. This study is limited to the Post-Graduate Management students of Bangalore, taking a sample of 400 students.

2.3.1 Variables

The first set of independent variables considered are the background of the students like geographical region, course completed, gender, and work experience if any. The second set of independent variables considered are the three teaching methods, (Socratic Method, Case Study

Method, and Project Based Teaching) and various subjects taught by the lecturers. The dependent variable include 6 stages of cognitive learning by Blooms taxonomy with special reference to the higher learning outcomes like Analysis, Evaluation and Creativity.

Ayeni (2011) teaching is a continuous process that involves bringing about desirable changes in learners through use of appropriate methods.

Tebabal & Kahssay (2011) the primary purpose of teaching at any level of education is to bring a fundamental change in the learner.

Sithara YJN Fernando & Faiz MMT Marikar (2017), advocates combining the traditional teaching method of the 'lecture' with participatory teaching methods to improve the learning experience. While constructivists emphasize subjectivity the value of objectivity in the classroom should not be demeaned. Rather objectivity and subjectivity must be rationally and judiciously combined in the classroom to generate a productive learning experience.

Union (2014), Students are unique and so is the way they learn. Therefore, the teaching tools used in universities and colleges should cater for individual ways of learning, with the student at the centre. Some of our students will learn better and faster with the help of interactive media that incorporate images, graphics, video, and audio elements. Others will prefer static text and numbers in different measures. Technology in the classroom can combine all of these for a personalized learning experience for each student, based on each student's strengths.

Bidabadi, Nahid Shirani (2016) study on effective teaching method in higher education, according to the results of the study, the best teaching approach was the mixed method one (student-centered with teacher-centered) plus educational planning and previous readiness. But whenever the teachers can teach using this method confront with some barriers and requirements; some of these requirements are prerequisite in professors' behavior and some of these are prerequisite in professors' outlook. With this background, the present study has been attempted by the researcher to explore the teaching methods adopted by teachers in formal mode teaching processes. The methods inputs, its operation and utility have been studied with teaching specificity in the Indian context.

Dr. Surendra Kumar, (2017), In his study revealed that even though 20 teaching methods were to be adopted by teachers of four faculties only very less number of teaching methods practiced. A large majority of teacher of art faculty (96.25 percent) adopted lecture method, 78.75 percent

teacher of art faculty adopt discussion method. Hand-on teaching method adopted by science teachers and teacher educators (25.00 percent) only.

Miriam Bar-Yam, Kathleen Rhoades eta (2002)Teaching at any level of education is to bring about a fundamental change that will facilitate the process of knowledge transmission in the learners. At this instance, teachers should apply appropriate teaching methods that would best suit specific objectives and outcomes. In the traditional era where teaching and learning gained much development, many teaching practitioners widely applied teacher-centered methods to impart knowledge to learners rather than student-centered methods. Until today, questions about the effectiveness of teaching methods on student academic performance have consistently raised considerable interest in the field of educational research.

Miriam Bar-Yam, Kathleen Rhoades et al. (2002)Teaching involves bringing about or at least facilitating desirable changes in learners. However, effective teaching requires the teacher to step out of the realm of personal experience and step into the world of the learners. It is the learner who must be engaged for learning to occur, the learner is the one who must take the commitment to learn. In a single lesson the teacher can employ more than one method to facilitate learning. The success of every method depends on the caliber of the teacher and his professional experience in the field of teaching. Studies have shown that appropriate instructional materials coupled with right choice of methods facilitate learning achievement to a large extent. This applies at all levels of education.

Dr. Darlene McDonough, (2012), There are many definitions of teaching method by different authors defined teaching method as a practical application of teaching principles based on the nature of learner, the nature of the subject and the learning needs of the pupils/students.

Vin-Mbah (2012) Learning can also be described as the permanent acquisition and habitual utilisation of the newly acquired knowledge or experience. Therefore, learning must bring about permanent changes in the person and the change must be in knowledge to be used, in character be acquired, in skills to be developed or an attitude to be shaped. It is these changes that confirm learning. Learning is simply the conceptualisation of meaningful experiences, and it implies that whatever is said to have been learnt.

A.H. Sequeira (2012), described teaching as an all-purpose profession engaged in human resource development for individual and economic growth. Teaching is the process of helping someone to acquire skill, attitude, knowledge, idea or appreciation. In other words, the teacher’s task is to create or influence desirable changes in behaviour, or in tendencies toward behaviour in his

students. Effective teaching involves informing and explaining stimulating, directing, guiding, administrating, identifying what to learn, method of learning, problems, evaluating, reporting, recording, classroom management, socialization and school-community relationship among others.

Brinkmann and Ims (2004), The case study method (CSM) is a student-centred active learning approach that leverages the synergistic power of mass inquiry to achieve specific learning objectives. The case represents the springboard from which participants work in concert to solve problems and make decisions under the auspices of an instructor. The case-based reasoning was first utilised in the 16th century at Jesuit institutions of learning under the name of casuistry.

Bigelow et al. (2015), states that a dialogue is not just talking with one another, but it is a conscious and diligent effort to actively listen with the propensity to be influenced; it is also about suspending opinion and the certainty that lies behind it and it is about loosening one's grip on hallowed certainties. In addition, dialogue requires voicing, which is related to "revealing what is true for you regardless of other influences that might be brought to bear"

Rebeiz, K.S. (2015) through his study concludes that the persistent mode of delivering knowledge in the classroom has resulted in a highly effective standardised process in terms of formulating and implementing the case study method (CSM) strategy. Admittedly, however, other institutions that have experimented with the CSM do not report the same level of success as HBS. Often, the unsuccessful experimentation with the CSM is not linked to conspicuous intrinsic defects with the CSM itself. Rather, it maybe the unfortunate consequences of poor planning and/or poor implementation strategies. Indeed, and as elaborated in this study, the institutionalisation of the CSM is not an easy endeavour by any means.

Yuwei Shi & Sandra Dow (2019) opine that a good understanding of the student background and anticipation of their learning needs and anxieties throughout the case study form a solid foundation for designing materials and deliveries of the teachable moments and for organizing appropriate teaching resources. Raw case studies may also change how students view the overall curriculum, the professor–student relationship, and the value of learning to their career aspiration and plan.

Welch et al. (2011) says the importance of raw case studies, as these raw case studies allow multitudes of contexts in which the case problem may be defined and management decisions developed. It enhances theory learning and capability development through varied testing

grounds for generalizability of the management principles or guidelines taught for decision-making and strong potential to contextualizing student learning.

Romm and Mahler (1991), feel that one must be pragmatic by recognising that the CSM is not a bulletproof teaching method. Critics of the CSM point out that the method would fail to reach the same expected outcomes as other experiential learning methods.

McCarthy and McCarthy (2006) argued that case studies cannot substitute for learning that occurs from a direct, personal involvement with the actual business itself.

Bridgman, (2010); Chetkovich and Kirp, (2001), in their studies claim that the CSM often portrays a distorted or blurred image of management practice, thus negatively impacting the essence of cognitive learning.

Argyris (1980); Berger (1983)opine that, there is a psychological gap between the virtual universe of the classroom and the actual universe of the business world. The virtual business world cannot realistically replicate the irrational exuberances, the emotional roller coasters and the ensuing tribulations associated with a tough and often unforgiving real world. The psychological divide between the virtual world and the actual world is, however, prevalent in virtually all experiential learning methods.

Washull (2005) in using cases, students become active, like the Bau Hause method, which is 'learning by doing': It is an active learning strategy. The case method follows this line of philosophy. Cases provide students with the opportunity to exercise decision making, whether individually or in a team format. For the disciplined student, cases help increase motivation.

Manoa Writing Program (2005) provides a suggestion for students like, students have a variety of stances on the case, sometimes challenging one another because their views are diametrically opposed. In this case, I can also teach about the logical fallacies, such as ad homonym. It is important that they logically respond to the ideas of a post and not attack other students.

Brooke (2005) refers through learning-centered the students develop responsibility for their own learning. The instructor is the facilitator and further refines critical thinking skills and analysis. Using the case method allows for a balance of power between teachers and students and additionally Students gain a great sense of meaning and can actively apply theory to support the solution to a problem presented in a case. In some ways, this is a proactive approach to problem solving, particularly with beginning students first learning how to work in virtual teams. Enhancing intrinsic learning, combating retroactive inhibition, increasing encoding specificity,

and developing more diverse schemes are other benefits of using the case approach to teach online course. Further, it provides them with real life examples.

Charles Szypszak (2015) Students' expectations are a product of what they hear from others and what they have experienced. Students are likely to have a range of expectations, but few feel comfortable with the idea that a teacher will be engaging them in a challenging analytical dialog. Overcoming this discomfort can be a transformative development in a student's intellectual growth. Today's students have no shortage of access to information, peer interaction, and opportunities for self-directed study. In the classroom, teachers can do more; they can inescapably engage students in an enriching, rigorous thought process. This is difficult for both students and teachers because it requires a commitment to pushing students to the edge of their comfort zone in a supportive way. Students have other options that are likely to allow them to be passive or even entertained. But earnest students who experience being engaged in the analytical dialog will embrace the challenge if they can understand its purpose and see its rewards. A failure to account for this truth is to sell students short.

Mashburn, Amy R. (2008) mentioned that "Socrates seems to be dying hundreds of little deaths, as his method disappears from the repertoires of more and more law professors". She also summarized criticism as along "a spectrum of condemnation that runs from, at one extreme, a characterization of the Socratic method as a manufactured, cynical illusion, to a portrayal of dominance, cruelty, and patriarchy incarnate, at the other end. She also pointed out that trends in faculty attitudes run counter to use of a Socratic method. As she said, increasingly teachers "want to be liked by their students and to receive good evaluations from them … . These professors strive to reach the 'learning should be fun' generation by creating a positive, entertaining, supportive, non-threatening atmosphere in their classrooms".

Areeda, Phillip E. (1996) although students are engaged individually in a classroom, the dialog need not be perceived by them as unpleasantly competitive. As Professor Phillip Areeda said, the argument that Socratic method must be avoided because it creates a competitive atmosphere that impedes learning "is largely bunk" (1996, p. 917). Teachers should engage students and respond to answers and comments in ways that create a sense of joint problem solving. The endeavor is cooperative if teachers create a climate in which various viewpoints are welcome and the goal is seeking the best possible answer arrived at with contributions from all students. Some students will be more adept than others at answering questions, and some will be more reticent to speak in front of their peers than others. But students can understand their own differences and should not be assumed to be incapable of weighing the value of their experience by their own growth.

Hattie and Gan (2011)Use of a Socratic method enables teachers to give students immediate feedback about their knowledge and thoughts. Feedback results in better learning and the nature of the feedback matters. One classroom study concluded that 80% of verbal feedback received by students is from their peers "and most of this feedback information is incorrect". With an engaged method, teachers can provide and regulate the feedback, both with input based on the teachers' knowledge and confirmation or redirection of other students' input.

Michael G. Parkinson, Daradirek Ekachai (2002) Their empirical results showed a small and statistically non-significant preference for the Socratic approach. In the focus groups students frequently mentioned their anxiety about the class recitations in the Socratic approach. Their reasons for resisting these recitations ranged from performance anxiety to resentment about the greater and more frequent preparation required. Further, the focus groups provided substantial support for the Socratic course instructor's perceptions that this method was much more labor intensive for the students than is a traditional lecture course. Given the higher workload and the performance anxiety one would have anticipated students would report a greater preference for the traditional lecture format.

Calero-Elvira, A., Froj´an-Parga et. al. (2013) in their study, they believed that it is a promising step toward the unravelling of the verbal interactions that define the Socratic dialogue, which paradoxically has been widely practiced but little analysed. They hoped that in the long run their kind of study will result in a higher efficacy and efficiency of the Socratic method and thus in higher quality practices by psychologists who deal with mental health. The measures of inter-observer agreement in the study were over established minimum levels in most cases. The psychological meaning of the conclusions derived from these analyses lends further support to the measurement instruments we employed and confirms the usefulness of this methodology for analyzing the mechanisms of change that take place in clinical sessions. This methodological proposal is innovative and appears to be useful in process studies, opening the door for new forms of analyses that may prove to be useful for the clinical practice.

The traditional conceptualization of one man and a small class implementing the Socratic method needs to be revised. We believe that it can be successfully refashioned into a two man, large-class application. This should be given serious consideration by those involved in mass education. It does more than introduce students to information about education; it forces them to think about the problems of education. It provides the intellectual challenge necessary to help freshmen (in this example) understand that more than one opinion exists, especially concerning educational

issues. The students learn that if they are looking for absolute answers to educational problems they will be unable to secure the response they desire.

Overholser, James C. (1993),Systematic questioning involves a complex interplay of question format, content, and process issues. The format of Socratic questions emphasizes higher level cognitive processes. Instead of asking clients to remember facts and details, Socratic questions are more likely to encourage the analysis, synthesis, and evaluation of different sources of information. The content of Socratic questions focuses on developing independent problem-solving skills in the client.

Hlinak (2014); Szypszak (2015); Boghossian (2012) One of the most infamous methods for teaching law students is the Socratic method Steeped in prestigious tradition, the Socrates' unintended torture tool strikes fear into the hearts of law students across the United States. Unpredictable "cold calls" and the subsequent humiliation remain at the forefront of a "one L's" mind.

Gregory (2014); Hlinak (2014); Szypszak (2015); Reich (1998) Horror stories pass from student to student; recounts of gross embarrassment at the hands of the most traditionalist Socratic instructors bridge the generational divide. Ironically, the very method so far described has also been hailed as a truth finder, a molder of young minds, and as an epistemological tool for perfecting a student's ability to "think like a lawyer".

Larcombe (2012)Studies have yielded results showing a negative correlation between a student's perception of their ability to make their own decisions (self-determination and autonomy) and their competence, or eventual competence, at the topic they have chosen to study and the severity of depression they experience.

Candiotto (2015); Boghossian (2012); Burns (2016); Davies & Sinclair (2012), the professor engages the students a series of questioning called elenchus. Elenchus is a cyclical process of cross-examination, counterexample, and refutation. This is the heart of the Socratic method and remains intact throughout the methods many modifications.

Goldin (2011) the student is asked to generate a hypothesis in response to the question. During these phase students are allowed to – perhaps even encouraged to – makes mistakes or have flaws in their reasoning. In Plato's written accounts of Socrates' lessons, Socrates does not castigate students for their subpar responses. Instead, he seems to see it as an opportunity to guide their thinking into a more accurate line of cognitive processing.

Zaidah Zainal, (2003) The explanatory case studies examine the data closely both at a surface and deep level to explain the phenomena in the data. For instance, a researcher may ask the reason as to why a student uses an inferencing strategy in reading. To explore the strategies the reader uses, the researcher must observe the subject within her environment, such as reading in classroom or reading for leisure. This would contrast with experiment, for instance, which deliberately isolates a phenomenon from its context, focusing on a limited number of variables. Case study method has always been criticised for its lack of rigour and the tendency for a researcher to have a biased interpretation of the data. Grounds for establishing reliability and generality are also subjected to scepticism when a small sampling is deployed. Often time, case study research is dismissed as useful only as an exploratory tool. Despite these criticisms, researchers continue to deploy the case study method particularly in studies of real-life situations governing social issues and problems. Case studies from various disciplines and domains are widely reported in the literature.

Erdem, (2002); Harris & Katz (2001) Project-based learning is an instructional method centered on the learner. Instead of using a rigid lesson plan that directs a learner down a specific path of learning outcomes or objectives, project-based learning allows in-depth investigation of a topic worth learning more about

Moss & Van Duzer (2005) Project-based work involves careful planning and flexibility on the part of the teacher. Because of the dynamic nature of this type of learning, not all problems can be anticipated. Moreover, sometimes a project will move forward in a different direction than originally planned. Project work is organic and unique to each class. This makes it exciting, challenging, and meaningful to learners.

Grant (2002); Merkham, et al. (2003),Most teachers, knowing the value of engaging, challenging projects for students, have planned field trips, laboratory investigations, and interdisciplinary activities that enrich and extend the curriculum. "Doing projects" is a long-standing tradition in education.

2.4 Justification for Questionnaire from Literature Review

The questionnaire is framed based on the literature reviewed and various articles and reviews of survey done to find out the learning outcomes of the teaching and learning process. A few literatures reviewed and the questions framed as follows.

Table 2.4.1Justification for Questionnaire from Literature Review

SN	***Teaching method***	***Level of Bloom's Taxonomy***	***Questions***	***Literature referred***	***Remarks***
1	Case Method	Levels 1, 2, and 3	CM1 to CM9	Blooms Taxonomy (Teaching & 2016, n.d.) Case Method (Kunselman et al., n.d.)	Cases related to Remember Understand and Application
2	Case Method	Levels 3,4, and 5	CM 10 to CM 18	Case Study Method of Teaching (CANNON, 1900) Blooms Taxonomy (Halawi et al., n.d.	Case Studies for Analyzing, Evaluating and Creating
3	Socratic Method	Levels 1, 2, and 3	SM1 to SM9	Bloom's Taxonomy (Bloom, 1956) (Hirst, 2006) What is Teaching	Questioning related to Remember Understand and Application
4	Socratic Method	Levels 3,4, and 5	SM10 to SM18	Teaching as teaching-studying-learning interaction (Kansanen, 1999)	Teachers' questions for Analyzing, Evaluating and Creating
5	Project Based Learning	Levels 1, 2, and 3	PBL1 to PBL 9	Problem Based Learning (learning & 2015, 2006)	Problems based teaching for understanding and application

6	Project Based Learning	Levels 3,4, and 5	PBL10 to PBL18	Problems as possibilities: Problem-based Teaching and Learning (Torp & Sage, 1998)	Problems and solutions for students' analytical ability and creativity.

Table 2.4.2: List of reviewed literature and the Research Gap

Sl. No	Literature Reviewed	Literature Type and Author/s with year of Publishing	The gist of Points gained	Research Gap	Linkage to own research
1	"Effective Teaching Methods" A Book written based on research-based practice. Ch.1- The effective teacher, Ch. 2 Understanding your students, Ch. 9 and 10 – Teaching Strategies, and Ch. 13 – Assessing Learners. (Saleh, n.d.)	A Book written by the Author Garry D. Borrich, 2017, Pearson Publication. (Saleh, n.d.)	This book explains about the various teaching methods which can be effective by understanding the students' background and learning style. Effective teachers adopt various instructional strategies and are able to change for type1 and type 2 learning outcomes. Type 1: Facts, rules and action sequences. Type 2: Concepts, patterns and relationships.	Though various teaching methods are explained in this book, Socratic method, Case Method and Problem based learning are not mentioned specifically for instructional strategies. Learning outcomes measured as type 1 and 2, not as learning outcomes of Blooms Taxonomy.	Various Teaching methods are explained with major learning outcomes by the students.

2	Survey of 12 strategies to measure teaching effectiveness	A Research paper written by the Author Ronald A. Berk, John Hopkins University, USA (*A Survey of Teaching Methods Among Economics Faculty: The Journal of Economic Education: Vol 28, No 2*, n.d.)	Twelve potential sources of evidence to measure teaching effectiveness are critically reviewed in this paper like student ratings, peer ratings, self-evaluation, alumni ratings etc.	Though learning outcome is measured in this paper, Teaching methods are not explained and also learning outcomes measured not based on Bloom's Taxonomy.	The learning outcome is measured by 360 degrees of evaluation.
3	Aligning Blooms Taxonomy with scaffolding collaborative teaching to improve learner outcomes	A research article published by the Authors Dr. Tanya Herring and Omotalani Somoye, July, 2019	The teaching and Learning process has equally involved in Bloom's Taxonomy and this paper captured the evidence-based practitioners teaching experiences and illustrates how to apply andragogic principles to adult learners.	This paper shows the influence of teaching method on learning outcome, but does not specify the teaching method used.	Experience based teaching and its impact on learning outcome is mentioned.
4	Bloom's Taxonomy and Rules-Based	A research article published by	The examination is treated to be the most effective measure of	This paper examined the effectiveness of	The measurement of learning

	Question Analysis Approach for Measuring the Quality of Examination papers	the Authors T. G. S Kumara, A. Brahmana and Incheon Paik, July, 2019	learning outcomes. This paper examined the effectiveness of the question papers used to measure the different levels of cognitive learning that are classified as high order questions, intermediate order questions, and lower order questions.	learning outcomes using examination. However, it is not mentioning the teaching method.	outcome using examination process.
5	Teaching in the medical setting: balancing teaching styles, learning styles and teaching methods	A research paper written by the Authors Lisa Vaughn and Raymond Baker, Children's Hospital, OH, USA.	Successful medical teaching also requires that teachers are able to address learners' needs and understand the variations in learners' styles and approaches. If teachers use a variety of teaching methods and styles, learners are exposed to both familiar and unfamiliar ways of learning that provide both	This paper talks about the teaching methods and learning outcome. However, it explains about medical teaching and learning outcome based on students' learning style. Various teaching methods are not explored and learning outcomes measured not based on Bloom's Taxonomy.	This paper shows the different teaching styles and learning styles. Teaching methods depend on the ability of the teacher.

			comfort and tension during the process, ultimately giving learners' multiple ways to excel.		
6	Innovative methods of teaching	A research paper written by the Authors Dr. Damodharan V. S and Mr. Rangarajan V.	In this paper, an evaluation is made between the traditional methods of teaching as well as multimedia teaching and suggests other useful teaching methods that can be attempted in imparting knowledge to the students.	The use of innovative methods in educational institutions has the potential not only to improve education, but also to empower people. No mention about the specific teaching methods and the learning outcomes	Innovating teaching methods and its impact on the effectiveness of imparting knowledge is explained.
7	Critical thinking in the management of classroom: Blooms taxonomy as a learning tool.	A research article written by Athanassiou N, Mcnett J and Harvey C. Published in Journal of Management Education (2003) (Athanassiou et al., 2003)	This paper explains the concept of classroom management and students learning based on Blooms taxonomy.	Though it explains the learning outcome based on Bloom's Taxonomy, it doesn't say about the teaching methods and its influence on Learning outcome.	Teaching and learning outcome in the classroom is mentioned.

8	A case study approach for evaluation of Employee Training effectiveness and Development program	A research article written by Neeraj S. Borate, Gopala Krishna and Sanjay L. Borate in 2014	This article explains about the Case study method evaluating the effectiveness of the continuous quality improvement.	Though this paper explains the case study method and evaluation, this only mention the continuous quality of the training, but does not say about Learning outcome.	This paper mention the case study method of teaching/training and evaluate the outcome as continuous quality.
9	Teaching with Case Studies, the research article explaining the types and process of using case studies in the classroom.	A research article published in Stanford University News Letter on Teaching.	This articles explains in detail about the use and type of Case Studies. This articles give different type of cases, writing and using of cases, how to prepare lectures using case study etc. It also discusses about the learning outcomes like application, analysis and evaluation.	This paper though discusses about the case study and the learning outcomes, it does not mention on how this method give outcome based on Blooms Taxonomy, that too higher learning outcomes like Analytical ability, Evaluation and Creativity.	This research article is closely connected with this study because it studiedthe type of cases and learning outcomes.
10	Teaching Methods and Students' Academic Performance	Journal article (Munyaradzi G Ganyaupfu E)	The article studies the differential effectiveness between three teaching methods:	The methods tested are methods based on student and teacher	Shows the relevance of teacher-student interactive methods and

			the teacher-student interactive method, the student-centered method, and the teacher-centered method.	interactions and do not evaluate specific teaching methods like the Socratic method or the Case Study method for a deeper understanding of learning outcomes and effectiveness.	hence all the methods that fall under this category like the Socratic Method.
11	Use of teaching methods within the lecture format JENNIFER A. BUTLER, Dorset House School of Occupational Therapy, 58 London Road, Headington, Oxford	Research Article (https://doi.org/10.3109/01421599209044010)	The article studies the perceived effectiveness of different teaching methods used within the lecture format. Results showed that the traditional lecture method was perceived as the least effective method yet the implementation of teaching tools alongside the lecture was seen to improve the effectiveness of the original didactic teaching method.	The research article studies the perceived effectiveness of the traditional lecture method and the slight increase in effectiveness when combined with other methods, whereas it does not include a comparison of various teaching methods and the most effective method to be implemented.	Shows how traditional lectures can be enhanced to improve learning outcomes.
12	Effective Teaching	Journal article	This study found that a mixed method that	The information collected is	Shows teachers'

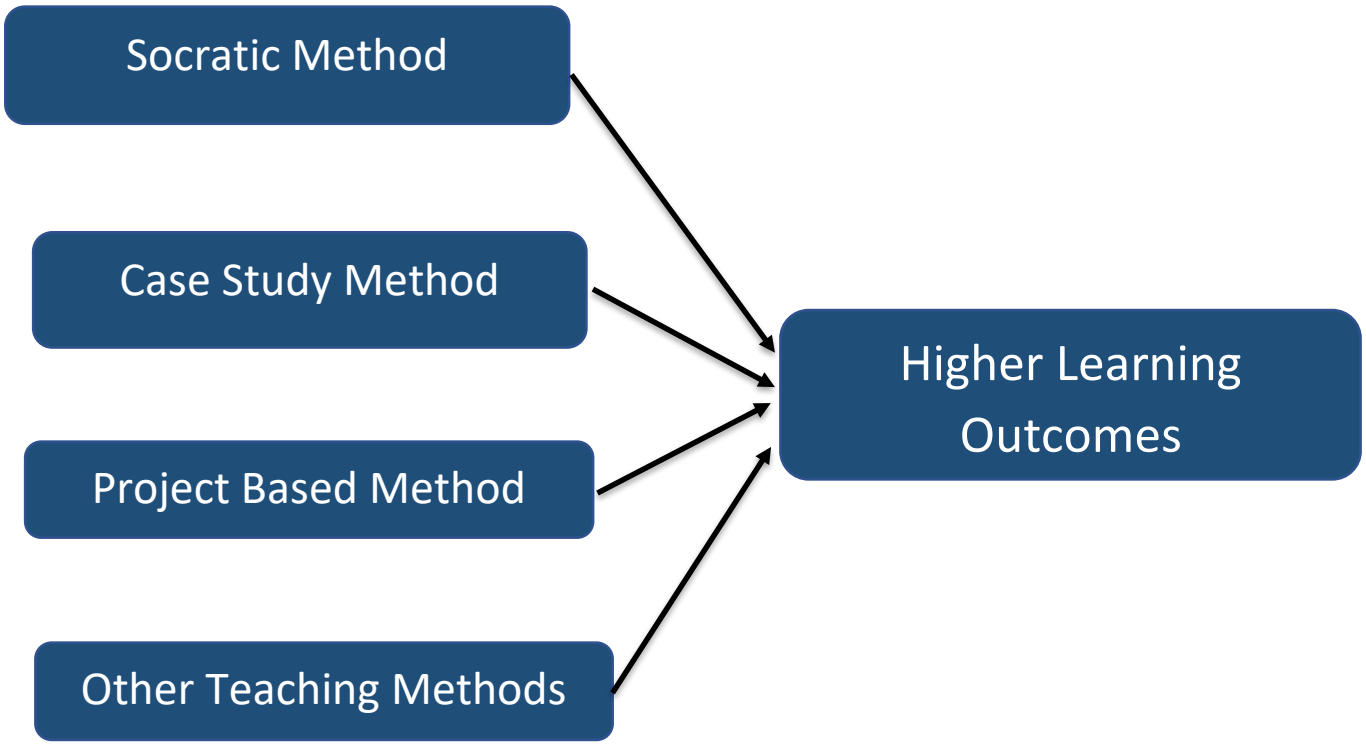
	Methods in Higher Education: Requirements and Barriers NAHID SHIRANI BIDABADI, AHMMADREZA NASR ISFAHANI,1AMIR ROUHOLLAHI, and ROYA KHALILI	(https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5065908/)	combines student- and teacher-centered instruction with educational planning and prior preparedness is the most effective teaching strategy. The study also sheds light on the barriers to implementing effective teaching methods.	teacher-oriented and does not include data collected from students.	ability to implement a mixed method of teaching (student-centered with teacher-centered) plus educational planning and previous readiness.
13	Effectiveness of teaching methods in business education: A comparison study on the learning outcomes of lectures, case studies, and simulations Mehdi Farashahi Mahdi Tajeddin	Journal article (https://www.sciencedirect.com/science/article/abs/pii/S1472811717303294)	The most popular teaching techniques in business education—lecture, case studies, and simulation—are compared in this study to see how well they are thought to help students improve their problem-solving skills and interpersonal skills. According to the study, students believe simulation is the most effective form of instruction.	The study focuses specifically on the third level of Bloom's Taxonomy i.e., 'Apply' (problem-solve). It does not discuss how the other levels of Bloom's Taxonomy are supported by simulation and case study techniques.	The study draws a correlation between more interactive teaching methods and their effectiveness in problem-solving, especially based on the perceptions of MBA and undergraduate students.

14	A Literature Review on Impact of Covid 19 Pandemic on Teaching and Learning.	A Journal Article written by Sumitra Pokhrel and Roshan Chhetri, Sage Publications (https://journals.sagepub.com/doi/pdf/10.1177/2347631120983481)	Accessibility, cost, flexibility, learning pedagogy, life-long learning, and educational policy are the main issues with e-learning (Murgatrotd, 2020). There are significant problems with dependable Internet in many nations, access to and connection with digital gadgets. While the economically disadvantaged children in many developing nations are unable to buy online learning gadgets, the risk of increasing screen time for the learner exists with online education	It is now crucial for students to participate in offline activities and self-directed learning. Another issue is a lack of parental supervision, especially for younger students because both parents are employed. There are practical concerns with regard to physical workstations supportive of various learning styles.	This study talks about various learning styles, especially the online or digital learning. However, it does not talk about the teaching methodologies and their influence on learning outcomes.

2.5 Conceptual Framework

This research is a study of major teaching methods like Socratic Method, Case Study method, Project Based learning and Any other Teaching Methods and their influence on the higher learning outcomes like analytical ability, evaluation and creativity.

Figure 2.7 Conceptual Framework of the Thesis



CHAPTER III

RESEARCH METHODOLOGY

CHAPTER - III

RESEARCH METHODOLOGY

3.1 Overview

This chapter outlines the methodology of the study. The first section brings out the overview of the chapter. The second section states the problem, objectives and hypotheses to be tested. The third section describes the sample design. The fourth section highlights the content analysis for this study. The fifth one furnishes details on instrumentation. The sixth section deals with the procedure of data collection and statistical techniques used in data analysis. The final one is a documentation of the references cited in this chapter.

3.2 Statement of the Problem

A research thesis's statement of the problem often describes the particular problem or knowledge gap that the thesis seeks to fill. It should succinctly and clearly convey the problem's importance and relevance, as well as how the research will help solve it. A precise and narrowly focused research question or hypothesis that will direct the study should be included in the problem statement.

"Effective teaching is essential for achieving optimal learning outcomes for students. However, there is limited understanding of the impact of different teaching methodologies on student learning outcomes. This study aims to investigate the relationship between teaching methodologies and student learning outcomes in order to identify the most effective teaching practices. Specifically, the research will examine the impact of student-centered and teacher-centered teaching methodologies on the academic performance, motivation, and engagement of students in secondary schools. The study will also explore the potential moderating effects of student characteristics, such as prior knowledge, learning style, and socio-economic status, on the relationship between teaching methodologies and student learning outcomes.

"The influence of different teaching philosophies on students' learning outcomes is identified as the study's main issue. The Socratic Method, Case Study Method, and Project-Based Learning are the three primary teaching approaches that are taken into consideration here. All other teaching strategies are yet grouped under the heading Any Other Teaching Method in order to understand the variations in learning outcomes. Based on Blooms Taxonomy, the research's learning outcomes were measured.

3.2.1 Objectives of the Study

i. To find out the impact of Socratic teaching method for learning outcomes like analytical ability, evaluation and creativity with respondents of post graduate management students in Bengaluru.
ii. To examine, in a group of postgraduate management students in Bengaluru, the effects of the case study teaching approach on learning outcomes like analytical ability, appraisal, and creativity.
iii. Using a group of postgraduate management students in Bengaluru, determine the effects of the project-based teaching approach on learning outcomes like analytical ability, evaluation, and creativity.
iv. Using a group of postgraduate management students in Bengaluru, determine the effects of Any Other Teaching Method on learning objectives like analytical ability, evaluation, and creativity.
v. To find out the relationship between Socratic teaching method and Case study teaching method with regards to its influence on learning outcomes.
vi. To find out the relationship between Socratic teaching method and Project based teaching method with regards to its influence on learning outcomes.
vii. To find out the relationship between Case study teaching method Project based teaching method with regards to its influence on learning outcomes.
viii. To find out the relationship of number of respondents with different courses and learning outcomes.
ix. To find out the relationship of number of respondents with subject specialization and learning outcomes.

3.2.2 Hypotheses

$H_0$1There is no significant influence of Socratic teaching method on the analytical ability of the of post graduate management students.

$H_0$2There is no significant influence of Socratic teaching method on the evaluation ability of the of post graduate management students

$H_0$3There is no significant influence of Socratic teaching method on the creativity of the post graduate management students

$H_0$4There is no significant influence of Case Study method on the analytical ability of the post graduate management students

$H_0$5There is no significant influence of Case Study method on the evaluation ability of the post graduate management students

$H_0$6There is no significant influence of Case Study method on the creativity of the post graduate management students

$H_0$7There is no significant influence of Project Based Learning method on the analytical ability of the post graduate management students

$H_0$8There is no significant influence of Project Based Learning method on the evaluation ability of the post graduate management students

$H_0$9There is no significant influence of Project Based Learning method on creativity of the post graduate management students

$H_0$10 There is no significant influence of Any Other Teaching method on the analytical ability of the post graduate management students

$H_0$11 There is no significant influence of Any Other Teaching method on the evaluation ability of the post graduate management students

$H_0$12 There is no significant influence of Any Other Teaching method on the creativity of the post graduate management students

The researcher mainly focusses on three dimensions in the questionnaire based on teachers teaching methods that is Socratic Method, Case Study Method, Project Based Learning and Any Other Teaching Method.

3.3 Research Methodology

The study presents several teaching strategies, such as lecture-based, problem-based, Socratic questions or case-based instruction, and evaluate how these affect students' learning outcomes. The study compares the pre- and post-test findings and look for any differences or correlations between the teaching strategies and learning outcomes that are statistically significant.

The study starts with a qualitative phase in which information is gathered through questionnaires, focus groups, and interviews to comprehend the viewpoints of the students on the various teaching approaches used. This stage is done through the pilot study and it is assisted in

identifying the various teaching approaches being employed and investigating their perceived efficacy.

Following this, a quantitative phase was conducted to gather data through questionnaires on students' academic achievement, motivation, and involvement. The study then utilized statistical analysis to look at the connection between instructional strategies and student learning outcomes and to find any notable relationships or differences.

A sample of students from post-graduate management programme, such as MBA and PGDM are chosen to start the research. A post-test approach is used in the study, in which the knowledge and learning outcomes of the students are evaluated using tools based on Bloom's Taxonomy before and after the use of the teaching strategies.

3.4 Population and Sample

The word ‘population or universe is fundamental in the theory of sampling and it denotes an aggregate or group of individuals of any nature, whose general characteristics are studied in a statistical investigation. The population may be finite, when the investigation is made about the human beings. The word ‘Population’ refers to human population.

The ‘Population’ for this research is “all post-graduate management students in Bengaluru” that counts around 1.6 lakhs students from various central universities, state universities, private deemed to be universities, autonomous institutes and affiliated colleges. whereas the smaller group we actually study is called as ‘Sample’. For this study, we consider 8 institutions, four affiliated colleges and four autonomous institutions with a sample size of 397 using the formula.

A random sample is chosen from each stratum using the stratified sampling approach, which divides the population into homogeneous groupings known as strata depending on particular features. By using this method, sampling error is minimized and the sample is guaranteed to be representative of the population.

We must determine the characteristic or characteristics that set PG management students apart their maturity level of understanding and the purpose of their education. This was done by conducting a pilot study, asking questions to the students and teachers about the teaching methodologies used and the expected learning outcome of the students, and completing a thorough examination of the literature, or talking to subject-matter authorities. Some potential traits that could be utilized to define strata in the context of PG management students are:

Academic performance: Based on factors like a student's GPA, and Ranking of Institutions on the basis of standard of the institution about the infrastructure facilities, type of programmes conducted and the learning outcomes provided. These 8 institutions are selected as sample groups due to their higher ranking and the teaching methodologies used. Teaching methodologies used and the learning outcomes expected are found from the faculty members of these institutions through mutual discussions. Stratified Sampling technique is used. By observing the sample certain inferences may be made about the population.

3.4.1 Sample Design

The research design in this study was a true experimental design. Hence two equivalent groups namely one experimental and control groups are involved in this study. The experimental group was taught by Socrates, Case study and Project based teaching method.

Groups	**Treatment**
Control	Conventional teaching
Treatment	Socrates Method, Case Study Method, Project Based Method, and Any Other Teaching Method (Lecture, Demonstration etc.)

The investigator constructed and administered above teaching method to the 397 post graduate management students in autonomous and affiliated institutes.

Step 3: Identifying the students is primarily based on their performance. But for teachers, we adopt a technique on the basis of the predominant teaching methods that they use to deliver the lecture.

Sample Size = (0.5 x (1-0.5)) / ((0.05/1.96) Squared)

Sample Size = 0.25 / ((0.02551…) Squared)

Sample Size = 0.25 / 0.000631…

Sample Size = 396.1965

True Sample = 396.1965 x 23200/384.16 + (23200 – 1)

True Sample = 9191758.8/23583.16

True Sample = 396.918

Sample Size = 397

Table 3.4.1.1 Table showing the sample design for the study

Sample Design for the study			
Institutes		**Number of samples**	
Autonomous institutes		**Students**	**Teachers**
1	Christ Institute of Management	67	10
2	XIME Bengaluru	43	10
3	Kristu Jayanti Institute of Management	58	10
4	Jain University	46	10
Affiliated institutes			
5	PES Institute of Technology and Management	38	10
6	M S Ramaiah Institute of Management	37	10
7	Amity B School	45	10
8	T. John College	63	10
	Total Sample	**397**	**80**

3.5 The logic for the sample selection

The sample size 397 has been arrived by using the formula to get stratified sampling. There are four affiliated Institutes or colleges and four autonomous institutions selected for the study. The reason being Teaching methodologies depend on the curriculum and evaluation patterns. Affiliated colleges have syllabus given from the University including the evaluation criteria, whereas the autonomous institutes create their own curriculum and pattern of evaluation like continuous evaluation. Why these institutes and colleges are selected? These colleges and institutes are Institutions of high ranking. We have taken colleges of A grade or A+ grade as per all India ranking of Institutions. The advantages for high ranking institutions are the faculty member's freedom to choose their own teaching method depends on the effectiveness. Personal discussions were held between the faculty members of the above institutions and the researcher to find out whether these institutions use the teaching methodologies and are expecting the higher learning outcomes like analysis, evaluation and creativity in their teaching and learning process.

3.6 Content Selection for the questionnaire

The investigator went through various text books of management for the PG graduate students of management. To name of few (i) Management studies published by Karnataka text book corporation. (ii) Management books published by private text Book Corporation. The investigator is very grateful to all these people for their co-operation and contribution in making the three teaching methods to PG graduate students of management. The purpose of these references were to find questions suitable for verifying the learning outcome and how it can be measured. 18 questions for each teaching methodologies were prepared and each learning outcomes were measured by using 3 questions each.

3.7 Tools used for the present study

The research tools are several kinds and employs unique ways of describing and qualifying the data. Every tool is chiefly apposite for certain bases of data yielding information of the king and in the form that would be most efficiently used. Most of the tools of research have been developed to yield quantitative measures. Based the objectives of the study, the following research tools are developed and validated by the investigator with guidance of the research supervisor.

3.8 Development of Socrates Method, Case study method and Problem Based Method.

3.8.1 Teaching Methods

It is important for teachers to develop a repertoire of teaching and learning approaches to cater for the diverse nature of subjects and learners. No one method is suitable for all subjects or all contexts. I considered that the prominent use of case studies by the Harvard Business School, Socratic methods by Stanford University and Problem based methods by the London School of Economics, contributed positively to the reputation and brand image of those institutions.

The study found that Socratic, Case study and Problem based teaching methodologies have been very successfully used internationally in higher education to facilitate effective learning across a variety of subjects and learning contexts. We should take into consideration of objective based education. Why do students go for higher education? Is it for employment, knowledge creation, entrepreneurship and fulfillment of life? Are teachers helping them to fulfill their objective?

3.8.2 Case Study Method

Case Studies are like stories. It is a representation of a business event to the classroom. “Cases are often actual descriptions of problem situations in the field in which the case is being used; sometimes, they are syntheses constructed to represent a particular principle or type of problem” (McKeachie, 1999, p. 177). Better decision making happens because the students are not under pressure, not emotional and no time constraints. Case method of teaching immerses students into realistic business situations. Cases provide the reality of managerial decision making – which includes incomplete information, time constraints, and conflicting goals – as students learn how to analyze business situations [The HBS Case Method, 2003]. The case method packs more experience into each hour of learning than any other instructional approach. It stimulates students’ thinking and encourages discussion. Not only is it the most relevant and practical way to learn managerial skills, it’s exciting and fun.

3.8.3. The Socratic Method

The Socratic Method of teaching is a shared dialogue between the teacher and the students in which both are responsible for pushing the dialogue through questioning. A quick synopsis of Rob Reich's study, "Bridging Liberalism and Multiculturalism in American Education," which appeared in Educational Researcher, Reich, R. (2003) mentioned about the Socratic questions in education.

The article examines the conflict in American education between liberalism and multiculturalism and suggests a solution. The author contends that multiculturalism's objective of fostering cultural diversity and recognizing group identities can be at odds with liberalism's emphasis on individual rights and liberties.

The author suggests a novel strategy that places a strong emphasis on the value of civic education in order to resolve this issue. According to the author, civic education can aid pupils in creating a sense of civic identity that respects both individual rights and community identities. The "teacher," or leader of the dialogue, asks probing questions to expose the values and beliefs which frame and support the thoughts and statements of the participants in the inquiry [Rob Reich, 2003]. Fundamentally, it is not a teaching method, in conventional sense, where the teacher is a bundle of knowledge and transferred to students when required. In this method, teacher is not a mentor, guide, or a trainer, instead he/she is a person to initiate the thought process of a student. "Every knowledge is already available within a person; it only needs to be brought to action." As the famous saying goes, "Watch your thoughts, they become your words and actions, watch your action, they become your habits, watch your habits, they become your character, watch your character, they become your destiny."

3.8.4 Project Based Learning

J. Krajcik, P. Blumenfeld, and C. (2006). project-based education. The Cambridge Handbook of the Learning Sciences, edited by R. K. Sawyer (pp. 317-334). Press of Cambridge University.

An overview of project-based learning, including its definition, distinguishing characteristics, and advantages, is given in this article. It also covers the difficulties in implementing project-based learning and offers suggestions for teachers who want to apply this strategy in their classrooms.

Phyllis C (2011) in his research article explains the Project Based Learning in which the students drew on five areas of research viz. academic risk taking, achievement goals, self-efficacy, volition and affect. Students learn how to manage stress and invent new methods of solving problems while doing projects. In research from Colliver (2000) Problem based learning has an active role in the learning outcome of the students. Students' involvement in the activities of reading and writing combined with the application of formulae help them to internalize the concepts. The Problem based Learning (PBL) is useful in subjects like Mathematics, Accountancy, Economics and Statistics where the numerical problems are solved by using the formulae and analytical ability.

3.8.5 Procedure

The Sequential phases of operation of the study were as follows:

Many organizations in India offer rankings for business schools (often known as "B-schools"). In India, some of the well-known B-school rankings are:

Management institutions are given their own category in the National Institutional Ranking Framework (NIRF) ranking. The NIRF rating is determined by a number of factors, including perception, outreach, inclusivity, graduation rates, teaching, learning, and resource availability, as well as research and professional practice.

Business Today Ranking: Based on a survey of students, recruiters, and faculty members, Business Today, a prominent business magazine in India, produces an annual B-school ranking. The ranking is based on a number of factors, including professors, placements, and facilities, and it covers both public and private business schools.

A unique category is included in the QS World University Rankings, a global rating of universities, for business and management studies. The ranking is determined by a number of factors, including employer reputation, academic repute, and research citations.

Outlook Ranking: An annual rating of B-schools is published by Outlook, a well-known news publication in India, based on a survey of faculty, alumni, and recruiters. The ranking, which takes into account both public and private B-schools, is based on a number of factors, including placements, infrastructure, and intellectual capital.

A ranking of B-schools in India is also published by Times Higher Education, a global higher education ranking agency. The ranking is determined by a number of factors, including education, research, industry income, and global vision.

Step 1: The National Institutional Ranking Framework (NIRF) is a methodology used by the Ministry of Education (formerly Ministry of Human Resource Development), Government of India, to rank higher education institutions in India. The framework was launched in September 2015 and is based on objective parameters for ranking institutions across India.

The NIRF ranking methodology evaluates institutions across five broad parameters, namely:

1) Teaching, Learning, and Resources (TLR)
2) Research and Professional Practice (RP)
3) Graduation Outcomes (GO)

4) Outreach and Inclusivity (OI)
5) Perception (PR)

Each parameter has several sub-parameters, and each institution is assigned a score based on its performance in these sub-parameters. The final NIRF ranking is determined based on the total score obtained by an institution across all parameters.

The NIRF ranking is released annually, and the rankings are widely used by students, parents, and other stakeholders to assess the quality of higher education institutions in India. The rankings are also used by institutions to identify areas for improvement and to benchmark their performance against their peers.

Based on the information available in the NIRF, the researcher systematically arranged and ranked each institute and purposively selected only those institutions that have consistently maintain A, A+ and B+ grade for at least 3 years. That results with four autonomous institutes and 3 affiliated institutes for our study.

Step 2: Then according to the courses offered by those institutes at the post graduate level and distributes the sample in proportion to the population. A similar approach used to identify teachers for the survey.

Step 3: Students identification for sample survey are done based on their understanding of the teaching methodologies and expected learning outcome of the higher education. Teachers are selected for their basic understanding and use of teaching methodologies in their teaching effectiveness.

Step 3: Identifying the students are primarily based on their performance. But for teachers the researcher adopt a technique on the basis of the predominant teaching methods that they use to deliver the lecture.

Step 4: Suitable statistical techniques were employed analyses the data collected.

Step 4: Stratified Sampling: In stratified sampling, subgroups or strata are created within the population depending on specific traits, and then random samples are drawn from each stratum. This guarantees that every strata in the sample is represented. Here, the strata used are the students understanding of different teaching methodologies, and the expected learning outcomes.

3.8.6 Treatment

Achievement test is consistent test framed to measure the knowledge and skills acquired in a given grade level, typically pre-mediated instruction, such as classroom instruction or training. Merill (1994) stated that academic achievement is usually measured by “achievement test”. Therefore, this used learning outcomes in the Socrates Method, Case Study Method and Project Based Method. The achievement test was framed on the basis of the management studies.

3.8.7 Instrumentation

This section deals with the development of tools which the researcher employed in the study. The investigator constructed and validated the questions of Socrates Method, Case Study Method and Project Based Method.

3.8.8 Validity of the tools:

The validity of a test, or any measuring instrument, depends upon the fidelity with which it measures what it purports to measure. A test is valid when which it measures what it purports to measure. A test is valid when the performance is otherwise independently measured or objectively defined.

The validity of a test is defined by how well it evaluates the variable it is intended to measure. If a test yields the results that it was designed to measure, it is considered legitimate. When the performance is otherwise independently determined or objectively reported, a test is said to be valid. "A measure's validity refers to the extent to which it truly captures the traits or phenomenon it promises to capture. Different sorts of measures and testing circumstances are related to various forms of validity.

Calculating the correlation between a subject's test results and their results on an orientation measure is a common method of determining if a test is valid. The extent of the association between the two sets of scores is shown by the resulting correlation co-efficient.9 By comparing a subject's scores on one item to their scores on a criterion measure, it is possible to assess an item's validity. Calculating the index of discrimination, which is based on an analysis of the percentage of people from different criterion groups that pass each item, is another method for assessing item validity.

The degree to which a measure actually captures the characteristics or phenomenon it claims to represent is referred to as the measure's validity. Different forms of validity are related to different kinds of measurements and testing conditions. One typical way to figure out if a test is valid is to calculate the correlation between a subject's test results and their results on an orientation

measure. The calculated correlation co-efficient demonstrates the degree of link between the two sets of scores. It is feasible to evaluate an item's validity by comparing a subject's scores on one item to their scores on a criterion measure. determining the index of discrimination, which is based on a percentage analysis.

Based on the above literature, the investigator found the validity of the tools (different teaching methods) Item validity was established by calculating discrimination index and difficulty index content validity of the tests and instructional materials were processed by a through and systematic examination of relevant objectives. Content validity was well established by the scrutiny of the chosen examiners and critical analysis done by the experts in the field of management. Instructional materials and items in the tests were refined and modified based on the modifications suggested by the panel of experts in the field.

3.8.9 Try out:

Try out of the test was conducted with the sample of 397 PG students of management. They were informed about the test much early to help them to prepare themselves for taking this test. The test was administered by the investigator and answer scripts were collected. The answer scripts are collected and scored.

3.8.10 Item Analysis

The objective of the try-out is to refine the test by finding out the most suitable items to be included in the final test. Item analysis is done usually to determine two characteristics of an item - one is difficulty index and the other is discrimination index. The investigator has made the analysis to find the discrimination index as well as difficulty index as follows.

3.8.11 Estimation of Difficulty Index:

The difficulty of a test item is indicated by the percentage of pupils who got the item right. Hence, we can estimate item validity by means of the following formula in which R = the number of pupils who got the item right and T = total number of pupils who tried the item.

DI = R/T X 100

DI = Difficulty Index

R = No. of Students who got the item correct.

T = Total no. of students who tried the item

The investigator calculated the Discrimination index and Difficulty Index of 18 items of the three teaching methods.

3.8.12 Reliability of the teaching methods

Reliability may be defined as the level of internal consistency as stability of the measuring device overtime. There are several methods of estimating reliability most of which call for computing a correlation co-efficient between two sets of similar measurement. A test score is called reliable, when we have reasons for be loving the score to be stable and trust worthy stability and trust worthiness depend up in the degree to which the score is an index of true ability. The correlation of the test with itself computed in several ways to be described later is called reliability co-efficient of the test. There are four procedures in common use of computing the reliability co-efficient of the test. They are (1) Test–retest (2) Alternate or parallel forms (3) split–half technique. (4) Rationale equivalence. All of these methods furnish estimates of the reproducibility of test scores. Sometimes one method and sometimes another will provide the better measures.

The method of rationale equivalence which also provides estimate of internal consistency is the only widely used technique for calculating reliability that does not require the calculation of a correlation of a co-efficient. This method gets at the internal consistency of the test through an analysis of the individual basic items. It requires only a single administration of the test. A number of formulas have been developed to calculate reliability using this method. These are generally referred to Kunder-Richardson formula. It is often useful to teachers and others who want to determine quickly the reliability of short objective classroom examination. It reads

$$r_{11} = \frac{ns^2 - m(n-m)}{s^2(n-1)}$$

r_{11} = reliability of the whole test

n = Number of items in the Test

S = SD of the test scores.

M = the mean of the test scores.

Rationale equivalence is superior to the split half technique in certain theoretical aspects, but the actual difference in reliability co-efficient found by the two methods is never large and is often negligible.[17]

Hence, the investigator adopted and computed the rationale equivalence for calculating the reliability of the performance of the Socrates Method, Case Study Method and Project Based

Method. This formula is a labor saver since only the mean, SD and the number of items on the test needs to be known in order to get an estimate of reliability.

$$r_{11} = \frac{nst^2 - M(n-m)}{-st^2 (n-1)}$$

In which

r_{11} = Reliability of the whole test

n = Number of items in the test

St = SD of the test scores

M = mean of the test scores

The mean score was 51.30 and S.D. is 19.0

$$r_{11} = \frac{215 \text{ X } 190 - 51.3 (215-51.3)}{190 (215-1)} = 0.79$$

Hence r = 0.79 of the tests is highly reliable for all practical purposes for

3.6.12 Pre and Post Test

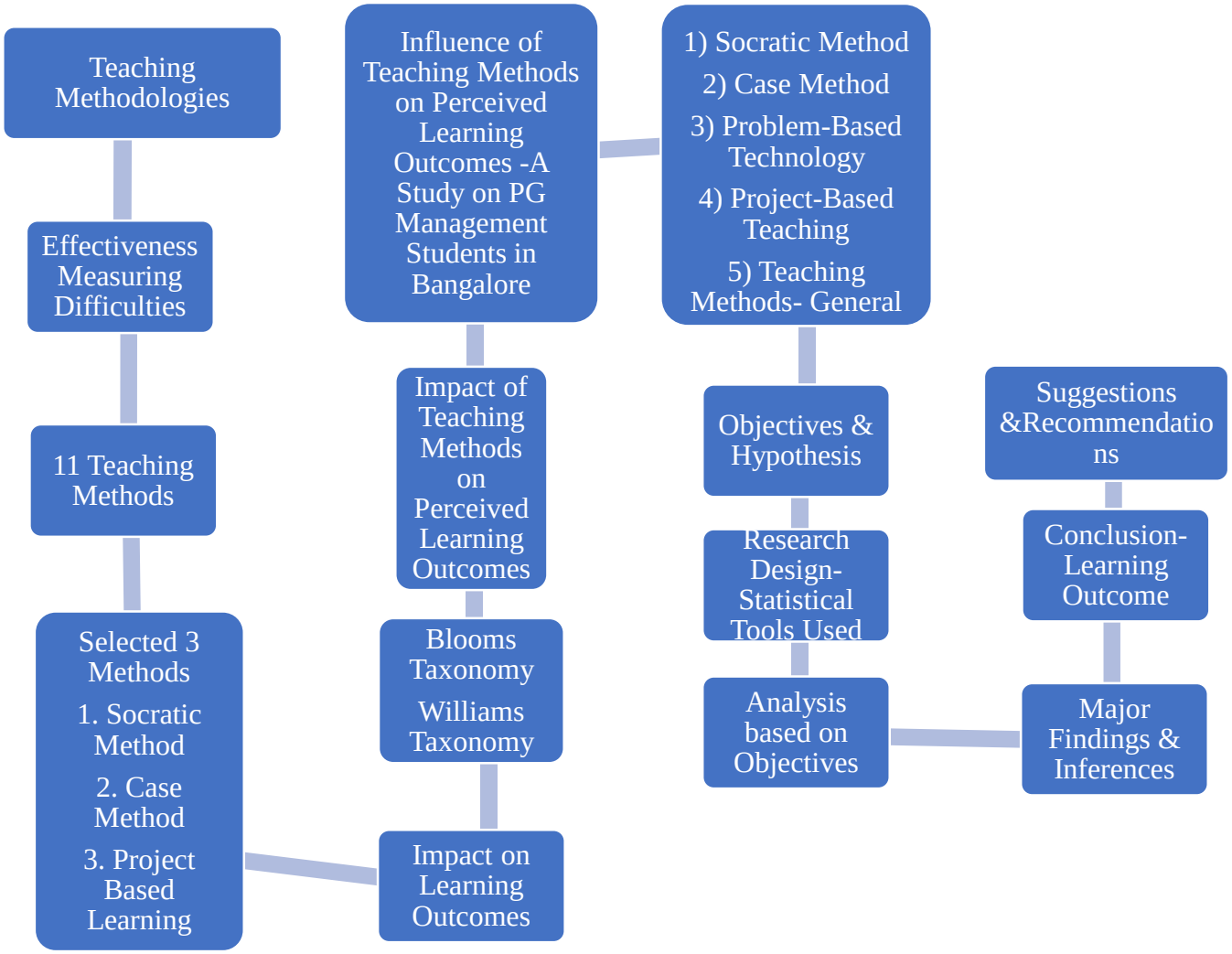
The pre-test was organized to identify the initial level of the students before conducting experimentation. In the post-test, the investigator had prepared and administered the questions to know the effect of Socrates Method, Case Study Method and Project Based Method.

The researched gathered the data before and after the experimentation. In order to check the effectiveness, the pre and post-test were administered. The pre and post-test were in the form of numerical scores of controls and experimental groups.

3.9 Research thesis – flow chart

This research thesis is prepared based on a series of thought processes which is depicted in the following flow chart. The flow chart has undergone a series of modifications in the due course of writing the thesis.

Figure: 3.9.1 Figure showing the Research Flow Chart



3.10 Summary

This research thesis prepared by step-by-step analysis of different teaching methodologies; around 16 teaching methodologies are referred and 3 prominent methods were arrived as a culmination of different teaching methods. They are Socratic Method, Case Study Method, and Project Based Learning. Any characteristics of any other teaching method is described in any other teaching method. All these 4 teaching methods were tested as independent variables and the higher learning outcomes of Bloom's Taxonomy like analysis, evaluation and creativity. The Primary Data collected through a questionnaire is analyzed using the statistical tools ANOVA, p-test, t-Test, Correlation, Regression, Descriptive Statistics and Hypothesis testing. Based on the major findings and test results, different inferences are drawn and suggestions and recommendations are made.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Chapter IV

ANALYSIS AND INTERPRETATION

4.1 Overview

This chapter describes the statistical methods used to analyse the acquired data. There are 15 sections overall in this chapter. An overview of the entire chapter is provided in the first part. The null hypothesis is discussed in the second section (H_0). The fourth segment introduces the Factor Analysis, whereas the third section focuses on Differential research. The demographic factors are explained in the fifth section. The sixth section looks into how frequently various teaching methods are utilised, the criteria variable, and correlates relate to the subjects examined. The second stage of the interpretation and analysis of the data from the correlation research is presented in the seventh part. The study's criteria and associated predictors are each given numerous regression equations in the eighth section. The Residual plots of various teaching philosophies are explained in the ninth section. The testing of four teaching approaches' claims that students will learn more effectively is discussed in the tenth part. The evaluation of the Socratic Method and various learning outcomes are covered in the eleventh section. The testing of the Case Methods with multiple learning outcomes is explained in the twelfth part. The project-based learning model and numerous learning outcomes are displayed in the thirteenth section. The other Teaching Approaches and varied Learning Outcomes are explained in the fourteenth section. The descriptive statistical analysis that demonstrates the relationship between various teaching strategies and learning outcomes is presented in the final part.

4.2 Null hypothesis (H_0)

“A null hypothesis is useful in testing the significance of difference. The null hypothesis states that no relationship exists between the variables studied or no difference will be found between treatments. The null hypothesis (statistical test of no difference), states that there is no relationship between the variables concerned.

A null hypothesis states that there is no significant difference between two parameters. It concerns a judgment as to whether apparent differences are true differences or whether they merely result from sampling error.

Here, the investigator uses the null hypothesis as a useful tool in testing the difference between the two group means. When the differences found between samples means is great enough to

assume importance of desired level of significance it cannot be accidental or due to errors and the null hypothesis is rejected.

The second type of hypothesis is the research hypothesis. The research hypothesis usually states a relationship between two or more variables that the experimenter predicts, will emerge. the directional hypothesis states a relationship between the variables being studied or a difference between experimental treatments that the researcher expects to emerge.

Rejecting a null or negative hypothesis provides a stronger test of logic. Evidence that is inconsistent with a particular negative hypothesis provides a strong basis for its rejection.

Here research hypothesis of the study stated in positive and substantive forms are restated in Null forms and relevant statistical test is applied.

4.3 Differential Studies

This section highlights differential studies identifying the differences between any two subgroups of the sample by applying 't' test.

4.3.1 The 't' Test

The 't' test is a statistical test that allows the researcher to compare two means to determine the probability that the difference between the means is a real difference rather than a chance difference".[9]

The test of significance of the difference between the two means is known as the 't' test. It involves the computation of the ratio between the Experimental variance (observed difference between the two sample means) and the error variance (the sampling error factor).[10]

$$t = \frac{M_1 - M_2}{\sqrt{\frac{S_{D1^2}}{N_1} + \frac{S_{D2^2}}{N_2}}} = \frac{Experimental\,Variance}{Error\,Variance\,(sampling\,error)}$$

M_1 = Mean score of the first group

M_2 = Mean score of the second group

S_{D1} = Standard Deviation of the first group

S_{D2} = Standard Deviation of the Second group

N_1 = Size of the first group

N_2 = Size of the second group

The computed ‘t’ value is compared with the values of ‘t’ given in the ‘t’ table at the appropriate degree of freedom and at required level of significance. If the calculated ‘t’ value is greater than or equal to the table ‘t’ value, then the difference between the sample means is significant at that level of significance.[11]

4.3.2 Level of significance

The experimenter and research workers have for convenience, chosen several arbitrary standards, called “level of significance” of which the 0.05 and 0.01 are most often used. The confidence with which an experimenter rejects or retains a null hypothesis depends upon the level of significance adopted.[12]

In psychological and educational circles, the 5 percent (0.05) alpha level of significance is used as a standard for rejection. Rejecting a null hypothesis at 0.05 levels of significance indicates that a difference in means as large as that found between Experimental and Control group means would not likely have resulted from sampling error in more than 5 out 100 replication of the study. This suggests a 95 percent probability that the difference was due to the Experimental treatment rather than to sampling error.

A more rigorous test of significance is the one percent (0.01) level. Rejecting a null hypothesis at the 0.01 level would suggest that as large as a difference between the Experimental and Control mean achievements would not likely have resulted from sampling error in more than one in 100 replications of the study.[13]

With alpha equal to 0.001 there is only one chance in a thousand of being wrong.[14]

Below 1.98 - Not significant	S.-Level of Significant
98 - 2.55 - 0.05 level	N.S.-Not Significant
56 - 3.29 - 0.01 level	S.D.-Standard Deviation

4.3.3 Test Performance

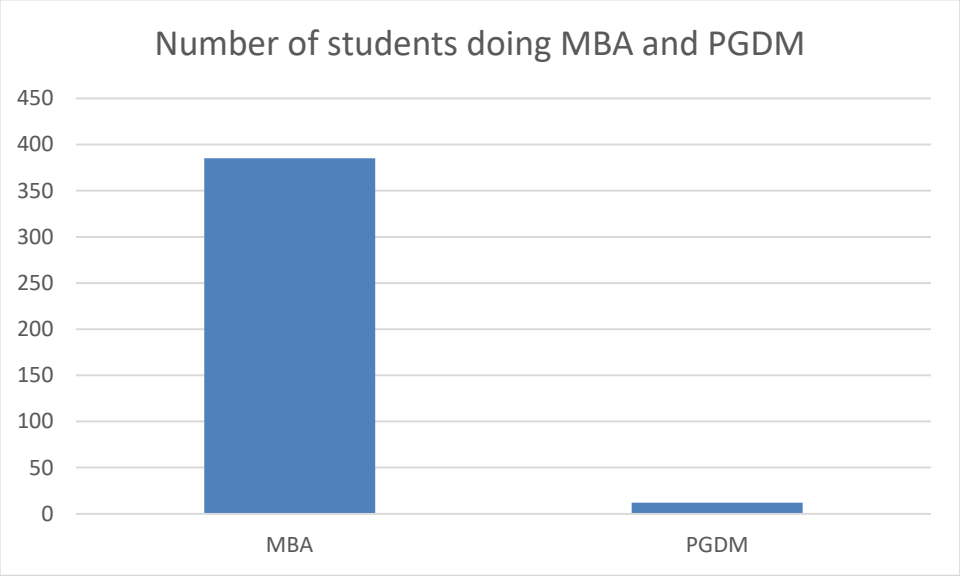
The test was administered and the mean scores and standard deviation of the test of all the groups of different colleges were calculated. By computing ‘t’ test, the significance of difference between the means of the scores of the different teaching methods. The results are furnished in the subsequent tables.

Table 4.3.4 Different Courses of the respondents

MBA	PGDM	Total
385	12	397
96.98	3.02	100%

Source: Primary Data

Figure 4.3.4 Different Courses of the respondents



From the table and figure 4.3.4, it is inferred that 385 respondents are doing MBA (96.98%) and remaining respondents doing PGDM course (3.02%).

4.4 Factor Analysis

A statistical method called factor analysis is used in research to investigate the underlying patterns or structures in a set of observed variables. It is frequently used in the social sciences, psychology, and other disciplines to pinpoint the latent elements that are responsible for the correlations between variables that are seen to exist.

The goal of factor analysis is to identify the number of underlying factors that can be used to explain the correlations or covariances between a set of observed variables. In this research analysis, Factor analysis used for identifying 18 variables for each Teaching Method to find its influence on the dependant variables such as learning outcomes.

Present the factor loadings, which show the intensity and direction of the relationships between each variable and each factor, in order to interpret the factors. Based on the pattern of loadings and any theoretical or conceptual considerations, interpret the significance of the factors.

Assess the factors' validity and reliability using metrics like Cronbach's alpha or the factor score coefficient. By analysing how the factors relate to outside standards or how they stack up against established ideas, we can talk about the variables' validity.

Discuss the implications of the factor analysis in light of your study's aims and research question. Interpret the consequences of the factors that have been identified for theory, practise, or upcoming studies.

4. 4.1 Factor analysis – Socratic method

Table: 4.4.1 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.552
Bartlett's Test of Sphericity	Approx. Chi-Square	886.335
	df	129
	Sig.	.000

Source: As per the Researcher’s Analysis

The KMO Vale is 0.552, which is less acceptable, however, depending on the sample size 397, we will consider this for factor analysis.

Table 4.4.2 Variable Description for Socratic Method

Variable	Description	Components
V1	Does Socratic Method exhibit memory of previously learned material by recalling fundamental facts, terms, basic concepts and answers about the selection?	Memorizing (C1)
V2	Does Socratic Method demonstrate the recollection of facts and ideas by organizing, comparing, translating, interpreting, giving descriptors and stating main ideas?	
V3	Are you able to recollect the knowledge you gained from school studies by listening to your teachers' questions?	
V4	Does Socratic Method give you the understanding of facts, concepts and theories?	Understanding (C2)
V5	Do you agree that you understand the lessons better by listening to right questions and doing it practically?	
V6	Do you agree that the quality questions by the teachers make you understand the facts and figures connected together to form information?	
V7	Do you think right questions generate right thoughts, right words and right actions?	Application (C3)
V8	Do you agree that the activity based classes are motivated by the questions from the teacher and students?	
V9	Does Socratic Method create positive attitude towards learning, developing skills and applying in live situations?	

V10	Do you agree questions with interpretation organize the way in you for analysing the concepts, theories and problems?	Analysis (C4)
V11	Do you think questioning drive your thoughts to deal with complexity and breaking into components for finding solutions?	
V12	Do you agree teachers' questions forces you to find answers of what, when, who, where, why and how?	
V13	Do you agree that questions define tasks, express problems and initiate solutions?	Evaluation (C5)
V14	Do you agree that right questions improve curiosity to learn better by evaluating the alternative solutions?	
V15	Do you agree that the right questioning by teachers make you able to make better decision making power?	
V16	Does Socratic Method make your creativity in developing solutions and learning by self?	Creativity (C6)
V17	Do you agree that quality of the questions students ask in the class determines the quality of the thinking as well as learning?	
V18	Do you agree that the questions by the teachers make the students able to create their own models?	

Source: As per Researcher's Analysis

Interpretation: Table 4.4.2 describes variables of Socratic Method affecting the learning outcomes such as memorizing, understanding, application, analysis, evaluation and creativity. It is found that there is a high degree of positive correlation between the learning outcomes and the independent variables of Teaching method.

Table: 4.4.3 List of variables and components for Socratic Method

Variable	Description	Values as per SPSS Output	Components
V8	Do you agree that the activity based classes are motivated by the questions from the teacher and students?	.586	Application and Analytical Ability
V11	Do you think questioning drive your thoughts to deal with complexity and breaking into components for finding solutions?	.966	
V12	Do you agree teachers' questions forces you to find answers of what, when, who, where, why and how?	.966	
V13	Do you agree that questions define tasks, express problems and initiate solutions?	.802	

Source: Researcher's analysis

From the table 4.4.3 it is found that the variables V8, V11, V12, V13 have more loadings on the components like *Application and Analytical ability*. That means the Socratic method generates the components of Application, and Analytical Ability. By asking right questions to the students in using Socratic Method of Teaching, students will be able to apply the theories, formulae and techniques to get solutions to the problems and improve his/her ability to ask probable questions and find answers to those questions. It also enables that a student understands the whole of something and can break the whole in to components and understand each component better in how they fit together into the whole for understanding the whole of something better than before.

Table 4.4.4 List of variables and components for Socratic Method

Variable	Description	Values as per SPSS Output	Components
V2	Does Socratic Method demonstrate the recollection of facts and ideas by organizing, comparing, translating, interpreting, giving descriptors and stating main ideas?	.966	Memorizing and Analysis
V3	Are you able to recollect the knowledge you gained from school studies by listening to your teachers' questions?	.966	
V10	Do you agree questions with interpretation organize the way in you for analysing the concepts, theories and problems?	.802	

Source: As per Researcher's analysis

From the table 4.4.4 it is found that the variables V2, V3 and V10 have more loadings on the component *Memorizing,* and *Analysis*. That means the Socratic method generates the components of *Memorizing and Analysis.* While using the Socratic method of teaching, students can memorize the concepts and theories learned and it will help analysing the whole of something into components and understanding the components in detail, how it will all join for the whole. Challenge seekers self-reported a tolerance for failure, a learning goal orientation, and a higher than average self-efficacy in learning and doing.

Table: 4.4.5 List of variables and components for Socratic Method

Variable	Description	Values as per SPSS Output	Components
V10	Do you agree questions with interpretation organize the way in you for analysing the concepts, theories and problems?	.799	Analysis and Evaluation
V4	Does Socratic Method give you the understanding of facts, concepts and theories?	.611	

V15	Do you agree that the right questioning by teachers make you able to make better decision making power?	.591	

Source: As per Researcher's analysis

From the table 4.4.5 it is found that the variables V10, V4, and V15 have the component *Analysis and Evaluation*. That means the Socratic method generates the components of *Analysis and Evaluation.*

Table: 4.4.6 List of variables and components for Socratic Method

Variable	Description	Values as per SPSS Output	Components
V16	Does Socratic Method make your creativity in developing solutions and learning by self?	.550	Creativity and Evaluation
V15	Do you agree that the right questioning by teachers make you able to make better decision making power?	.404	

Source: As per Researcher's analysis

From the table 4.4.6 it is found that the variables V16 and V15 have the component *Creativity*, and *Evaluation.* That means the Socratic method generates the components of Evaluation and Creativity.

Table: 4.4.7 List of variables and components for Socratic Method

Variable	Description	Values as per SPSS Output	Components
V14	Do you agree that right questions improve curiosity to learn better by evaluating the alternative solutions?	.859	Evaluation and Application
V9	Does Socratic Method create positive attitude towards learning,		

	developing skills and applying in live situations?	.852	

Source: As per Researcher's analysis

From the table 4.1.7 it is found that the variables V14 and V9 have the component *Evaluation*, and *Application*. That means the Socratic method generates the components of *Evaluation and Application.*

4.5 Factor Analysis - Case study method as a Pedagogy

4. 5.1 Factor Analysis – Case Method

Variable	Description	Components
V1	Does Case Study Method exhibit memory of previously learned material by recalling fundamental facts, terms and basic concepts?	Memorizing (C1)
V2	Do you agree that by using Case Method, you will be able to recollect the theories studied earlier?	
V3	Do you agree that Case Method will enable you to remember the types of analysis done early or someone else?	
V4	According to you, does Case Study Method demonstrate understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas?	Understanding (C2)
V5	Do you agree that Case Method used by teachers make students understand better the concepts and theories?	
V6	Do you agree that knowledge come from understanding of information and Case Method is helpful for that?	
V7	Do you agree that the Case Method is effectively used in Problem solving and Decision making?	Application (C3)
V8	Do you agree the criteria for selection of cases for study help the students in applying their thoughts and ideas?	
V9	Do you agree that by solving Case Study in the class the students will be able to apply formulae and models for arriving at optimum solutions?	
V10	Do you agree that while discussing and solving cases in the classroom, students are able to	

	differentiate, organize and compare concepts and theories to arrive at optimum solutions?	
V11	Do you agree that while doing cases students are able to examine experiment and question the concepts and theories in the classroom?	Analysis (C4)
V12	Do you agree that Case method will make students capable of breaking the problem into sub-parts and analyze it?	
V13	Do you agree that Case Study method of teaching immerses the students into realistic business situations and able to draw connections?	
V14	Do you agree that by using Case Method the students' ability to evaluate a situation or a problem will improve?	Evaluation (C5)
V15	Do you agree that by solving Case study the students will be able to appraise, argue, defend and select a stand or a decision?	
V16	Do you agree that by doing Case Study, students will be able to investigate and develop innovative solutions to problems under study?	
V17	Do you agree that by doing Case Study students will be able to design, assemble and construct models?	Creativity (C6)
V18	Do you agree that by doing Case Study students will be able to develop, investigate and formulate new theories and concepts?	

Source: SPSS output

4. 5. 2 Factor Analysis – Project Based Learning

Table 4.5.2.1 KMO and Bartlett's Test - PBL

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.543
Bartlett's Test of Sphericity	Approx. Chi-Square	825.801
	df	136
	Sig.	.000

Source: As per the Researcher's Analysis

The KMO Vale is 0.543, which is acceptable, however, depending on the sample size 397, we will consider this for factor analysis.

Table 4. 5.2.2 Factor Analysis – Project Based Learning

Variable	Description	Components
V1	Does Project Based Learning exhibits the memory of Previously learned material by recalling fundamental facts and basic concepts?	Memorizing (C1)
V2	Do you agree that by using Project Based Learning, you will be able to recollect the theories studied earlier?	
V3	Do you agree that Project Based Learning will enable students to remember the types of analysis done early or someone else?	
V4	According to you, does Project Based Learning demonstrate understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas?	Understanding (C2)
V5	Do you agree that Project Based Teaching used by teachers make students understand better the concepts and theories?	
V6	Do you agree that knowledge come from understanding of information and Project Based Learning is helpful for that?	
V7	Do you agree that the Project Based Learning is effectively used in Problem solving and Decision making?	Application (C3)
V8	Do you agree the criteria for selection of Project Based Learning help the students in applying their thoughts and ideas?	
V9	Do you agree that by solving Project Based teaching in the class the students will be able to	

	apply formulae and models for arriving at optimum solutions?	
V10	Do you agree that while discussing and solving problems in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions?	Analysis (C4)
V11	Do you agree that while doing a project students are able to examine experiment and question the concepts and theories in the classroom?	
V12	Do you agree that problem solving will make students capable of breaking the problem into sub-parts and analyse it?	
V13	Do you agree that Project based method of teaching immerses the students into realistic business situations and able to draw connections?	Evaluation (C5)
V14	Do you agree that by using Project Method the students' ability to evaluate a situation or a problem will improve?	
V15	Do you agree that by solving a problem the students will be able to appraise, argue, defend and select a stand or a decision?	
V16	Do you agree that by doing a project, students will be able to investigate and develop innovative solutions to problems under study?	Creativity (C6)
V17	Do you agree that by doing a project, students will be able to design, assemble and construct models?	
V18	Do you agree that by doing a project student will be able to develop, investigate and formulate new theories and concepts?	

Source: As per Researcher's Analysis

Table: 4.5.3 List of variables and components - PBL

Variable	Description	Values as per SPSS Output	Components
V3	Do you agree that Project Based Learning will enable students to remember the types of analysis done early or someone else?	.701	Memorizing and Understanding
V6	Do you agree that knowledge come from understanding of information and Project Based Learning is helpful for that?	.686	
V4	According to you, does Project Based Learning demonstrate understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas?	.610	
V5	Do you agree that Project Based Teaching used by teachers make students understand better the concepts and theories?	.546	

Source: As per Researcher's Analysis

From the table 4.3.3 it is found that the variable V3, V6, V4, and V5 have more loadings on the component *Memorising* and *Understanding*. That means the Project Based Learning generates the components of *Memorizing and Understanding.*

Table 4.5.4 List of variables and components - PBL

Variable	Description	Values as per SPSS Output	Components
V9	Do you agree that by solving Project Based teaching in the class		

	the students will be able to apply formulae and models for arriving at optimum solutions?	.735	Application and Evaluation
V7	Do you agree that the Project Based Learning is effectively used in Problem solving and Decision making?	.721	
V13	Do you agree that Project based method of teaching immerses the students into realistic business situations and able to draw connections?	.624	

Source: As per Researcher's Analysis

From the table 4.3.4 it is found that the variables V9, V7 and V13 have more loadings on the component *Application andEvaluation*. That means the Project Based Learning method generates the components of *Application and Evaluation.*

Table: 4.5.5 List of variables and components

Variable	Description	Values as per SPSS Output	Components
V5	Do you agree that Project Based Teaching used by teachers make students understand better the concepts and theories?	.531	Understanding and Analysis
V11	Do you agree that while doing a project students are able to examine experiment and question the concepts and theories in the classroom?	.574	

Source: As per Researcher's Analysis

From the table 4.3.5 it is found that the variables V5 and V11 have the component *Understanding* and *Analysis.* That means the Project Based Learning generates the components of *Understanding and Analysis.*

Table: 4.5.6 List of Variables and Components - PBL

Variable	Description	Values as per SPSS Output	Components
V17	Do you agree that by doing a project, students will be able to design, assemble and construct models?	.780	Creativity and Evaluation
V14	Do you agree that by using Project Method the students' ability to evaluate a situation or a problem will improve?	.579	

Source: As per the Researcher's Analysis

From the table 4.3.6 it is found that the variables V17 and V14 have a component of *Creativity and Evaluation*. That means the Project Based Learning method generates the components of *Evaluation and Creativity.*

Table: 4.5.7 List of Variables and Components - PBL

Variable	Description	Values as per SPSS Output	Components
V15	Do you agree that by solving a problem the students will be able to appraise, argue, defend and select a stand or a decision?	.870	Analysis and Creativity
V12	Do you agree that problem solving will make students capable of breaking the problem into sub-parts and analyse it?	.757	
V16	Do you agree that by doing a project, students will be able to		

	investigate and develop innovative solutions to problems under study?	.665	

Source: As per Researcher's Analysis

From the table 4.3.7 it is found that the variables V15, V12 and V16 have the component *Analysisand Creativity*. That means the Project Based Learning method generates the component of *Analysis and Creativity.*

Table: 4.5.8 List of Variables and Components - PBL

Variable	Description	Values as per SPSS Output	Components
V1	Does Project Based Learning exhibits the memory of Previously learned material by recalling fundamental facts and basic concepts?	.612	Memorizing
V2	Do you agree that by using Project Based Learning, you will be able to recollect the theories studied earlier?	.611	

Source: As per Researcher's Analysis

From the table 4.3.8 it is found that the variables V1 and V2 have the component *Memorizing.* That means the Project Based Learning method generates the component of *Memorizing.*

4. 6 Factor Analysis – Any other Teaching Method

Table 4.6.1 KMO and Bartlett's Test - AOT

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.552
Bartlett's Test of Sphericity	Approx. Chi-Square	886.335
	df	136
	Sig.	.000

Source: As per the Researcher's Analysis

The KMO Vale is 0.552, which is acceptable, however, depending on the sample size 397, we will consider this for factor analysis.

Table 4.6.2 Variable Description for Any Other Teaching Method

Variable	Description	Components
V1	Does this Method exhibit memory of previously learned material by recalling fundamental facts, terms, and basic concepts?	Memorizing (C1)
V2	Do you agree that by using this teaching method, the student will be able to recollect the theories studied earlier?	
V3	Do you agree that this method of teaching will enable you to remember the types of analysis done early or someone else?	
V4	According to you, does this method of teaching demonstrate an understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas?	Understanding (C2)
V5	Do you agree that this method of teaching used by teachers makes students understand better the concepts and theories?	
V6	Do you agree that knowledge comes from the understanding of information and this method of teaching is helpful for that?	
V7	Do you agree that this method of teaching is effectively used in Problem-solving and Decision making?	Application (C3)
V8	Do you agree with the criteria for the selection of examples for study, help the students in applying their thoughts and ideas?	
V9	Do you agree that by solving problems in the class the students will be able to apply formulae and models for arriving at optimum solutions?	

V10	Do you agree that while discussing and solving problems in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions?	
V11	Do you agree that while doing an exercise, students are able to examine experiments and question the concepts and theories in the classroom?	
V12	Do you agree that this method of teaching will make students capable of breaking the problem into sub-parts and analyzing it?	Analysis (C4)
V13	Do you agree that this method of teaching immerses the students into realistic business situations and able to draw connections?	
V14	Do you agree that by using this method of teaching the students' ability to evaluate a situation or a problem will improve?	Evaluation (C5)
V15	Do you agree that by solving problems the students will be able to appraise, argue, defend and select a stand or a decision?	
V16	Do you agree that by doing this method of learning, students will be able to investigate and develop innovative solutions to problems under study?	
V17	Do you agree that by doing this method of teaching students will be able to design, assemble and construct models?	Creativity (C6)
V18	Do you agree that by doing this method of teaching students will be able to develop, investigate and formulate new theories and concepts?	

Source: As per Researcher's Analysis

Table: 4.6.3 List of variables and components - AOT

Variable	Description	Values as per SPSS Output	Components
V9	Do you agree that by solving problems in the class the students will be able to apply formulae and models for arriving at optimum solutions?	.832	Application and Creativity
V16	Do you agree that by doing this method of learning, students will be able to investigate and develop innovative solutions to problems under study?	.682	
V7	Do you agree that this method of teaching is effectively used in Problem-solving and Decision making?	.677	

Source: As per Researcher's Analysis

From the table 4.6.3 it is found that the variables V9, V16, V7 have more loadings on the component Application *and Creativity*. That means the 'Any other teaching method' generates the component of *Application and Creativity.*

Table 4.6.4 List of Variables and Components - AOT

Variable	Description	Values as per SPSS Output	Components
V15	Do you agree that by solving problems the students will be able to appraise, argue, defend and select a stand or a decision?	.673	Evaluation

Source: As per the Researcher's Analysis.

From the table 4.6.4 it is found that the variable V15 has more loadings on the component *Evaluation*. That means the 'Any other teaching method' generates the components of *Evaluation.*

Table: 4.6.5 List of variables and Components - AOT

Variable	Description	Values as per SPSS Output	Components
V13	Do you agree that this method of teaching immerses the students into realistic business situations and able to draw connections?	.749	Evaluation

Source: As per the Researcher's Analysis

From the table 4.6.5 it is found that the variable V13 has the component *Evaluation*. That means the 'Any other teaching method' generates the component of *Evaluation.*

Table: 4.6.6 List of Variables and Components - AOT

Variable	Description	Values as per SPSS Output	Components
V11	Do you agree that while doing an exercise, students are able to examine experiments and question the concepts and theories in the classroom?	.735	Analysis
V10	Do you agree that while discussing and solving problems in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions?	.605	

Source: As per Researcher's Analysis

From the table 4.6.6 it is found that the variables V11 and V10 have a component of *Analysis*. That means the 'Any other teaching method' generates the component of *Analysis.*

Table: 4.6.7 List of variables and Components – Lower levels of learning outcomes

Variable	Description	Values as per SPSS Output	Components
V1	Does this Method exhibit memory of previously learned material by recalling fundamental facts, terms, and basic concepts?	.728	Memorizing

Source: As per Researcher's Analysis

From the table 4.6.7 it is found that the variable V1 has the component *Memorizing*. That means the 'Any other teaching method' generates the component of Memorizing.

Table: 4.6.8 List of Variables and Components - Application

Variable	Description	Values as per SPSS Output	Components
V8	Do you agree with the criteria for the selection of examples for study, helping the students in applying their thoughts and ideas?	.719	Application

From the table 4.6.8 it is found that the variable V8 has a component of *Application*. That means the 'Any other teaching method' generates the components of Application.

Table: 4.6.9 List of Variables and Components – Understanding and evaluation

Variable	Description	Values as per SPSS Output	Components
V4	According to you, does this method of teaching demonstrate an understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas?	.703	Understanding and Evaluation
V14	Do you agree that by using this method of teaching the students'	.561	

	ability to evaluate a situation or a problem will improve?		

From the table 4.6.9 it is found that the variables V4 and V14 have the component *Understanding* and *Evaluation*. That means the 'Any other teaching method' generates the component of *Understanding and Evaluation.*

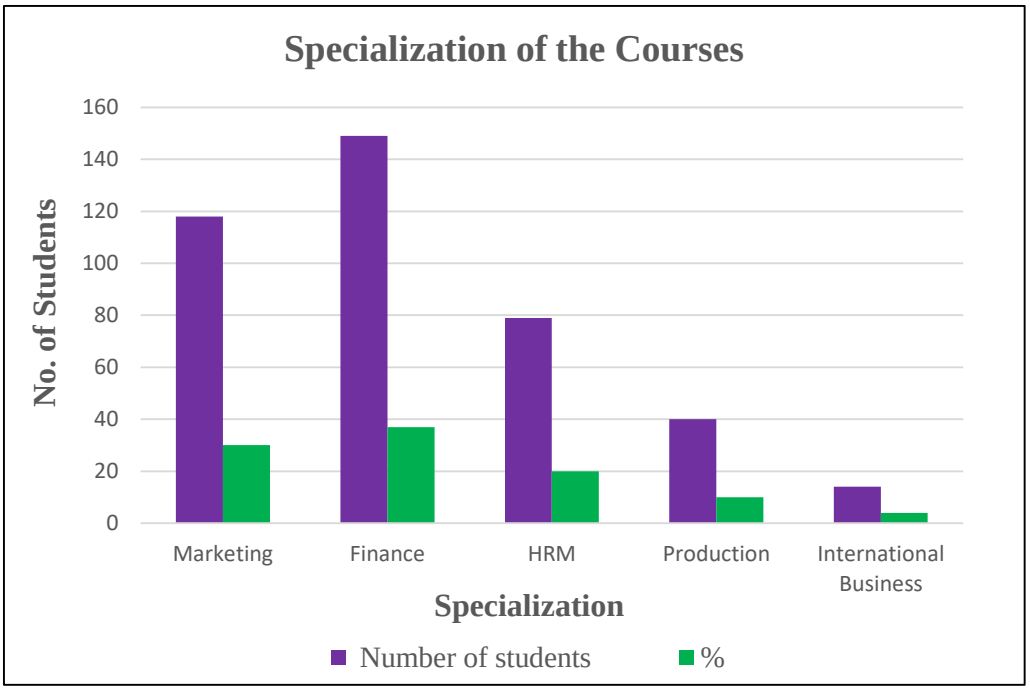
4.7 Demographic Variable analysis

Demographic variables analysed as percentage values and presented in the following tables and figures. However, there is no direct influence of these demographic variables for the learning outcomes of the students. Specialization of their master's degree, work-experience and the students' previous study have little influence in the learning outcomes in case of lower level of learning outcomes like understanding, memorizing and application. However, there is not much influence of these variables in the higher learning outcomes like analysis, evaluation and creativity while using teaching methods like Socratic Method, Case Study Method and Project Based Learning.

Table 4.7.1 Specialization opted by students in MBA

Specialization	Number of Students	Percentage
Marketing	118	30
Finance	152	38
HRM	78	20
Production	38	9
International Business	11	3
Total	**397**	**100**

Figure 4.7.2 Specialization opted by the students in MBA



4.7.3 Different major graduation Courses

The following table 4.6.1 furnishes the percentage of the different courses.

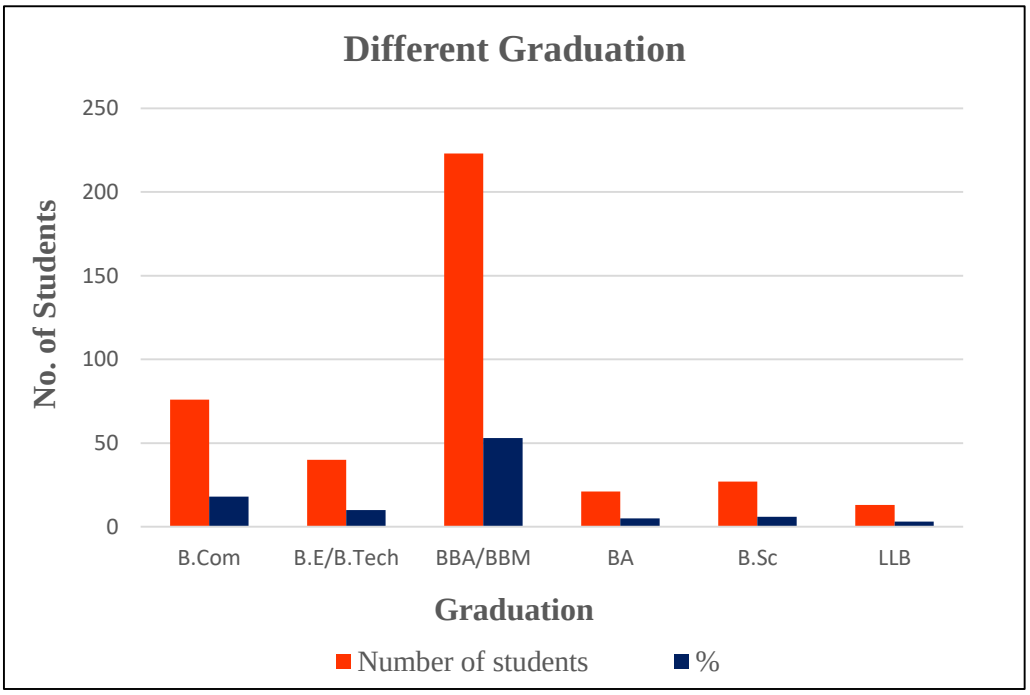
Table 4.7.3 Different graduation

Graduation	Number of students	%
B.Com	76	18
B.E/B.Tech	41	10
BBA/BBM	204	53
BA	21	5
B.Sc	27	6
LLB	13	3
Any other Degree	15	5
	397	100

Source: Primary Data

From the above table 4.7.3 it is observed that 18 percentages of the respondents were Bachelor of Commerce. 10 percentage of the respondent were B.E/B.Tech students. 53 percentage of the respondent were BBA/BBM. 5 percentage of the respondent were B.A. 6 percentage of the respondent were B.Sc and remaining 3 percentage of the respondent were LLB graduation.

Figure 4.7.4 Graduate Studies of the Student



4.7.5 Different age groups of students

The following table 4.7.5 furnishes the different age groups of the students

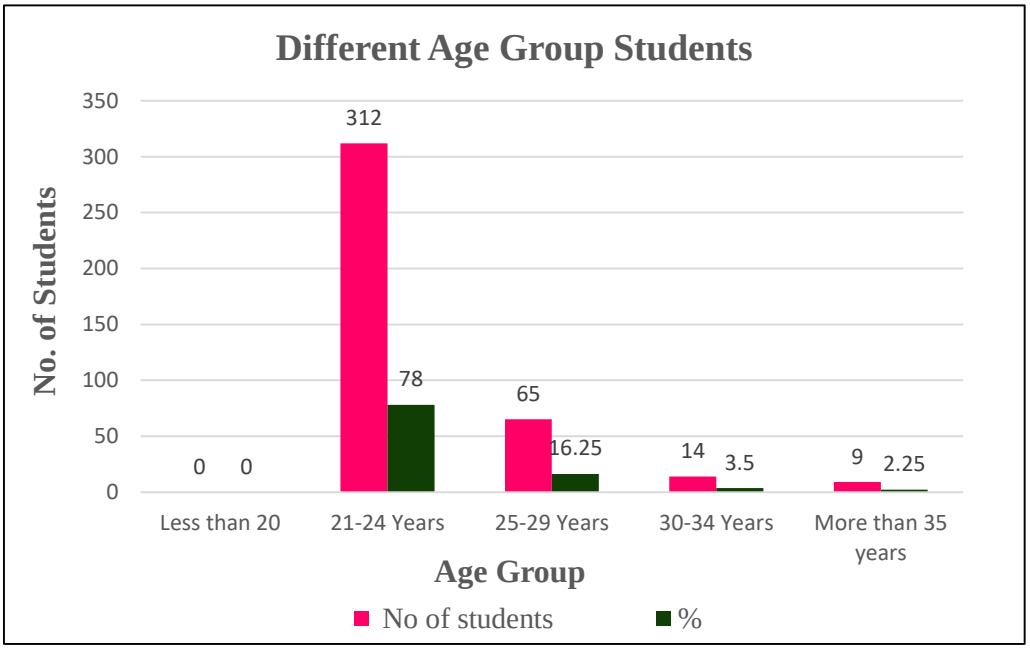
Table 4.7.5 Different age group students

Age	No of students	%
Less than 20	Nil	0
21-24 Years	309	78
25-29 Years	65	16.25
30-34 Years	14	3.5
More than 35 years	9	2.25
	397	100

Source: Primary Data

From the above table 4.7.5 it is observed that 78 percentages of the respondents were 21 – 24 years' age groups, 16.25 percentages of the respondents were 25 – 29 years age groups, 3.5 percentages of the respondents were 30 - 34 years age groups and remaining 2.5 percentages of the respondents were more than 35 years age groups. There is no respondent with less than 20 years of age as they are doing Post Graduation.

Figure 4.7.6 Different Age Group of Students



4.7.7 Marital status of Students

The following table 4.7.7 furnishes the marital status of the students

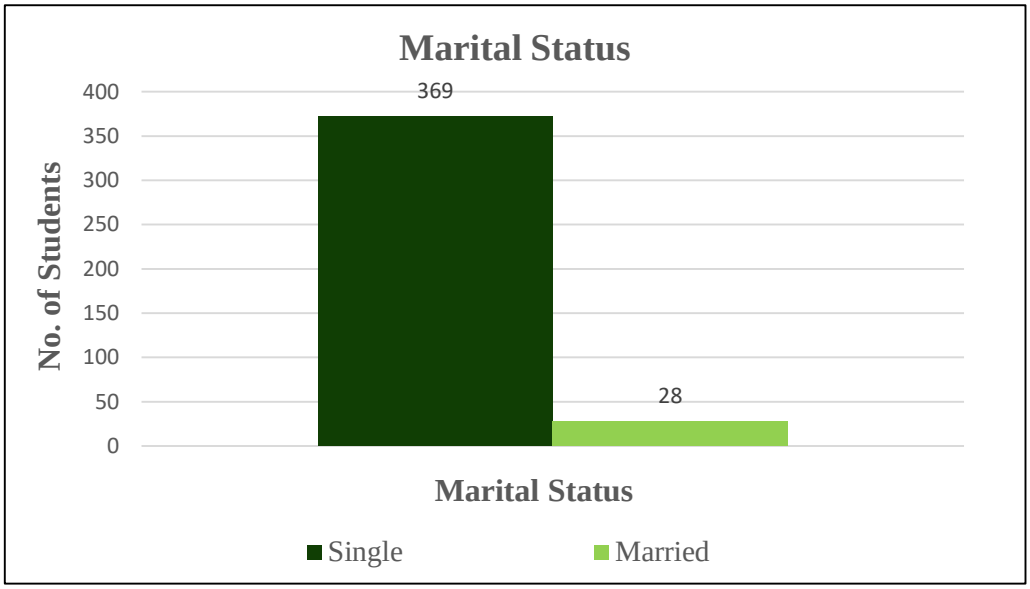
Table 4.7.7 Marital status of students

Marital status	No of the students	Percentage
Single	369	93
Married	28	7
Total	397	100

Source: Primary Data

From the above table 4.7.7, it is inferred that 369 respondents were single and remaining 28 respondents were married. There is no influence of the marital status with their learning outcome.

Figure 4.7.8 Marital Status of the students



4.7.9 Working Experience

The following table 4.7.9 furnishes the working experience of the students

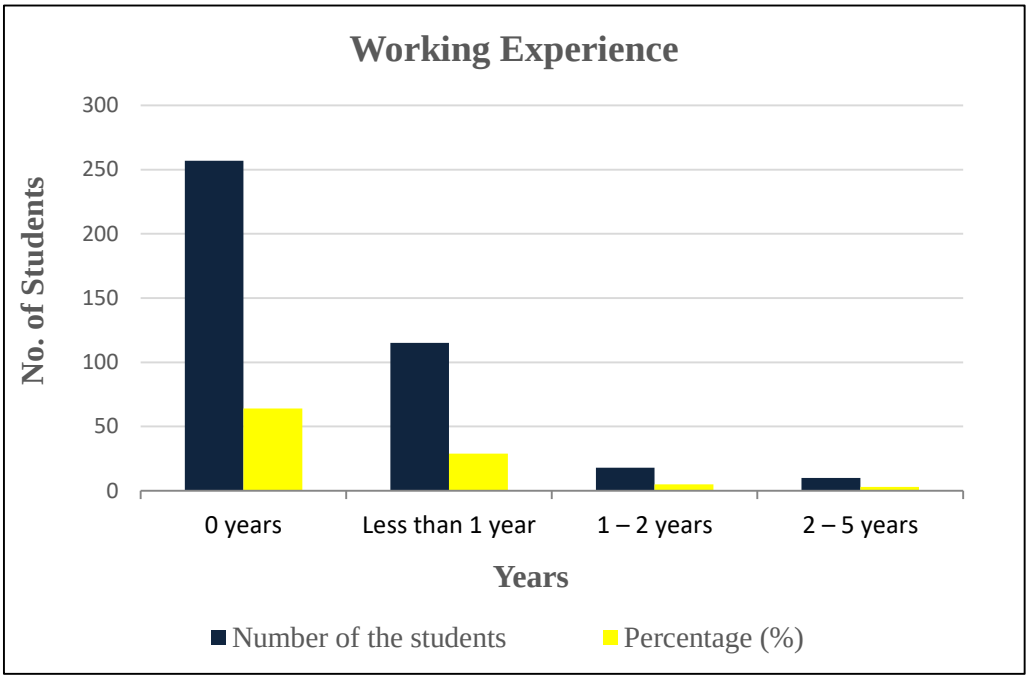
Table 4.7.9 Working experience

Number of the years	Number of the students	Percentage (%)
0 years	254	64
Less than 1 year	115	29
1 – 2 years	18	4.5
2 – 5 years	10	2.5
	397	100

Source: Primary Data

From the above table 4.7.9 it is observed that 63% of the respondents have no experience, less than one-year experience 29%, 5% of the respondents were with1-2 years of experience and 3% of the respondents were with 2-5 years of work experience.

Figure 4.7.10 Work Experience of the Respondents



It could be observed from the above table that 30 percentages of the respondents were marketing, followed by 36 percentages of the respondents were finance, 20 percentage of the respondent were HRM, 10 percentage of the respondent were production and remaining 4 percentage of the respondent were international business specialization of MBA degree.

4.8 Subjects Studied and the frequency of the different Teaching Methodologies used

This tabulation is about the subjects taught by different teachers and the selection of teaching methods used by them. This analysis helps us for finding suitable methodology for teaching specialized subjects.

4.8.1 Accounting

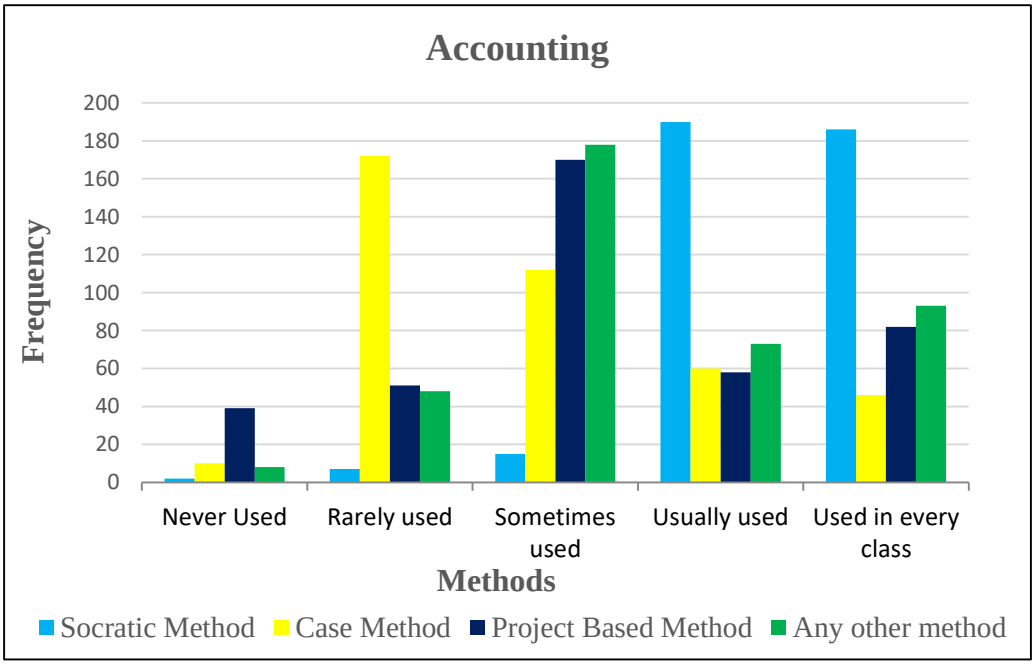
The following table brings out the data consisting of accounting in Socratic, case, project based and any other methods. For the purpose of this research, all other teaching methods like Lecture method, chalk and talk, classroom discussions, flipped classrooms and demonstration etc. are included in any other teaching method.

Table 4.8.1 Teaching Methodologies used for teaching Accounts

Frequency	Socratic Method	Case Method	Project Based Method	Any other method
Never Used	2	10	39	8
Rarely used	7	169	51	48
Sometimes used	15	112	167	175
Usually used	188	60	58	73
Used in every class	185	46	82	93
Total	**397**	**397**	**397**	**397**

Source: Primary Data

Figure 4.8.2 Teaching Methodologies used for teaching Accounts



Inference: From the table 4.8.1 it is observed that for teaching Accounts Socratic Method and Problem Based teaching and learning is used by the majority of the teachers. It is also observed that many teachers use any other teaching methods other than Socratic Method, Case Method, and Project Based Learning. Case Studies and Project Based Learning are used rarely by the teachers for teaching Accounts.

Table 4.8.1.1 Statistical Calculation

Calculation	Value	p Value	f Criteria	t Critical one-tail
Mean	320	-	-	-
Standard Deviation	162.17	-	-	-
	-	1	3.28	
	-	0.28	3.25	-
	-	0.5	-	1.85

Source: As per Calculation

4.8.1.1 Mean and SD

Mean value and Standard deviation are 320, 162.17 respectively. This shows that 320 out of the 397 respondents agree that the teachers use Socratic method and Case study method more often than the Project based learning. The standard deviation of 162.17 shows that the confusion among the students regarding the teaching method used by the teacher or the combination of teaching methods.

ANOVA Single

From the above table 4.8.1.1, it is inferred that there is no significant difference between subject of accounting in Socratic, case, project based and other methods. (p Value < f Criteria)

ANOVA–Two factor without replication

From the above table 4.8.1.1, it is inferred that there is no significant difference between the subject of accounting in Socratic, case, project based and other methods. (p Value < f Criteria)

t-Test

From the above table 4.8.1.1, it is inferred that there is no significant difference between the subject of accounting in Socratic, case, project based and other methods. (p Value < t Criteria)

4.8.3 Teaching Methodologies used for teaching Economics

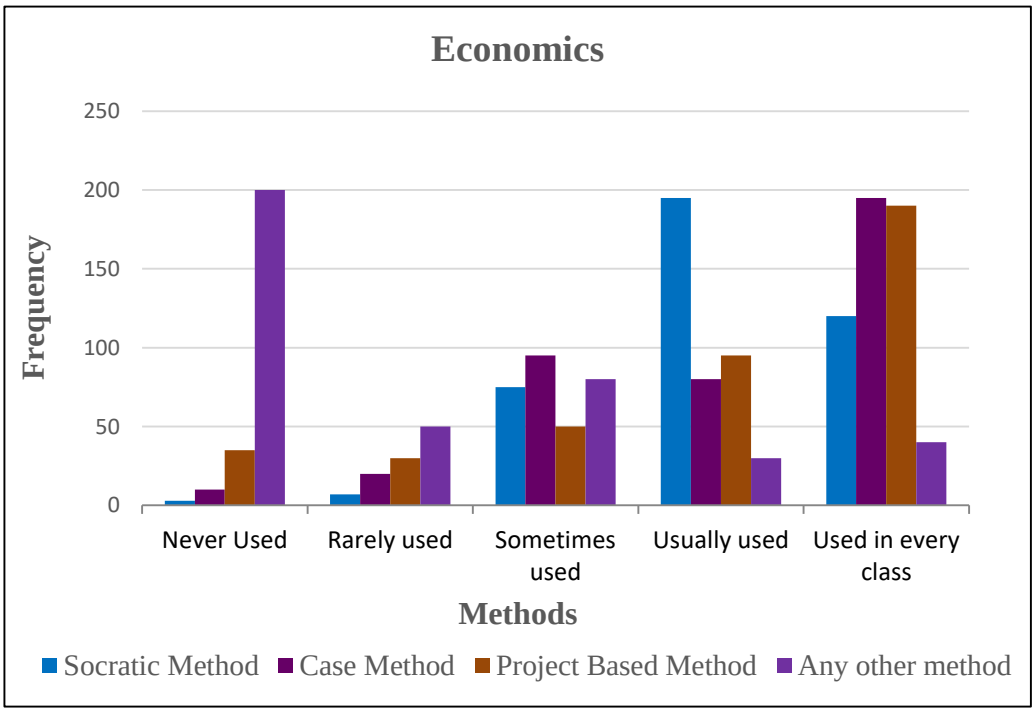
The following table 4.8.3 brings out the data consisting of economics in Socratic, case, project based and other methods.

Table 4.8.3.1Teaching Methodology for Economics

Frequency	Socratic Method	Case Method	Project Based Method	Any other method
Never Used	3	10	35	197
Rarely used	7	20	30	50
Sometimes used	75	95	50	80
Usually used	192	80	95	30
Used in every class	120	192	187	40
Total	**397**	**397**	**397**	**397**

Source: Primary Data

Figure 4.8.3.2 Teaching Methodology used for Economics



Inference: From the table 4.8.3.1 it is observed that for teaching Economics majority of the teachers use Socratic Method, Case Method and Problem Based teaching and learning. It is also observed that Less number of teachers use any other teaching methods other than Socratic Method, Case Method, and Project Based Learning. Case Studies and Problem Based Learning are used by majority of the teachers for teaching Economics.

The following table brings out the data consisting of economics subject in Socratic, case, project based and other methods

Table 4.8.3.3 Economics – Statistical Calculation

Calculation	Value	p Value	f Criteria	t Critical one-tail
Mean	320			
Standard Deviation	164.30			
ANOVA -Single		1	3.23	
ANOVA – Two Factor Without Replication		0.29	3.25	
t Test		0.5		1.87

Source: As per Calculation

Mean and SD

Mean value and Standard deviation are 320, 164.30 respectively. Mean value shows that 320 respondents out of 397 agree that the majority of teachers use all the three teaching methodologies for teaching economics.

ANOVA Single: From the above table 4.8.2.3, it is inferred that there is no significant difference between the subject of economics in Socratic, case, project based and other methods (p Value < f Criteria)

ANOVA Two factor without replication: From the above table 4.8.2.3, it is inferred that there is no significant difference between the subject of economics in Socratic, case, project based and other methods. (p Value < f Criteria)

t-Test: From the above table 4.6.2.3, it is inferred that there is no significant difference between the subject of economics in Socratic, case, project based and other methods. . (p Value < t Criteria)

4.8.4 Teaching Methodologies used for Statistics

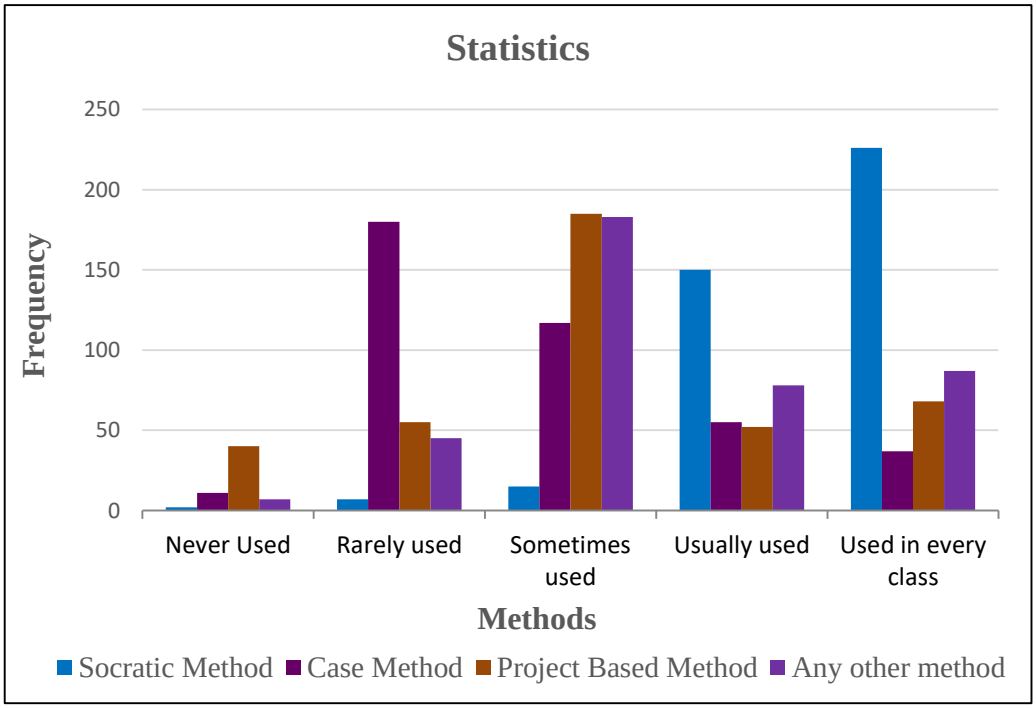
The following table 4.6.3.1 brings out the data consisting of statistics in Socratic, case, project based and other methods.

Table 4.8.4.1. Teaching methodology used for statistics

Frequency	Socratic Method	Case Method	Project Based Method	Any other method
Never Used	2	11	40	7
Rarely used	7	179	55	45
Sometimes used	15	115	182	180
Usually used	150	55	52	78
Used in every class	223	37	68	87
Total	**397**	**397**	**397**	**397**

Source: Primary Data

Figure 4.8.4.2 Teaching Methodology for Teaching Statistics



Inference: From the table 4.8.4.1 it is observed that for teaching Statistics majority of the teachers use Socratic Method, and Problem Based teaching and learning. It is also observed that Less number of teachers use any other teaching methods other than Socratic Method, and Problem

Based Learning. Socratic Method and Problem Based Learning are used by majority of the teachers for teaching Statistics.

The following table 4.8.4.2 brings out the data consisting of statistics in Socratic, case, project based and other methods.

Table 4.8.4.2 Statistical Calculation

Calculation	Value	p Value	f Criteria	t Critical one-tail
Mean	320			
Standard Deviation	166.52			
ANOVA -Single		1	3.24	
ANOVA – Two Factor Without Replication		0.32	3.26	
t Test		0.5		1.86

Source: As per Calculation

Mean and SD

Mean value and Standard deviation are 320, 166.52 respectively. Mean value shows that 320 respondents out of 397 agree that the majority of teachers use all the three teaching methodologies for teaching Statistics.

ANOVA - Single

From the above table 4.6.3.2, it is inferred that there is no significant difference between the subjects of statistics in Socratic, case, project based and other methods.

ANOVA– Two factor without replication

From the above table 4.6.3.2, it is inferred that there is no significant difference between the subjects of statistics in Socratic, case, project based and other methods.

t-Test

From the above table 4.6.3.2, it is inferred that there is no significant difference between the subjects of statistics in Socratic, case, project based and other methods.

4.8.5 Teaching Methods used for Principles of management

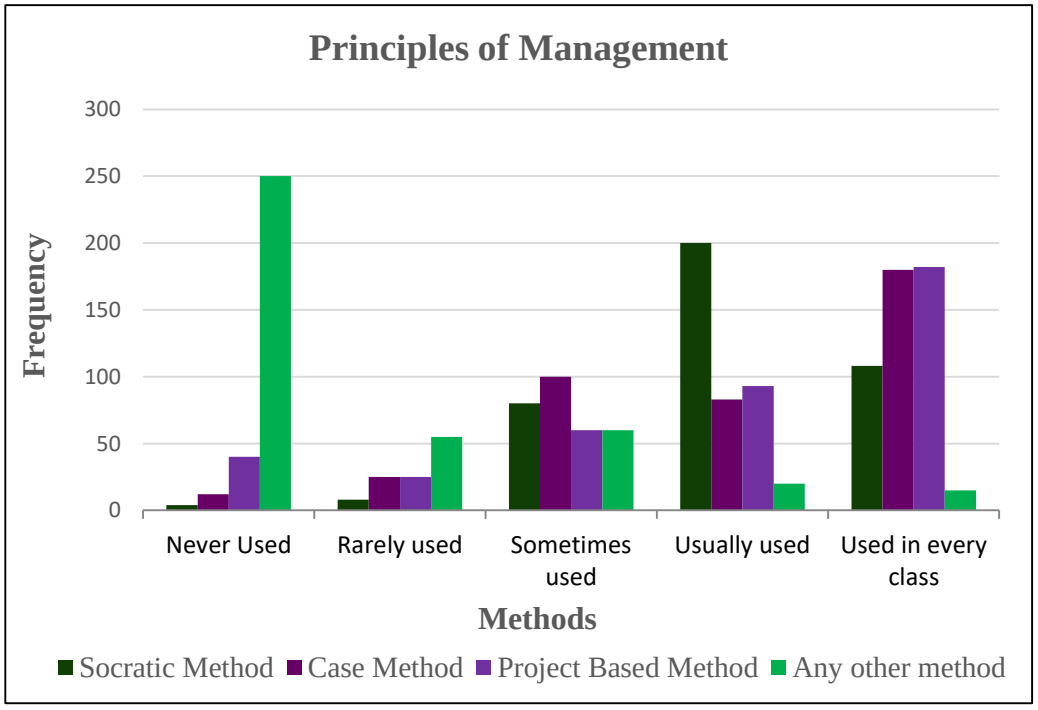
The following table brings out the data consisting of economics in Socratic, case, project based and other methods.

Table 4.8.5.1 Principles of management

Frequency	**Socratic Method**	**Case Method**	**Project Based Method**	**Any other method**
Never Used	4	12	40	247
Rarely used	8	25	25	55
Sometimes used	80	97	60	60
Usually used	197	83	90	20
Used in every class	108	180	182	15
Total	**397**	**397**	**397**	**397**

Source: Primary Data

Figure 4.8.5.2 Teaching Methodology used for teaching Principles of Management



Inference: From the table 4.8.5.1 it is observed that for teaching Principles of Management majority of the teachers use Socratic Method, Case Method and Any Other Teaching method. It is also observed that Less number of teachers use any Case methods and Project Based Learning. Problem Based Learning are not used by majority of the teachers for teaching Principles of Management.

The following table 4.8.5.2 brings out the data consisting of Principles of management in Socratic, case, project based and other methods

Table 4.8.5.3 Statistical Calculation Principles of Management

Calculation	**Value**	**p Value**	**f Criteria**	**t Critical one-tail**
Mean	320			
Standard Deviation	138.24			
ANOVA -Single		1	3.23	
ANOVA – Two Factor Without Replication		0.58	3.49	
t Test		0.5		1.85

Source: As per Calculation

Mean and SD

Mean value and Standard deviation are 320, 138.24 respectively. Mean value shows that 320 respondents out of 397 agree that the majority of teachers use all the three teaching methodologies for teaching Principles of Management.

ANOVA- Single

From the above table 4.6.4.2, it is inferred that there is no significant difference between the subject of Principles of management in Socratic, case, project based and other methods.

ANOVA – Two factor without replication

From the above table 4.6.4.2, it is inferred that there is no significant difference between subject of Principles of management in Socratic, case, project based and other methods.

t-Test

From the above table 4.6.4.2, it is inferred that there is no significant difference between the subject of Principles of management in Socratic, case, project based and other methods.

4.8.6 Human Resource Management (HRM) and Organizational Behaviour (OB)

The following table 4.8.6.1 brings out the data consisting of HRM/OB in Socratic, case, project based and other methods.

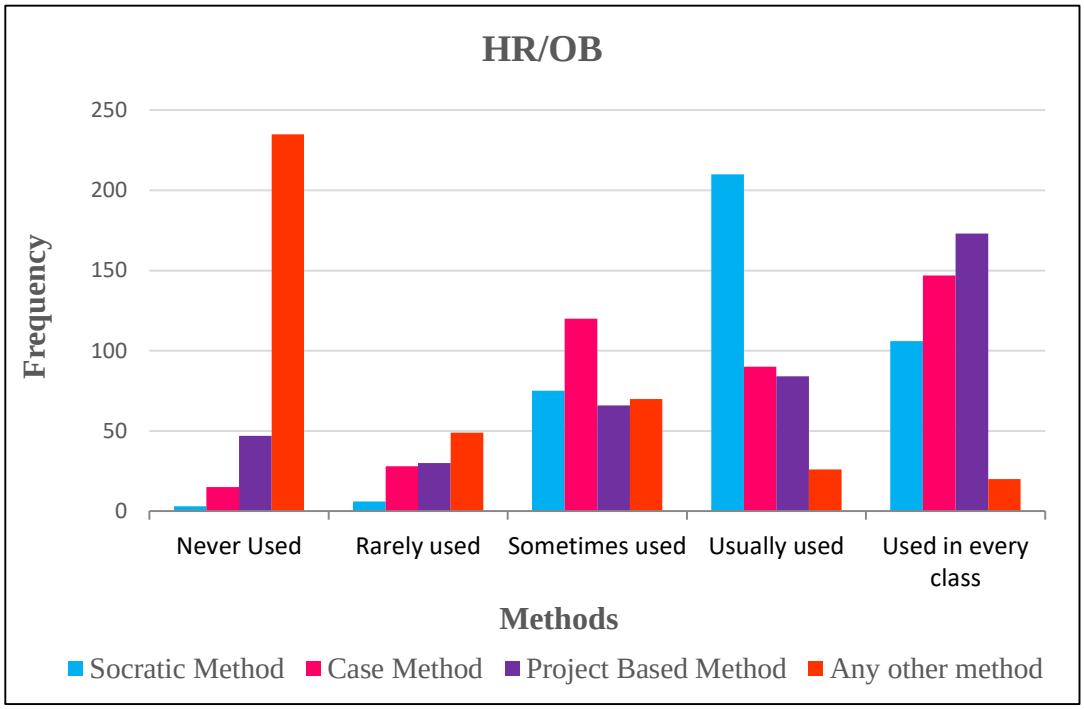
Table 4.8.6.1 Teaching Methodology used for HR and OB

Frequency	Socratic Method	Case Method	Project Based Method	Any other method
Never Used	3	15	45	232
Rarely used	6	28	30	49
Sometimes used	75	117	65	70
Usually used	208	90	84	26
Used in every class	105	147	173	20
Total	**397**	**397**	**397**	**397**

Source: Primary Data

In this section the investigator employs statistical techniques of correlation to study the human resource management. A human resource management has substantial relationship.

Figure 4.8.6.2 Teaching Methodology used for HR and OB



Inference: From the table 4.8.6.1 it is observed that for teaching Human Resource Management and Organizational Behaviour majority of the teachers use Socratic Method and Case Method and very less number of teachers use Any Other Teaching method. It is also observed that many number of teachers use any Project Based Learning. Problem Based Learning are not used by majority of the teachers for teaching Human Resource Management and Organizational Behaviour. The teachers understand the effectiveness of the teaching methodology in teaching Human Resource Management and Organizational Behaviour. Socratic Questions, Case discussions and giving small projects give students a motivation to learn.

The following table 4.8.6.2 brings out the data consisting of human resource management in Socratic, case, project based and other methods.

Table 4.8.6.2 Teaching Methodology for Human Resource Management and Organizational Behaviour

Calculation	**Value**	**p Value**	**f Criteria**	**t Critical one-tail**
Mean	320			
Standard Deviation	138.24			

ANOVA -Single		1	3.23	
ANOVA – Two Factor Without Replication		0.58	3.50	
t Test		0.5		1.85

Source: As per Calculation

Mean and SD

Mean value and Standard deviation are 320, 138.24 respectively. Mean value shows that 320 respondents out of 397 agree that the majority of teachers use all the three teaching methodologies for teaching Human Resource Management.

ANOVA – Single from the above table 4.6.5.2, it is inferred that there is no significant difference between the subject of human resource management in Socratic, case, project based and other methods.

ANOVA Two factor without replication: From the above table 4.6.5.2, it is inferred that there is no significant difference between the subject of human resource management in Socratic, case, project based and other methods.

t-Test from the above table 4.6.5.2, it is inferred that there is no significant difference between the subject of human resource management in Socratic, case, project based and other methods.

4.8.7 Teaching Methodologies used for teaching Marketing

The following table brings out the data consisting of Marketing in Socratic, case, project based and other methods.

Table 4.8.7.1 Teaching Methodology for teaching Marketing

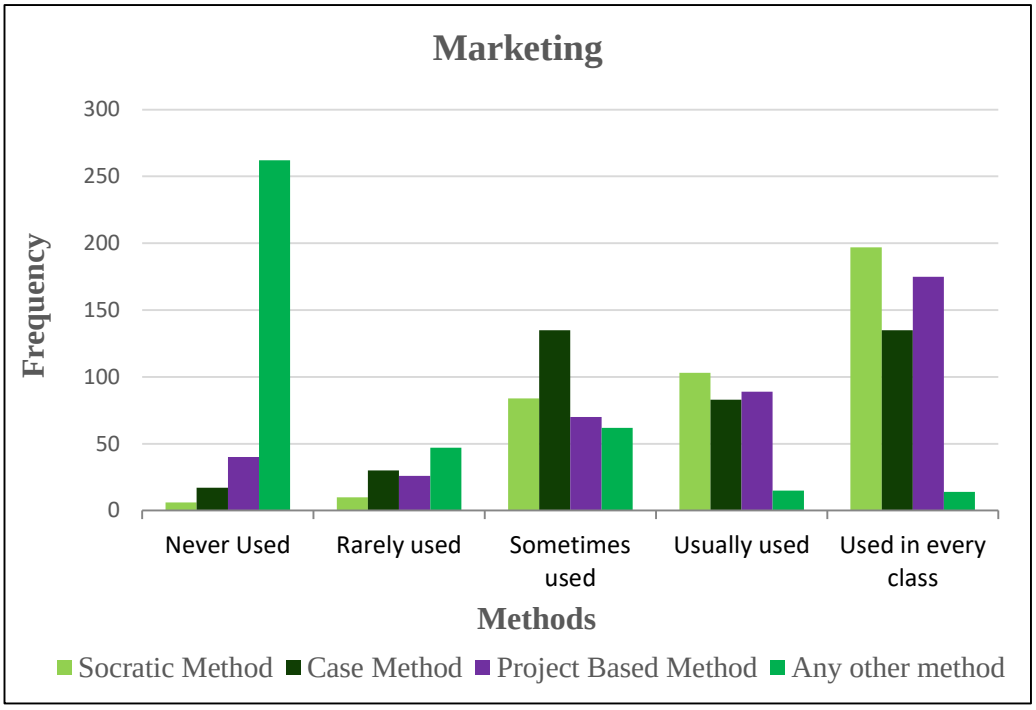
Frequency	Socratic Method	Case Method	Project Based Method	Any other method
Never Used	6	17	40	262
Rarely used	10	30	26	47
Sometimes used	84	135	70	58
Usually used	103	83	86	16

Used in every class	194	132	175	14
Total	**397**	**397**	**397**	**397**

Source: Primary Data

In this section the investigator employs statistical techniques of correlation to study the Marketing. Marketing has substantial relationship.

Figure 4.8.7.2 Teaching Methodology for Teaching Marketing



Inference: From the table 4.8.7.1 it is observed that for teaching Marketing majority of the teachers use Socratic Method, Project Based Learning and Case Method and very less number of teachers use Any Other Teaching method. It is also observed that many teachers use any Project Based Learning. Problem Based Learning are not used by majority of the teachers for teaching Marketing. The teachers understand the effectiveness of the teaching methodology in teaching Marketing. Socratic Questions, Case discussions and giving small projects give students a motivation to learn.

The following table 4.8.7.2 brings out the data consisting of Marketing in Socratic, case, project based and other methods.

Table 4.8.7.3 Teaching Methodology for Marketing

Calculation	Value	p Value	f Criteria	t Critical one-tail
Mean	320			
Standard Deviation	145.89			
ANOVA -Single		1	3.23	
ANOVA – Two Factor Without Replication		0.51	3.49	
t Test		0.5		1.86

Source: As per Calculation

Mean and SD

Mean value and Standard deviation are 320, 145.89 respectively. Mean value shows that 320 respondents out of 397 agree that the majority of teachers use all the three teaching methodologies for teaching Marketing.

ANOVA – Single: From the above table 4.8.7.2 it is inferred that there is no significant difference between the subject of Marketing in Socratic, case, project based and other methods.

Marketing (ANOVA) – Two factors without replication: From the above table 4.6.6.2, it is inferred that there is no significant difference between the subject of Marketing in Socratic, case, project based and other methods.

t-Test: From the above table 4.6.6.2, it is inferred that there is no significant difference between the subject of Marketing in Socratic, case, project based and other methods.

4.8.8. Teaching Method for Finance

The following table brings out the data consisting of finance in Socratic, case, project based and other methods.

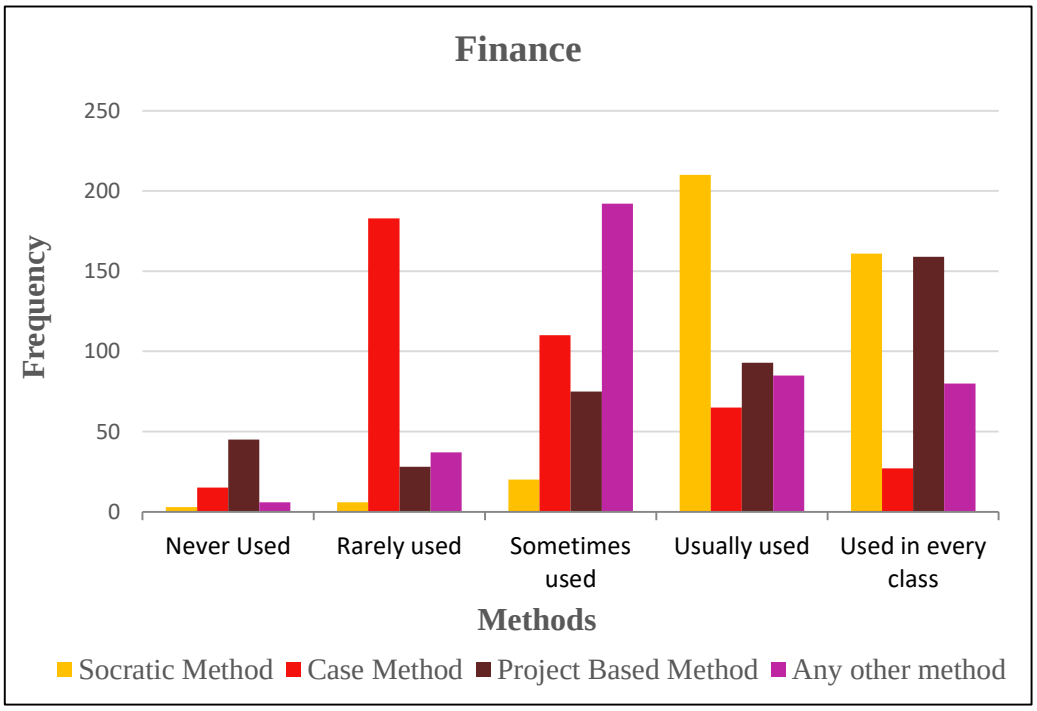
Table 4.8.8.1 Teaching Methodology for Teaching Finance

Frequency	Socratic Method	Case Method	Problem Based Method	Any other method

Never Used	3	15	45	6
Rarely used	6	183	28	37
Sometimes used	20	107	75	191
Usually used	207	65	92	83
Used in every class	161	27	157	80
Total	**397**	**397**	**397**	**397**

Source: Primary Data

Figure 4.8.8.2 Teaching Methodology for Teaching Finance



Inference: From the table 4.8.8.1 it is observed that for teaching Finance majority of the teachers use Socratic Method, Problem Based Learning and very less number of teachers use Case Method and Any Other Teaching method. Problem Based Learning are used by majority of the teachers for teaching Finance. The teachers understand the effectiveness of the teaching methodology in teaching Finance. Socratic Questions and giving problems involving mathematical calculations give students a motivation to learn.

The following table 4.8.8.2 brings out the data consisting of finance in Socratic, case, project based and other methods.

Table 4.8.8.2 Teaching Methodology for Finance

Calculation	Value	p Value	f Criteria	t Critical one-tail
Mean	320			
Standard Deviation	160.01			
ANOVA -Single		1	3.23	
ANOVA – Two Factor Without Replication		0.34	3.26	
t Test		0.5		1.86

Source: As per Calculation

Mean and SD

Mean value and Standard deviation are 320, 160.01 respectively. Mean value shows that 320 respondents out of 397 agree that the majority of teachers use all the three teaching methodologies for teaching Finance.

ANOVA Single: From the above table 4.8.8.2, it is inferred that there is no significant difference between the subject of Finance in Socratic, case, project based and other methods (p Value < f Criteria)

ANOVA Two factor without replication: From the above table 4.8.8.2, it is inferred that there is no significant difference between the subject of finance in Socratic, case, project based and other methods. (p Value < f Criteria)

t-Test: From the above table 4.8.8.2, it is inferred that there is no significant difference between the subject of Finance in Socratic, case, project based and other methods. (p Value < t Criteria)

4.8.9 Teaching Methodologies used for the subject Communication

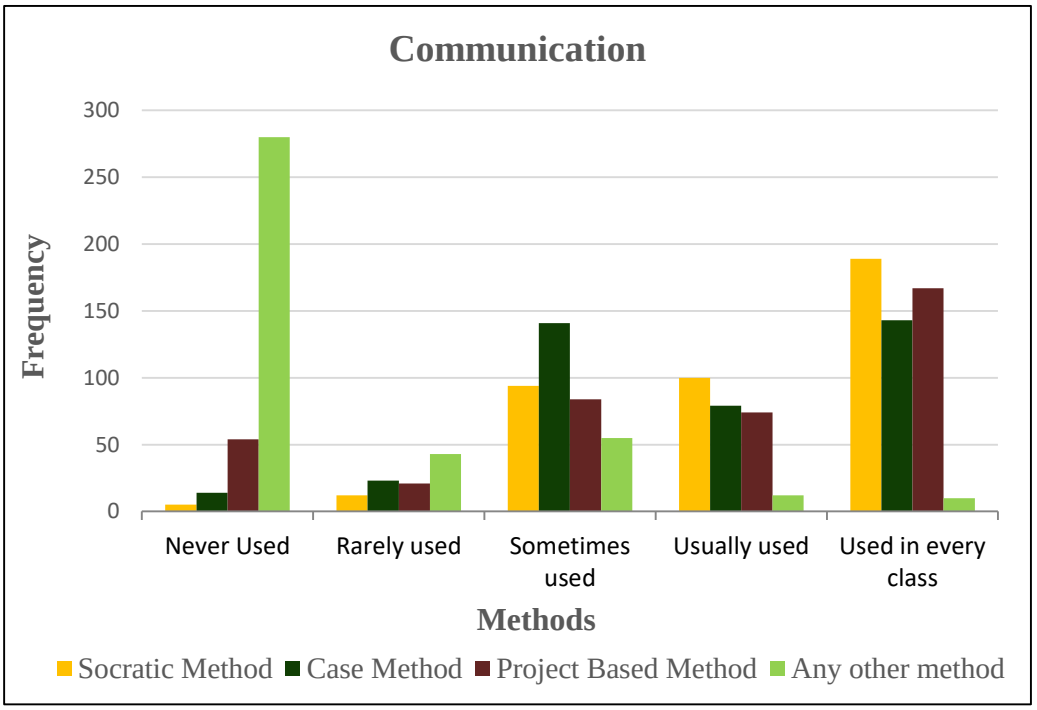
The following table 4.6.9.1 brings out the data consisting of Communication in Socratic, case, project based and other methods.

Table 4.8.9.1 Teaching Methodology for teaching Communication

Frequency	Socratic Method	Case Method	Project Based Method	Any other method
Never Used	5	14	54	277
Rarely used	12	23	21	43
Sometimes used	93	141	84	55
Usually used	100	79	74	12
Used in every class	187	140	164	10
Total	**397**	**397**	**397**	**397**

Source: Primary Data

Figure 4.8.9.2 Teaching Methodology for teaching Communication



Inference: From the table 4.8.9.1 it is observed that for teaching Communication, majority of the teachers use Socratic Method, Case Method and Project Based Learning and very less number of teachers use Any Other Teaching method. Problem Based Learning are not used by majority of the teachers for teaching Communication. The teachers understand the effectiveness of the

teaching methodology in teaching Communication. Socratic Questions asking them to speak in public give students a motivation to learn.

The following table brings out the data consisting of Communication in Socratic, case, project based and other methods.

Table 4.8.9.3 Methodology for teaching Communication

Calculation	Value	p Value	f Criteria	t Critical one-tail
Mean	320			
Standard Deviation	151.32			
ANOVA -Single		1	3.24	
ANOVA – Two Factor With out Replication		0.50	3.25	
t Test		0.5		1.86

Source: As per Calculation

Mean and SD

Mean value and Standard deviation are 320, 151.32 respectively. Mean value shows that 320 respondents out of 397 agree that the majority of teachers use all the three teaching methodologies for teaching Communication.

ANOVA Single: From the above table 4.8.9.2, it is inferred that there is no significant difference between the subject of Communication Socratic, case, project based and other methods (p Value < f Criteria)

ANOVA Two factor without replication: From the above table 4.8.9.2, it is inferred that there is no significant difference between the subject of Communication in Socratic, case, project based and other methods. (p Value < f Criteria)

t-Test: From the above table 4.8.9.2, it is inferred that there is no significant difference between the subject of Communication in Socratic, case, project based and other methods. (p Value < t Criteria)

4.8.10 Teaching methodology for Production and Operations

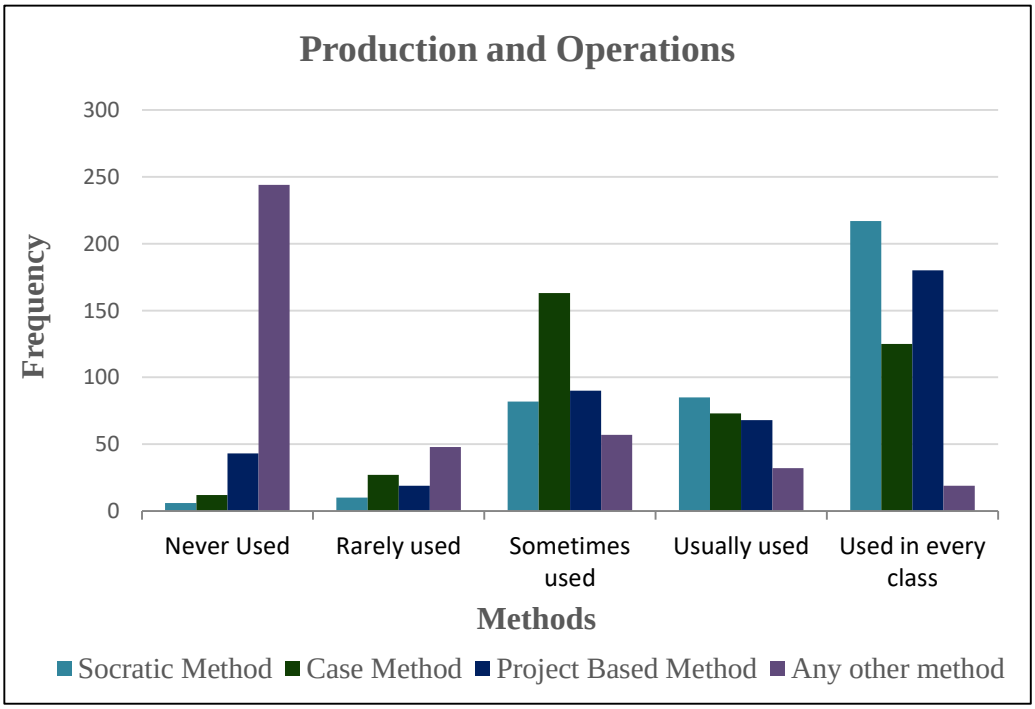
The following table brings out the data consisting of production and operations in Socratic, case, project based and other methods.

Table 4.8.10.1 Teaching Methodology for Production and Operations

Frequency	Socratic Method	Case Method	Project Based Method	Any other method
Never Used	6	12	43	241
Rarely used	10	27	19	48
Sometimes used	82	163	90	57
Usually used	85	73	68	32
Used in every class	214	122	177	19
Total	**397**	**397**	**397**	**397**

Source: Primary Data

Figure 4.8.10.2 Teaching Methodology for Production and Operations



Inference: From the table 4.8.10.1 it is observed that for teaching Production and Operations Management, majority of the teachers use Socratic Method, Case Method and Project Based Learning and very less number of teachers use Any Other Teaching method. Problem Based Learning are not used by majority of the teachers for teaching Production and Operations Management. The teachers understand the effectiveness of the teaching methodology in teaching Production and Operations.

The following table brings out the data consisting of Production and Operations in Socratic, case, project based and other methods.

Table 4.8.10.3 Statistical Calculation

Calculation	Value	p Value	f Criteria	t Critical one-tail
Mean	320			
Standard Deviation	161.82			
ANOVA -Single		1	3.23	
ANOVA – Two Factor Without Replication		0.38	3.26	
t Test		0.5		1.85

Source: As per Calculation

Mean and SD

Mean value and Standard deviation are 320, 161.82 respectively. Mean value shows that 320 respondents out of 397 agree that the majority of teachers use all the three teaching methodologies for teaching Production and operations.

ANOVA Single: From the above table 4.8.10.3, it is inferred that there is no significant difference between the subject of Production and Operations ion Socratic, case, project based and other methods (p Value < f Criteria)

ANOVA Two factor without replication: From the above table 4.8.10.2, it is inferred that there is no significant difference between the subject of Production and Operations in Socratic, case, project based and other methods. (p Value < f Criteria)

t-Test: From the above table 4.8.10.3, it is inferred that there is no significant difference between the subject of Production and Operations in Socratic, case, project based and other methods. (p Value < t Criteria)

4.8.11 Teaching Methodology for International business

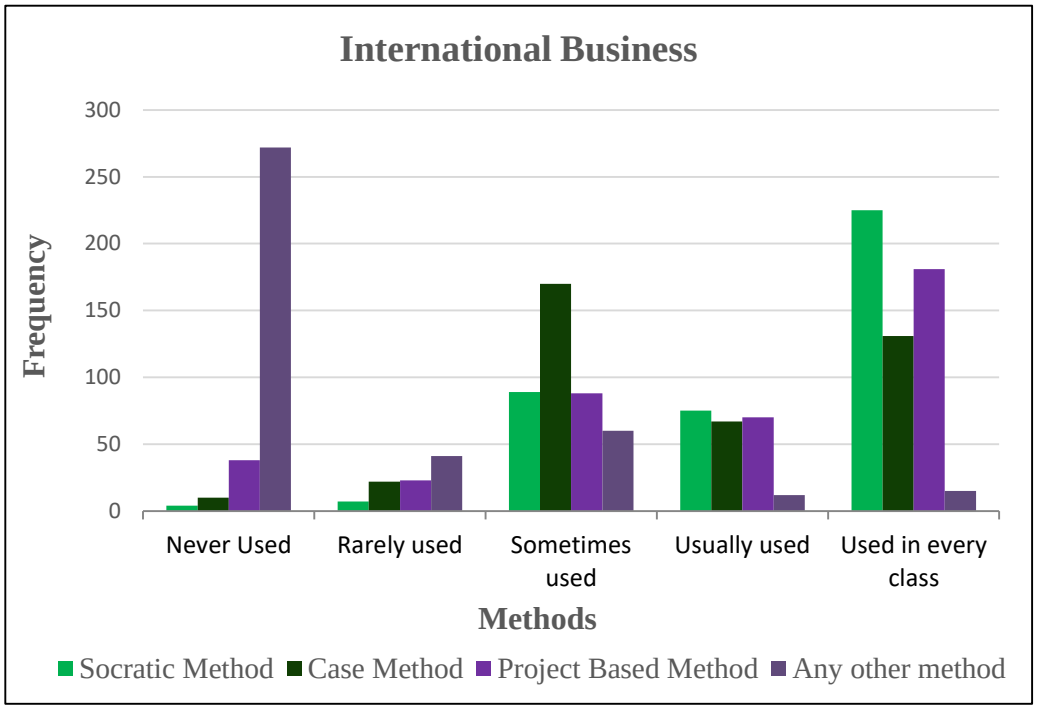
The following table brings out the data consisting of International business in Socratic, case, project based and other methods.

Table 4.8.11.1 Teaching Methodology for Teaching International Business

Frequency	**Socratic Method**	**Case Method**	**Project Based Method**	**Any other method**
Never Used	4	10	38	270
Rarely used	7	22	23	41
Sometimes used	88	168	88	59
Usually used	75	67	70	12
Used in every class	223	130	178	15
Total	**397**	**397**	**397**	**397**

Source: Primary Data

Figure 4.8.11.2 Teaching Methodology for Teaching International Business



Inference: From the table 4.8.11.1 it is observed that for teaching International Business Management, majority of the teachers use Socratic Method, Case Method and Project Based Learning and very less number of teachers use Any Other Teaching method. Problem Based Learning are not used by majority of the teachers for teaching International Business Management. The teachers understand the effectiveness of the teaching methodology in teaching International Business.

The following table brings out the data consisting of International Business in Socratic, case, project based and other methods.

Table 4.8.11.3 Statistical Calculation

Calculation	**Value**	**p Value**	**f Criteria**	**t Critical one-tail**
Mean	320			
Standard Deviation	174.15			
ANOVA -Single		1	3.24	

ANOVA – Two Factor Without Replication		0.40	3.26	
t Test		0.5		1.86

Source: As per Calculation

Mean and SD

Mean value and Standard deviation are 320, 174.15 respectively. Mean value shows that 320 respondents out of 397 agree that the majority of teachers use all the three teaching methodologies for teaching International Business.

ANOVA Single: From the above table 4.8.11.2, it is inferred that there is no significant difference between the subject of International Business in Socratic, case, project based and other methods (p Value < f Criteria)

ANOVA Two factor without replication: From the above table 4.8.11.2, it is inferred that there is no significant difference between the subject of International Business in Socratic, case, project based and other methods. (p Value < f Criteria)

t-Test: From the above table 4.8.11.2, it is inferred that there is no significant difference between the subject of International Business in Socratic, case, project based and other methods. (p Value < t Criteria)

4.8.12 Teaching Methodology for Ethics and Principles

The following table brings out the data consisting of Ethics and principles in Socratic, case, project based and other methods.

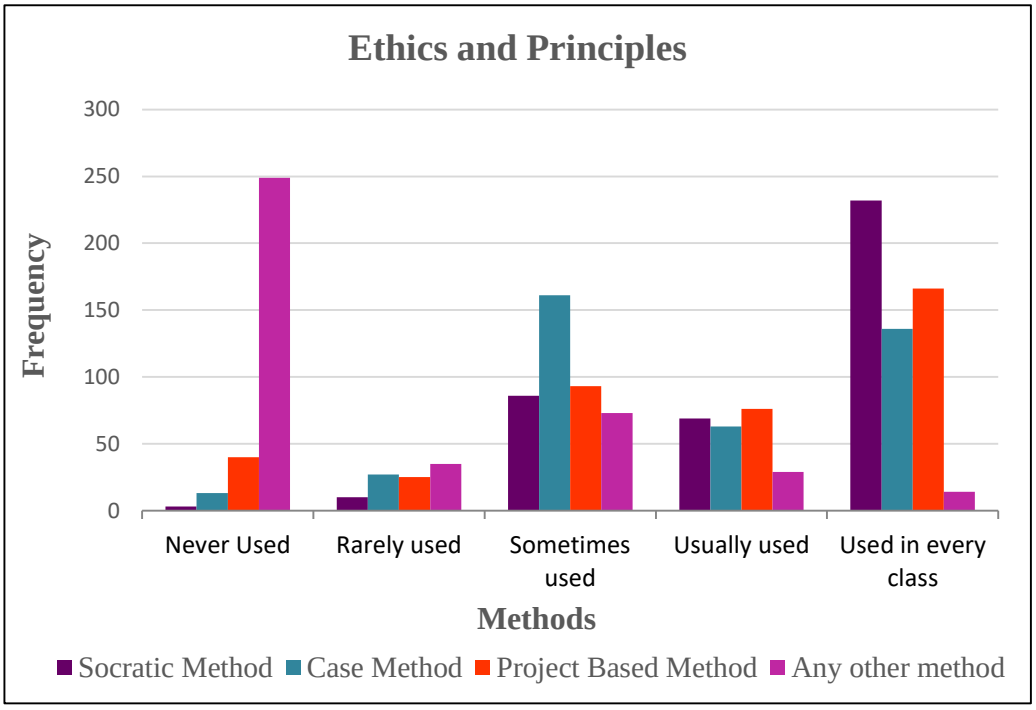
Table 4.8.12.1 Teaching methodology for Ethics and Principles

Frequency	Socratic Method	Case Method	Project Based Method	Any other method
Never Used	3	13	40	246
Rarely used	10	27	25	35
Sometimes used	85	161	90	73

Usually used	69	63	76	29
Used in every class	230	133	166	14
Total	**397**	**397**	**397**	**397**

Source: Primary Data

Figure 4.8.12.2 Teaching methodology for Ethics and Principles



Inference: From the table 4.8.12.1 it is observed that for teaching Ethics and Principles, majority of the teachers use Socratic Method, Case Method and Project Based Learning and very less number of teachers use Any Other Teaching method. Problem Based Learning are not used by majority of the teachers for teaching Ethics and Principles. The teachers understand the effectiveness of the teaching methodology in teaching Ethics and Principles.

The following table brings out the data consisting of Ethics and Principles in Socratic, case, project based and other methods.

Table 4.8.12.3 Teaching Methodology for Ethics and Principles

Calculation	Value	p Value	f Criteria	t Critical one-tail
Mean	320			
Standard Deviation	171.37			
ANOVA -Single		1	3.23	
ANOVA – Two Factor Without Replication		0.35	3.27	
t Test		0.5		1.86

Source: As per Calculation

Mean and SD:

Mean value and Standard deviation are 320, 171.37 respectively. Mean value shows that 320 respondents out of 397 agree that the majority of teachers use all the three teaching methodologies for teaching Ethics and Principles.

ANOVA Single: From the above table 4.8.12.2, it is inferred that there is no significant difference between the subject of Ethics and Principles in Socratic, case, project based and other methods (p Value < f Criteria)

ANOVA Two factor without replication: From the above table 4.8.12.2, it is inferred that there is no significant difference between the subject of Ethics and Principles in Socratic, case, project based and other methods. (p Value < f Criteria)

t-Test: From the above table 4.8.12.2, it is inferred that there is no significant difference between the subject of Ethics and Principles in Socratic, case, project based and other methods. (p Value < t Criteria)

4.9 Testing of Hypothesis on Socratic Method

4.9.1 Influence of Socratic Method teaching pedagogy on Higher Levels of learning outcome of the students

This section explains the impact of Socratic method on the various levels of learning outcomes according to Bloom's Taxonomy. The Cognitive learning outcomes are 1. Memorizing, 2. Understanding, 3. Application, 4. Analytical Ability, 5. Evaluation, and 6. Creativity. Out of these levels, Memorizing, Understanding, and Application are considered to be the lower levels and Analytical ability, Evaluation and Creativity are the higher learning outcomes. Though the post-graduate students of management understand the level of higher learning outcomes, they are not able to draw line between the differences in higher learning outcomes.

4.9.1.1 Analytical ability through Socratic Method Teaching Pedagogy

The first variable tested in this case is the analytical ability of the students through one-way ANOVA test to find out the Socratic questioning and teaching method will give the ability or not. There are sixteen predictor variables identified and considered on which the data collected from the respondents to test this are the following.

V1: Socratic Method exhibit memory of previously learned material by recalling fundamental facts, terms, basic concepts and answers about the selection.

V2: Socratic Method demonstrate the recollection of facts and ideas by organizing, comparing, translating, interpreting, giving descriptors and stating main ideas.

V3: The students are able to recollect the knowledge they gained from school studies by listening to their teachers' questions.

V4: Socratic Method gives the students understanding of facts, concepts and theories.

V5: Students understand the lessons better by listening to right questions from teachers and doing it practically.

V6: The quality questions asked by the teachers make students understand the facts and figures connected together to form information.

V7: Teachers' right questions generate right thoughts, right words and right actions among the students.

V8: The activity based classes are motivated by the questions from the teacher and students.

V9: Socratic Method create positive attitude towards learning, developing skills and applying in live situations.

V10: Socratic questions with interpretation organize the way for analysing the concepts, theories and problems.

V11: Socratic questioning drive the thoughts to deal with complexity and breaking into components for finding solutions.

V12: Teachers using Socratic questions initiate the students to find answers of what, when, who, where, why and how.

V13: Socratic questions define tasks, express problems and initiate solutions.

V14: The right questions improve curiosity to learn better by evaluating the alternative solutions.

V15: The right questioning by teachers make the students able to make better decision.

V16: The quality of the questions students ask in the class determines the quality of the thinking as well as learning.

The analytical ability of the students is the dependant variable and it is denoted by V17.

V17: Students Analytical ability will be improved by Socratic Teaching method. For this purpose, the responses were collected using 5-point scale; 1. Strongly Disagree (SD) 2. Disagree (D) 3. Neither Agree nor Disagree (N) 4. Agree (A) and 5. Strongly Agree (SA).

The relevant portion of the SPSS sheet is presented below to infer the value for explaining the impact of these variables on the analytical ability of the students.

Table 4.9.1.2 ANOVA output for Analytical Ability through Socratic Method

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.830	15	.122	1.477	.130[a]
	Residual	7.514	91	.083		
	Total	9.344	106			

a. Predictors: (Constant), V16, V15, V12, V4, V9, V5, V8, V7, V13, V10, V14, V1, V2, V3, V6

b. Dependent Variable: V17

Source: SPSS Output

4.9.1.3 Hypothesis on Analytical Ability through Socratic Method

$H_0$1 There is no significant influence of Socratic teaching method and the analytical ability of the control group of post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.11.1.1. The level of significance set by us in this study is 5% that is $\alpha = 0.05$ (on the basis of the existing research of the similar type). The table reveals that p value (sig level) is more than the α value. Since $p = 0.130$ which is more than α value of 0.05, the null hypothesis is accepted and the alternative hypothesis is not accepted. The Socratic method does not influence the learning outcome Analytical ability.

4.9.1.4 Ability to evaluate through Socratic Method Teaching Pedagogy

The second variable studied in this test was the students' ability to evaluate. The ability to evaluate is for comparing two or more models or concepts. This study considered the independent variables and the dependant variable is the ability to evaluate.

Table 4.9.1.5 ANOVA output for Evaluation through Socratic Method

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.544	15	1.970	38.000	.000[a]
	Residual	4.717	91	.052		
	Total	34.261	106			

a. Predictors: (Constant), V16, V15, V12, V4, V9, V5, V8, V7, V13, V10, V14, V1, V2, V3, V6

b. Dependent Variable: V17

$H_0$2 There is no significant influence of Socratic teaching method and the evaluation ability of the control group of post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.11.2.1. The level of significance set by us in this study is 5% that is $\alpha = 0.05$ (on the basis of the existing research of the similar type). The table reveals that p value (sig level) is less than the α value. Since $p = 0.000$ which is less than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. The Socratic method influences the learning outcome Evaluation. Socratic questions initiate the students' ability to evaluate and clarify the concepts and models.

4.9.1.5 Ability to Create through Socratic Method Teaching Pedagogy

The third variable tested in this study is the student's ability to create. The ability to create is the highest learning outcome according to Bloom's Taxonomy. The ability to create is the ability of creating models or concepts. The students will be able to create their ideas or business model through their innovation. This study considered sixteen independent variables and the dependant variable is the ability to create.

Table 4.9.1.6 ANOVA output for Creativity through Socratic Method

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.871[a]	.759	.720	.17038	.759	19.155	15	91	.000	1.831

a. Predictors: (Constant), V16, V15, V12, V4, V9, V5, V8, V7, V13, V10, V14, V1, V2, V3, V6

b. Dependent Variable: V17

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.341	15	.556	19.155	.000[a]
	Residual	2.642	91	.029		
	Total	10.982	106			

a. Predictors: (Constant), V16, V15, V12, V4, V9, V5, V8, V7, V13, V10, V14, V1, V2, V3, V6

b. Dependent Variable: V17

$H_0$3 There is no significant influence of Socratic teaching method on the creativity of the post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.9.3.1. The level of significance set by us in this study is 5% that is $\alpha = 0.05$ (on the basis of the existing research of the similar type). The table reveals that p value (sig level) is less than the α value. Since $p = 0.000$ which is less than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. The Socratic method influences the learning outcome Creativity. Socratic questions initiate the student's ability to create their own models and ideas.

4.10 Influence of Case Study Method on Higher Levels of learning outcome of the students

This section explains the impact of Case study method on the various levels of learning outcomes according to Bloom's Taxonomy. The Cognitive learning outcomes are 1. Memorizing, 2. Understanding, 3. Application, 4. Analytical Ability, 5. Evaluation, and 6. Creativity. Out of these levels, Memorizing, Understanding, and Application are considered to be the lower levels and Analytical ability, Evaluation and Creativity are the higher learning outcomes. Though the post-graduate students of management understand the level of higher learning outcomes, they are confused between the differences in higher learning outcomes.

4.10.1 Analytical ability through Case Method Teaching Pedagogy

The first variable tested in this case is the analytical ability of the students through one-way ANOVA test to find out the Case study teaching method will give the ability or not. There are eighteen predictor variables identified and considered on which the data collected from the respondents.

V1: Case study Method exhibit memory of previously learned material by recalling fundamental facts, terms, basic concepts and answers about the selection.

V2: Case Method demonstrate the recollection of facts and ideas by organizing, comparing, translating, interpreting, giving descriptors and stating main ideas.

V3: Case Method will enable students to remember the types of analysis done early or someone else.

V4: Case Study Method demonstrates understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas.

V5: Case Method used by teachers make students understand better the concepts and theories.

V6: Knowledge come from understanding of information and Case Method is helpful for that.

V7: The Case Method is effectively used in Problem solving and Decision making.

V8: The criteria for selection of cases for study help the students in applying their thoughts and ideas.

V9: By solving Case Study in the class the students will be able to apply formulae and models for arriving at optimum solutions.

V10: While discussing and solving cases in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions.

V11: While doing cases, students are able to examine, experiment and question the concepts and theories in the classroom.

V12: The Case method will make students capable of breaking the problem into sub-parts and analyse it.

V13: The Case Study method of teaching immerses the students into realistic business situations and able to draw connections.

V14:By using Case Method the students' ability to evaluate a situation or a problem will improve.

V15: By solving Case study the students will be able to appraise, argue, defend and select a stand or a decision.

V16: By doing Case Study, students will be able to investigate and develop innovative solutions to problems under study.

V17: By doing Case Study students will be able to design, assemble and construct models.

V18: By doing Case Study students will be able to develop, investigate and formulate new theories and concepts.

The analytical ability of the students is the dependant variable and it is denoted by V19.

V19: Students Analytical ability will be improved by Case Study method. For this purpose, the responses were collected using 5-point scale; 1. Strongly Disagree (SD) 2. Disagree (D) 3. Neither Agree nor Disagree (N) 4. Agree (A) and 5. Strongly Agree (SA).

The relevant portion of the SPSS sheet is presented below to infer the value for explaining the impact of these variables on the analytical ability of the students.

Table 4.10.1.1 ANOVA output for Analytical Ability through Case Method

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.361	16	1.335	2.273E5	.000[a]
	Residual	.002	374	.000		
	Total	21.363	390			

a. Predictors: (Constant), V18, V10, V17, V15, V5, V1, V2, V4, V12, V3, V6, V11, V9, V13, V8, V14

b. Dependent Variable: V19

Source: SPSS Output

Table 4.10.1.1 Hypothesis Case Study Teaching Method on Analytical Ability

$H_0$4 There is no significant influence of Case Study method on the analytical ability of the post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the Table 4.10.1.1. The level of significance set by us in this study is 5% that is $\alpha = 0.05$ (on the basis of the existing research of the similar type). The table reveals that p value (sig level) is less than the α value. Since $p = 0.000$ which is more than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. The Case method teaching pedagogy influences the learning outcome Analytical ability.

4.10.2 Ability to evaluate through Case Method Teaching Pedagogy

The second variable studied in this test was the students' ability to evaluate. The ability to evaluate is for comparing two or more models or concepts. This study considered eighteen independent variables (V1 to V18) and the dependant variable (V19) is the ability to evaluate.

Table 4.10.2.1 ANOVA output for Evaluation through Case Method

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.632	16	1.977	3.135E5	.000[a]
	Residual	.002	374	.000		
	Total	31.635	390			

a. Predictors: (Constant), V18, V10, V17, V15, V5, V1, V2, V4, V12, V3, V6, V11, V9, V13, V8, V14

b. Dependent Variable: V19

$H_0$5 There is no significant influence of Case Study method on the evaluation ability of the post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.12.2.1. The level of significance set by us in this study is 5% that is $\alpha = 0.05$. The table reveals that p value (sig level) is less than the α value. Since $p = 0.000$ which is less than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. The Case method influences the learning outcome Evaluation. Case Study method of teaching initiate the student's ability to evaluate and clarify the concepts and models.

4.10.3 Ability to Create through Case Method Teaching Pedagogy

The third variable tested in this study is the student's ability to create. The ability to create is the highest learning outcome according to Bloom's Taxonomy. The ability to create is the ability of creating models or concepts. The students will be able to create their ideas or business model through their innovation. This study considered eighteen independent variables and the dependant variable is the ability to create.

Table 4.10.3.1 ANOVA output for Creativity through Case Method

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.487	16	1.905	3.612E5	.000[a]
	Residual	.002	374	.000		
	Total	30.489	390			

a. Predictors: (Constant), V18, V10, V17, V15, V5, V1, V2, V4, V12, V3, V6, V11, V9, V13, V8, V14

b. Dependent Variable: V19

$H_0$6 There is no significant influence of Case Study method on the creativity of the post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.10.3.1. The level of significance set by us in this study is 5% that is $\alpha = 0.05$ (on the basis of the existing research of the similar type). The table reveals that p value (sig level) is less than the α value. Since $p = 0.000$ which is less than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. The Case method influences the learning outcome Creativity. Case Study method of teaching initiate the student's ability to create their own models and ideas.

4.11 Influence of Project Based Learning Method on Higher Levels of learning outcome of the students

This section explains the impact of Project Based Learning method on the various levels of learning outcomes according to Bloom's Taxonomy. The Cognitive learning outcomes are 1. Memorizing, 2. Understanding, 3. Application, 4. Analytical Ability, 5. Evaluation, and 6. Creativity. Out of these levels, Memorizing, Understanding, and Application are considered to be the lower levels and Analytical ability, Evaluation and Creativity are the higher learning outcomes.

4.11.1 Analytical ability through Project Based Learning Teaching Pedagogy

The first variable tested in this case is the analytical ability of the students through one-way ANOVA test to find out the Case study teaching method will give the ability or not. There are

eighteen predictor variables identified and considered on which the data collected from the respondents.

V1: Project Based Learning exhibits the memory of Previously learned material by recalling fundamental facts and basic concepts.

V2: By using Project Based Learning, you will be able to recollect the theories studied earlier.

V3: Project Based Learning will enable students to remember the types of analysis done early or someone else.

V4: Project Based Learning demonstrate understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas.

V5: Project Based Teaching used by teachers make students understand better the concepts and theories.

V6: Knowledge come from understanding of information and Project Based Learning is helpful for that.

V7: The Project Based Learning is effectively used in Problem solving and Decision making.

V8: The criteria for selection of Project Based Learning help the students in applying their thoughts and ideas.

V9: By giving Project Based Learning in the class the students will be able to apply formulae and models for arriving at optimum solutions.

V10: While discussing and solving problems in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions.

V11: While doing a project students are able to examine experiment and question the concepts and theories in the classroom.

V12: A Project will make students capable of breaking the problem into sub-parts and analyse it.

V13: The Project based method of teaching immerses the students into realistic business situations and able to draw connections.

V14:By using Project Method the students' ability to evaluate a situation or a problem will improve.

V15: By solving a problem the students will be able to appraise, argue, defend and select a stand or a decision.

V16: By doing a project, students will be able to investigate and develop innovative solutions to problems under study.

V17: By doing a project, students will be able to design, assemble and construct models.

V18: By doing a project, student will be able to develop, investigate and formulate new theories and concepts.

The analytical ability of the students is the dependant variable and it is denoted by V19.

V19: Students Analytical ability will be improved by Project Based Learning method. For this purpose, the responses were collected using 5-point scale; 1. Strongly Disagree (SD) 2. Disagree (D) 3. Neither Agree nor Disagree (N) 4. Agree (A) and 5. Strongly Agree (SA).

The relevant portion of the SPSS sheet is presented below to infer the value for explaining the impact of these variables on the analytical ability of the students.

Table 4.11.1.1 ANOVA output for Analytical Ability through Project Based Learning

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44.118	17	2.595	3.443E5	.000[a]
	Residual	.003	378	.000		
	Total	44.121	395			

a. Predictors: (Constant), V17, V2, V1, V4, V12, V10, V13, V16, V14, V9, V3, V15, V11, V6, V8, V5, V7

b. Dependent Variable: V18

Source: SPSS Output

4.11.1.1 Hypothesis Project Based Learning Pedagogy on Analytical Ability

$H_0$7 There is no significant influence of Project Based Learning method on the analytical ability of the post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.12.1.1. The level of significance set by us in this study is 5%

that is α = 0.05 (on the basis of the existing research of the similar type). The table reveals that p value (sig level) is less than the α value. Since p = 0.000 which is more than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. The Project Based Learning (PBL) method influences the learning outcome Analytical ability.

4.11.2 Ability to evaluate through Project Based Learning Method Teaching Pedagogy

The second variable studied in this test was the students' ability to evaluate. The ability to evaluate is for comparing two or more models or concepts. This study considered eighteen independent variables (V1 to V18) and the dependant variable (V19) is the ability to evaluate.

Table 4.11.2.1 ANOVA output for Evaluation through Project Based Learning Method

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.141	17	2.714	3.926E5	.000[a]
	Residual	.003	378	.000		
	Total	46.143	395			

a. Predictors: (Constant), V17, V2, V1, V4, V12, V10, V13, V16, V14, V9, V3, V15, V11, V6, V8, V5, V7

b. Dependent Variable: V18

$H_0$8 There is no significant influence of Project Based Learning method on the evaluation ability of the post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.13.2.1. The level of significance set by us in this study is 5% that is α = 0.05. The table reveals that p value (sig level) is less than the α value. Since p = 0.000 which is less than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. The Project Based Learning method influences the learning outcome Evaluation. Project Based Study method of teaching initiate the student's ability to evaluate and clarify the concepts and models.

4.11.3 Ability to Create through Project Based Learning Teaching Method

The third variable tested in this study is the student's ability to create. The ability to create is the highest learning outcome according to Bloom's Taxonomy. The ability to create is the ability of creating models or concepts. The students will be able to create their ideas or business model through their innovation. This study considered eighteen independent variables and the dependant variable is the ability to create.

Table 4.11.3.1 Ability to Create through Project Based Learning Teaching Method

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.520	17	3.148	5.504E5	.000[a]
	Residual	.002	378	.000		
	Total	53.522	395			

a. Predictors: (Constant), V17, V2, V1, V4, V12, V10, V13, V16, V14, V9, V3, V15, V11, V6, V8, V5, V7

b. Dependent Variable: V18

$H_0$9 There is no significant influence of Project Based Learning method on creativity of the post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.12.3.1.1. The level of significance set by us in this study is 5% that is α = 0.05 (on the basis of the existing research of the similar type). The table reveals that p value (sig level) is less than the α value. Since p = 0.000 which is less than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. The Project Based Learning (PBL) method influences the learning outcome Creativity. Project Based Learning method of teaching initiate the student's ability to create their own models and ideas.

4.12 Influence of Any Other Teaching Method on Higher Levels of learning outcome of the students

This section explains the impact of Other Teaching method on the various levels of learning outcomes according to Bloom's Taxonomy. The three Teaching methods we have studied are the Socratic Method, Case Method and Project Based Learning. All other teaching methods are more

or less congruent in to one as Lecture method. The Cognitive learning outcomes are 1. Memorizing, 2. Understanding, 3. Application, 4. Analytical Ability, 5. Evaluation, and 6. Creativity. Out of these levels, Memorizing, Understanding, and Application are considered to be the lower levels and Analytical ability, Evaluation and Creativity are the higher learning outcomes.

4.12.1 Analytical ability through Any Other Teaching Method

The first variable tested in this case is the analytical ability of the students through one-way ANOVA test to find out the any other teaching method will give the ability or not. There are eighteen predictor variables identified and considered on which the data collected from the respondents.

V1: Any Teaching Method exhibit memory of previously learned material by recalling fundamental facts, terms and basic concepts.

V2: By using this teaching method, the student will be able to recollect the theories studied earlier.

V3: Any method of teaching will enable you to remember the types of analysis done early or someone else.

V4: Any method of teaching demonstrates understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas.

V5: Any method of teaching used by teachers make students understand better the concepts and theories.

V6: Knowledge come from understanding of information and any method of teaching is helpful for that.

V7: Any method of teaching is effectively used in Problem solving and Decision making.

V8: The criteria for selection of examples for study help the students in applying their thoughts and ideas.

V9: By solving problems in the class the students will be able to apply formulae and models for arriving at optimum solutions.

V10: While discussing and solving problems in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions.

V11: While doing an exercise students are able to examine experiment and question the concepts and theories in the classroom.

V12: Any method of teaching will make students capable of breaking the problem into sub-parts and analyse it.

V13: Any method of teaching immerses the students into realistic business situations and able to draw connections.

V14:By using any method of teaching the students' ability to evaluate a situation or a problem will improve

V15: By solving problems the students will be able to appraise, argue, defend and select a stand or a decision.

V16: By doing any method of learning, students will be able to investigate and develop innovative solutions to problems under study.

V17: By doing any method of teaching students will be able to design, assemble and construct models.

V18: By doing any method of teaching students will be able to develop, investigate and formulate new theories and concepts.

The analytical ability of the students is the dependant variable and it is denoted by V19.

V19: Students Analytical ability will be improved by any teaching method. For this purpose, the responses were collected using 5-point scale; 1. Strongly Disagree (SD) 2. Disagree (D) 3. Neither Agree nor Disagree (N) 4. Agree (A) and 5. Strongly Agree (SA).

The relevant portion of the SPSS sheet is presented below to infer the value for explaining the impact of these variables on the analytical ability of the students.

Table 4.12.1.1 ANOVA output for Analytical Ability through Any Teaching Method

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.991	18	2.111	3.505E5	.000[a]
	Residual	.002	378	.000		
	Total	37.994	396			

a. Predictors: (Constant), V18, V3, V12, V11, V4, V1, V8, V13, V6, V16, V5, V10, V2, V14, V17, V7, V15, V9

b. Dependent Variable: V19

Source: SPSS Output

4.12.1.1 Hypothesis Any Other Teaching Method as Pedagogy on Analytical Ability

$H_0$10 There is no significant influence of Any Other Teaching method on the analytical ability of the post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.12.1.1. The level of significance set by us in this study is 5% that is $\alpha = 0.05$ (on the basis of the existing research of the similar type). The table reveals that p value (sig level) is less than the α value. Since $p = 0.000$ which is more than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. The Any Teaching Method influences the learning outcome Analytical ability.

4.12.2 Ability to evaluate through Any Other Teaching Method as a Pedagogy

The second variable studied in this test was the students' ability to evaluate. The ability to evaluate is for comparing two or more models or concepts. This study considered eighteen independent variables (V1 to V18) and the dependant variable (V19) is the ability to evaluate.

Table 4.12.2.1 ANOVA output for Evaluation through Any Other Teaching Method

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.292	18	3.072	3.873E5	.000[a]
	Residual	.003	378	.000		
	Total	55.295	396			

a. Predictors: (Constant), V18, V3, V12, V11, V4, V1, V8, V13, V6, V16, V5, V10, V2, V14, V17, V7, V15, V9

b. Dependent Variable: V19

$H_0$11 There is no significant influence of Any Other Teaching method on the evaluation ability of the post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.14.2.1. The level of significance set by us in this study is 5% that is $\alpha = 0.05$. The table reveals that p value (sig level) is less than the α value. Since $p = 0.000$ which is less than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. Any other Teaching method influences the learning outcome Evaluation. Any method of teaching initiate the student's ability to evaluate and clarify the concepts and models.

4.12.3 Ability to Create through Any Other Teaching Method

The third variable tested in this study is the student's ability to create. The ability to create is the highest learning outcome according to Bloom's Taxonomy. The ability to create is the ability of creating models or concepts. The students will be able to create their ideas or business model through their innovation. This study considered eighteen independent variables and the dependant variable is the ability to create.

Table 4.12.3.1 Independent Variable – Other teaching method – 18 variables and Creative ability of Other Teaching Method

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.678	18	2.149	4.055E5	.000[a]
	Residual	.002	378	.000		
	Total	38.680	396			

a. Predictors: (Constant), V18, V3, V12, V11, V4, V1, V8, V13, V6, V16, V5, V10, V2, V14, V17, V7, V15, V9

b. Dependent Variable: V19

$H_0$12 There is no significant influence of Any Other Teaching method on the creativity of the post graduate management students. The exact significant level of ANOVA (p value) is exhibited in column 6 of the table 4.14.3.1.1. The level of significance set by us in this study is 5% that is $\alpha = 0.05$ (on the basis of the existing research of the similar type). The table reveals that p value (sig level) is less than the α value. Since $p = 0.000$ which is less than α value of 0.05, the null hypothesis is not accepted and the alternative hypothesis is accepted. Any other Teaching method influences the learning outcome Creativity. Any method of teaching initiate the student's ability to create their own models and ideas.

4.13 Descriptive Statistical Analysis

Descriptive statistics is used for the simple analysis of the measures of central tendency to represent the entire data with a single number. It would give the centralized value which we can compare the variables for analysis and prediction.

4.13.1 Measuring the Learning outcome "Analytical Ability"

Analytical ability is the quality of a student to break the whole into parts and study the details of part to know how the parts make the whole and know how the effectiveness of the whole can be improved.

Table 4.13.1.1 Descriptive table showing the learning outcome 'Analytical Ability' through Project Based Learning and Case Study Method of Teaching

Analytical Ability Project Based Learning		Analytical Ability CASE METHOD	
Column1		*Column1*	
Mean	3.770780856	Mean	3.666666667
Standard Error	0.016798441	Standard Error	0.011889152
Median	3.666666667	Median	3.666666667
Mode	3.666666667	Mode	3.666666667
Standard Deviation	0.334706566	Standard Deviation	0.236889685
Sample Variance	0.112028485	Sample Variance	0.056116723
Kurtosis	0.177134102	Kurtosis	-0.04772356
Skewness	0.305284144	Skewness	0.339419858
Range	1.666666667	Range	1
Minimum	3	Minimum	3
Maximum	4.666666667	Maximum	4
Sum	1497	Sum	1455.666667
Count	397	Count	397

Source: Table prepared for this study

Table 4.13.1.2 Descriptive Statistical table showing the learning outcome 'Analytical Ability' through Socratic Method and Any Other Teaching Method.

Analytical Ability SOCRATIC METHOD		Analytical Ability ANY OTHER METHOD	
Column1		*Column1*	
Mean	3.892107473	Mean	3.505457599
Standard Error	0.022971883	Standard Error	0.015482023
Median	4	Median	3.666666667
Mode	4	Mode	3.333333333

Standard Deviation	0.457711525	Standard Deviation	0.308477115
Sample Variance	0.20949984	Sample Variance	0.09515813
Kurtosis	-0.340149332	Kurtosis	-0.841420714
Skewness	0.531436599	Skewness	0.009495128
Range	2	Range	1
Minimum	3	Minimum	3
Maximum	5	Maximum	4
Sum	1545.166667	Sum	1391.666667
Count	397	Count	397

Source: Table prepared for this study through Excel Sheet

From the table it is observed that among all the teaching methods Socratic Method (Mean 3.892107473) gives the most influencing effect on the learning outcome 'Analytical Ability' whereas the Project Based Learning gives the second (Mean 3.892107473) that shows that Project Based learning and teaching effects the learning outcome 'Analytical Ability'. In the third position, comes the Case Study Method (Mean 3.666666667). This can be concluded that the Socratic Method of teaching by asking questions to students bring out their ability to analyse any concepts, theory, model, problems etc. and find optimum solutions. Any other teaching method gives understanding, application and Memorizing compared to analytical ability, evaluation and creativity.

Table 4.13.1.3 Descriptive Statistical table showing Mean Score of the learning outcome 'Analytical Ability' through Socratic Method, Case Study Method, Project Based Learning and Any Other Teaching Method.

Teaching Method	**Mean Score**	**Teaching Method**	**Mean Score**
Socratic Method	3.892107473	Project Based Teaching and Learning	3.770780856
Case Study Method	3.666666667	Any Other Teaching Method	3.505457599

Source: Table prepared for this research from Excel sheet

From the above table, it is our understanding that respondents agree that Socratic Method creates analytical ability among students to maximum and Project Based Learning the second.

4.13.2 Measuring the Learning outcome "Evaluation"

Evaluation is the ability to compare two concepts, theories, models, ideas, action etc. to find out which one is better and why? The ability of a student is to distinguish between two things and correct the one which is not good.

Table 4.13.2.1 Descriptive statistical table showing the learning outcome 'Evaluation' through Project Based Learning and Case Study Method of Teaching.

EVALUATION	PBL
Column1	
Mean	3.79833333
Standard Error	0.01709129
Median	3.66666667
Mode	3.66666667
Standard Deviation	0.34182582
Sample Variance	0.11684489
Kurtosis	-0.44600901
Skewness	0.27125933
Range	1.66666667
Minimum	3
Maximum	4.66666667
Sum	1519.33333
Count	397

EVALUATION	CASE METHOD
Column1	
Mean	3.81083333
Standard Error	0.01406556
Median	3.66666667
Mode	3.66666667
Standard Deviation	0.28131128
Sample Variance	0.07913603
Kurtosis	-0.50770296
Skewness	0.41453231
Range	1
Minimum	3.33333333
Maximum	4.33333333
Sum	1524.33333
Count	397

Source: Table prepared for this research from Excel sheet

Table 4.13.2. 2 Descriptive statistical table showing the learning outcome 'Evaluation' through Socratic Method and Any Other Method of Teaching.

EVALUATION	SOCRATIC
Column1	
Mean	3.68625
Standard Error	0.02130309
Median	3.66666667
Mode	3.66666667
Standard Deviation	0.42606179
Sample Variance	0.18152865
Kurtosis	0.53876811
Skewness	0.65817015
Range	2
Minimum	3
Maximum	5
Sum	1474.5
Count	397

EVALUATION	AOT
Column1	
Mean	3.4075
Standard Error	0.01864226
Median	3.33333333
Mode	3.33333333
Standard Deviation	0.37284515
Sample Variance	0.13901351
Kurtosis	0.0826789
Skewness	0.33006982
Range	1.66666667
Minimum	2.66666667
Maximum	4.33333333
Sum	1363
Count	397

Source: Table prepared for this research from Excel sheet

From the table it is observed that among all the teaching methods Case Study Method (Mean 3.81083333) gives the most influencing effect on the learning outcome 'Evaluation' whereas the Project Based Learning gives the second (Mean 3.79833333) that shows that Project Based learning and teaching effects the learning outcome 'Evaluation'. In the third position, comes the Socratic Method (Mean 3.68625). This can be concluded that the Case Study Method of teaching by discussing the case in classroom to students bring out their ability to evaluate any concepts, theory, model, problems etc. and find optimum solutions. Any other teaching method gives understanding, application and Memorizing compared to analytical ability, evaluation and creativity.

Table 4.13.2.3 Descriptive Statistical table showing Mean Score of the learning outcome 'Evaluation' through Socratic Method, Case Study Method, Project Based Learning and Any Other Teaching Method.

Teaching Method	Mean Score	Teaching Method	Mean Score
Socratic Method	3.68625	Project Based Teaching and Learning	3.79833333
Case Study Method	3.81083333	Any Other Teaching Method	3.4075

Source: Table prepared for this research from Excel sheet

From the above table, it is our understanding that respondents agree that Case Study Method creates Evaluation ability among students to maximum and Project Based Learning the second.

4.13.3 Measuring the Learning outcome "Creativity"

Creative ability is the quality of a student to make new ideas, new concepts, new products, new services, and new models into the business or any area of their field of working. Successful entrepreneurs use their ideas into practice. There are three concepts which are important for their creativity, 1. Discovery – Finding something which already exists, 2. Invention – creating something new, and 3. Innovation – Practical application of an invention into a product, process, or service. In Bloom's Taxonomy of Cognitive learning, the highest level is Creativity. This learning outcome will make all individuals successful. Whether the career in doing a job, starting a new business, making a social change for economic and social development, the quality of innovation or creativity helps. In this study we try to find out the higher learning outcome of creativity is possible with which teaching method, whether it is Socratic Method of teaching, Case Study Method of teaching, Project Based Learning or Any other teaching method.

Table 4.13.3.1 Descriptive table showing the learning outcome 'Creativity' through Project Based Learning and Case Study Method of Teaching

CREATIVITY	PBL		CREATIVITY	CASE
Column1			*Column1*	
Mean	3.8950462		Mean	3.5054576
Standard Error	0.0184883		Standard Error	0.01419606
Median	3.6666667		Median	3.66666667
Mode	3.6666667		Mode	3.66666667
Standard Deviation	0.3683777		Standard Deviation	0.28285441

Sample Variance	0.1357021		Sample Variance	0.08000662
Kurtosis	-0.4010622		Kurtosis	-0.5961831
Skewness	0.2298496		Skewness	-0.0888188
Range	1.6666667		Range	1
Minimum	3		Minimum	3
Maximum	4.6666667		Maximum	4
Sum	1546.3333		Sum	1391.66667
Count	397		Count	397

Source: Table prepared for this research from Excel sheet

Table 4.13.3.2 Descriptive table showing the learning outcome 'Creativity' through Socratic Method of Teaching and Learning and Any Other Teaching Method.

CREATIVITY	SOCRATIC		CREATIVITY	AOT
Column1			*Column1*	
Mean	3.7707809		Mean	2.97397145
Standard Error	0.0185194		Standard Error	0.01574088
Median	3.6666667		Median	3
Mode	4		Mode	3
Standard Deviation	0.3689969		Standard Deviation	0.31363485
Sample Variance	0.1361587		Sample Variance	0.09836682
Kurtosis	-0.1389277		Kurtosis	-0.0189053
Skewness	-0.0015121		Skewness	0.13807029
Range	2		Range	1.66666667
Minimum	3		Minimum	2.33333333
Maximum	5		Maximum	4
Sum	1497		Sum	1180.66667
Count	397		Count	397

Source: Table prepared for this research from Excel sheet

From the table it is observed that among all the teaching methods Project Based Teaching and Learning (Mean 3.8950462) gives the most influencing effect on the learning outcome

'Creativity' whereas the Socratic Method of Teaching gives the second (Mean 3.7707809) that shows that Project Based learning and teaching effects the learning outcome 'Creativity'. In the third position, comes the Case Study Method (Mean 3.5054576).

This can be concluded that the Project Based Method (PBL) of teaching by giving projects to students in classroom to students bring out their ability to create any concepts, theory, model, problems etc. and find optimum solutions. Any other teaching method gives understanding, application and Memorizing compared to analytical ability, evaluation and creativity.

Table 4.13.3.3 Table showing learning outcome 'creativity' through different teaching methods

Teaching Method	**Mean Score**	**Teaching Method**	**Mean Score**
Socratic Method	3.7707809	Project Based Teaching and Learning	3.8950462
Case Study Method	3.5054576	Any Other Teaching Method	2.97397145

Source: Table prepared for this research from Excel sheet

From the table 4.13.3.3, it is our understanding that respondents agree that Project Based Learning (PBL) Method creates Creativity among students to maximum and Socratic Method to the second position.

Table 4.13.4 Teaching Methodology and the Cognitive Learning Outcome

The descriptive analysis done for the data collected from 397 respondents, it can be concluded the following results.

S N	TEACHING METHODOLOGY	LEARNING OUTCOME RANK 1	LEARNING OUTCOME RANK 2	LEARNING OUTCOME RANK 3
1	Socratic Method	Analysis	Creativity	Evaluation
2	Case Study Method	Evaluation	Analysis	Creativity
3	Project Based Learning	Creativity	Evaluation	Analysis

4	Any Other Teaching Method	Memory	Understanding	Application

Source: Table prepared for this research from Excel sheet

4.14 Prioritization of the factors using standardised regression coefficients – Analytical ability, Evaluation and Creativity

4.14.1 Analytical ability through Socratic Method

In this section of the study, the criterion variable is the learning outcome 'Analytical Ability' and the predictor variable is the teaching method Socratic Method. There are three predictor variables used for finding the learning outcome analytical ability through this teaching method.

V10: Do you agree that while asking questions and solving problems in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions?

V11: Do you agree that while finding an answer to the right questions, students are able to examine experiment and question the concepts and theories in the classroom?

V12: Do you agree that right questions at the right time will make students capable of breaking the problem into sub-parts and analyse it?

As it is mentioned in the hypothesis that we are trying to verify that the Socratic Method influences the learning outcome analysis. The table of regression analysis shows the result of the influence of Socratic Method for learning outcome 'Analytical Ability'

Table 4.14.1.1 Regression Analysis of Socratic Method for the learning outcome Analytical Ability

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.853	1.043		3.693	.000
	V1	-.073	.055	-.197	-1.346	.181
	V2	-.002	.063	-.006	-.037	.971
	V3	-.038	.064	-.108	-.601	.549
	V4	-.029	.039	-.080	-.737	.463
	V5	.038	.059	.072	.640	.524
	V6	.015	.070	.042	.212	.833
	V7	.009	.042	.024	.202	.840
	V8	-.044	.049	-.122	-.908	.366
	V9	.012	.051	.030	.235	.815
	V10	-.019	.078	-.033	-.239	.811
	V12	-.089	.050	-.187	-1.787	.077

Source: SPSS output

The standardized regression coefficient (Beta) is the measure of how strongly the predictor variable is related to the criterion variable. As we observe in this the criterion variable V12 is -.187 that means the predictor variable analysis is having an opposite relationship with the criterion variable. The value of the criterion variable V10 is -.033, low negative value that means it is not related much with the variable though it is negative. In other way, if we observe the variables V1 to V4, it is found that all regression coefficients are negative. Negative correlation shows that the predictor variables like memorizing, understanding and application has not been influenced by the Socratic Method.

4.14.2 Analytical ability through Case Study Method

In this section of the study, the criterion variable is the learning outcome ‘Analytical Ability’ and the predictor variable is the teaching method Case Study Method. There are three predictor variables used for finding the learning outcome analytical ability through this teaching method.

V10: Do you agree that while discussing and solving problems in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions?

V11: Do you agree that while doing a Case Studies students are able to examine experiment and question the concepts and theories in the classroom?

V12: Do you agree that problem solving through case studies will make students capable of breaking the problem into sub-parts and analyse it?

As it is mentioned in the hypothesis that we are trying to verify that the Case Study Method influences the learning outcome analysis. The table of regression analysis shows the result of the influence of Case Study Method for learning outcome ‘Analytical Ability’

Table 4.14.2.1 Regression Analysis of Case Study Method for the learning outcome Analytical Ability

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.003	.005		-.650	.516
	V1	.000	.000	.000	-1.708	.088
	V2	.000	.000	.000	-.778	.437
	V3	.000	.000	.000	-.883	.378
	V4	-1.808E-5	.000	.000	-.090	.928
	V5	-4.909E-6	.000	.000	-.020	.984
	V6	.000	.000	.001	.939	.348
	V8	.000	.000	-.001	-1.470	.142
	V9	.000	.000	-.002	-1.906	.057
	V10	.335	.000	.689	1.150E3	.000
	V11	.334	.000	.712	1.203E3	.000
	V12	.334	.000	.375	676.784	.000
	V13	.000	.000	.001	1.332	.184
	V14	.000	.000	-.002	-1.754	.080
	V15	.000	.000	.001	1.602	.110
	V17	4.765E-5	.000	.000	.262	.793
	V18	-2.083E-5	.000	.000	-.085	.933

a. Dependent Variable: V19

Source: SPSS output

The standardized regression coefficient (Beta) is the measure of how strongly the predictor variable analytical ability is related to the criterion variable Case study method. As we observe in this the criterion variable V10 is .689 that means the predictor variable analysis is having a strong relationship with the criterion variable analytical ability. The value of the criterion variable

V11 is 0.712, very strong positive value that means it is strongly related to the predictive variable Analysis. In other way, if we observe the variables V1 to V5, it is found that all regression coefficients are .000,zero correlation shows that the predictor variables like memorizing, understanding and application has not been influenced by the Case Study Method. There is a very high correlation between the Case Study method and the analytical ability of the students.

4.14.3 Analytical ability through Project Based Learning Method

In this section of the study, the criterion variable is the learning outcome 'Analytical Ability' and the predictor variable is the teaching method Project Based Learning. There are three predictor variables used for finding the learning outcome analytical ability through this teaching method.

V10: Do you agree that while doing a project in the classroom or outside, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions?

V11: Do you agree that while doing a Project, students are able to examine experiment and question the concepts and theories in the classroom?

V12: Do you agree that Project Based Teaching will make students capable of breaking the problem into sub-parts and analyse it?

As it is mentioned in the hypothesis that we are trying to verify that the Project Based Learning Method influences the learning outcome analysis. The table of regression analysis shows the result of the influence of Project Based Learning Method for learning outcome 'Analytical Ability'

Table 4.14.3.1 Regression Analysis of Project Based Method for the learning outcome Analytical Ability

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.002	.004		-.550	.582
	V1	.000	.000	.000	-.667	.505
	V2	9.616E-6	.000	.000	.049	.961
	V3	.000	.000	.001	1.446	.149
	V4	.000	.000	.000	-1.767	.078
	V5	.001	.000	.002	3.149	.002
	V6	.000	.000	.000	-.598	.550
	V7	.000	.000	.000	.851	.395
	V8	.000	.000	.001	1.215	.225
	V9	.333	.000	.592	1.219E3	.000
	V10	.333	.000	.665	1.431E3	.000
	V11	.333	.000	.608	1.305E3	.000
	V12	.000	.000	.000	.547	.585
	V13	.000	.000	.001	1.353	.177
	V14	2.977E-5	.000	.000	.134	.893
	V15	.000	.000	.001	1.856	.064
	V16	.000	.000	.000	-.737	.462
	V17	.000	.000	.000	-1.522	.129

Dependent Variable: V18

Source: SPSS output

The standardized regression coefficient (Beta) is the measure of how strongly the predictor variable analytical ability is related to the criterion variable Project Based method. As we observe

in this the criterion variable V10 is .665 that means the predictor variable analysis is having a strong relationship with the criterion variable project based learning. The value of the criterion variable V11 is 0.608, very strong positive value that means it is strongly related to the predictive variable Analysis. In other way, if we observe the variables V1 to V5, it is found that all regression coefficients are .000 and .001, zero correlation shows that the predictor variables like memorizing, understanding and application has not been influenced by the Project Based Teaching Method. There is a very high correlation between the Project Based Teaching method and the analytical ability of the students.

4.14.4 Analytical ability through Any Other Teaching Method

In this section of the study, the criterion variable is the learning outcome 'Analytical Ability' and the predictor variable is the Any Other teaching method. There are three predictor variables used for finding the learning outcome analytical ability through this teaching method.

V10: Do you agree that any teaching method used in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions?

V11: Do you agree that while using any teaching method, students are able to examine experiment and question the concepts and theories in the classroom?

V12: Do you agree that any teaching method will make students capable of breaking the problem into sub-parts and analyse it?

As it is mentioned in the hypothesis that we are trying to verify that the Any Other Teaching Method influences the learning outcome analysis. The table of regression analysis shows the result of the influence of Any Teaching Method for learning outcome 'Analytical Ability'

Table 4.14.4.1 Regression Analysis of Any Teaching Method for the learning outcome Analytical Ability

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.011	.003		-3.114	.002
	V1	.000	.000	.001	2.491	.013
	V2	.000	.000	.000	-1.725	.085
	V3	.000	.000	.000	-1.611	.108
	V4	.000	.000	.000	.799	.425
	V5	-5.193E-5	.000	.000	-.262	.793
	V6	.000	.000	.000	-1.239	.216
	V7	5.076E-5	.000	.000	.265	.791
	V8	7.977E-5	.000	.000	.309	.758
	V9	2.167E-5	.001	.000	.030	.976
	V10	.335	.000	.539	1.215E3	.000
	V11	.335	.000	.541	1.278E3	.000
	V12	.334	.000	.537	1.317E3	.000
	V13	.000	.000	.000	-1.426	.155
	V14	.000	.000	.000	.928	.354
	V15	.000	.000	.000	-1.114	.266
	V16	.000	.001	.000	-.227	.820
	V17	.000	.000	.000	.813	.416
	V18	.000	.000	.000	-1.873	.062

a. Dependent Variable: V19

Source: SPSS output

The standardized regression coefficient (Beta) is the measure of how strongly the predictor variable analytical ability is related to the criterion variable Any Teaching method. As we observe in this the criterion variable V10 is .539 that means the predictor variable analysis is having an average relationship with the criterion variable any teaching learning. The value of the criterion variable V11 is 0.541, very strong positive value that means it is strongly related to the predictive variable Analysis. In other way, if we observe the variables V1 to V5, it is found that all regression coefficients are .000 and .001, zero correlation shows that the predictor variables like memorizing, understanding and application has not been influenced by the Any Teaching Method. There is a correlation between the Any Other Teaching method and the analytical ability of the students.

4.14.5 Regression Analysis of Socratic Method for the learning outcome Evaluation

In this section of the study, the criterion variable is the learning outcome 'Evaluation' and the predictor variable is the teaching method Socratic Method. There are three predictor variables used for finding the learning outcome analytical ability through this teaching method.

V13: Socratic questions define tasks, express problems and initiate solutions.

V14: The right questions improve curiosity to learn better by evaluating the alternative solutions.

V15: The right questioning by teachers make the students able to make better decision.

As it is mentioned in the hypothesis that we are trying to verify that the Socratic Method influences the learning outcome evaluation. The table of regression analysis shows the result of the influence of Socratic Method for learning outcome 'Evaluation'.

Table 4.14.5.1 Regression Analysis of Socratic Method for the learning outcome Evaluation.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.271	.827		-1.537	.128
	V1	-.006	.043	-.009	-.144	.886
	V2	.121	.050	.169	2.437	.017
	V3	.084	.050	.123	1.656	.101
	V4	.022	.031	.032	.718	.475
	V5	-.187	.047	-.186	-3.977	.000
	V6	.148	.056	.219	2.657	.009
	V7	-.056	.033	-.082	-1.686	.095
	V8	-.051	.038	-.073	-1.321	.190
	V9	.020	.040	.026	.492	.624
	V10	.293	.062	.269	4.756	.000
	V12	-.009	.040	-.010	-.233	.816
	V13	.410	.037	.604	11.052	.000
	V14	.401	.038	.542	10.536	.000
	V15	.074	.045	.067	1.647	.103
	V16	.039	.072	.035	.543	.589

a. Dependent Variable: V17

Source: SPSS Output

The standardized regression coefficient (Beta) is the measure of how strongly the predictor variable evaluation is related to the criterion variable Socratic method. As we observe in this the criterion variable V13 is .604 that means the predictor variable analysis is having a good positive relationship with the criterion variable Socratic Method. The value of the criterion variable V14

is 0.542, positive correlation value that means it is directly related to the predictive variable Evaluation. In other way, if we observe the variables V1 to V5, it is found that all regression coefficients are .123 and -.009 etc., zero correlation or negative correlation with less than .500 shows that the predictor variables like memorizing, understanding and application has not been influenced by the Socratic Method. There is a correlation between the Socratic Method of Teaching method and the Evaluation ability of the students.

4.14.6 Regression Analysis of Case Method for the learning outcome Evaluation

In this section of the study, the criterion variable is the learning outcome 'Evaluation' and the predictor variable is the teaching method Case Study Method. There are three predictor variables used for finding the learning outcome evaluation ability through this teaching method.

V13: The Case Study method of teaching immerses the students into realistic business situations and able to draw connections.

V14: By using Case Method the students' ability to evaluate a situation or a problem will improve.

V15: By solving Case study the students will be able to appraise, argue, defend and select a stand or a decision.

As it is mentioned in the hypothesis that we are trying to verify that the Case Study Method influences the learning outcome evaluation. The table of regression analysis shows the result of the influence of Case Study Method for learning outcome 'Evaluation'.

Table 4.16.6.1 Regression Analysis of Case Study Method for the learning outcome Evaluation.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.315	.006		238.639	.000
	V1	6.696E-5	.000	.000	.258	.796
	V2	3.877E-5	.000	.000	.140	.888
	V3	.001	.000	.001	2.386	.018
	V4	.000	.000	.000	.800	.424
	V5	.000	.000	.000	1.022	.308
	V6	.000	.000	.000	.636	.525
	V8	.000	.000	.001	.942	.347
	V9	2.909E-5	.000	.000	.062	.950
	V10	.000	.000	.000	.483	.629
	V11	.000	.000	.000	.880	.379
	V12	.000	.001	.000	.206	.837
	V13	.000	.000	.000	-.526	.599
	V14	-7.932E-5	.000	.000	-.167	.868
	V15	.000	.000	.000	-.888	.375
	V17	.335	.000	.803	1.777E3	.000
	V18	.335	.000	.589	1.315E3	.000

a. Dependent Variable: V19

Source: SPSS Output

The standardized regression coefficient (Beta) is the measure of how strongly the predictor variable evaluation is related to the criterion variable Case method. As we observe in this the criterion variable V13 is .000 that means the predictor variable analysis is not having a positive

or negative relationship with the criterion variable Case Method. The value of the criterion variable V14 is 0.000, no correlation, that means it is not directly related to the predictive variable Evaluation. The value of the criterion variable V15 is 0.000, no correlation, that means it is not directly related to the predictive variable Evaluation. In other way, if we observe the variables V1 to V5, it is found that all regression coefficients are .000 and .001 etc., zero correlation or negative correlation with less than .500 shows that the predictor variables like memorizing, understanding and application has not been influenced by the Case Method. There is no correlation between the Case Method of Teaching method and the Evaluation ability of the students.

4.14.7 Regression Analysis of Project Based Teaching Method for the learning outcome Evaluation

In this section of the study, the criterion variable is the learning outcome 'Evaluation' and the predictor variable is the teaching method Project Based Teaching Method. There are three predictor variables used for finding the learning outcome evaluation ability through this teaching method.

V13: The Project based method of teaching immerses the students into realistic business situations and able to draw connections.

V14: By using Project Method the students' ability to evaluate a situation or a problem will improve.

V15: By solving a problem the students will be able to appraise, argue, defend and select a stand or a decision.

As it is mentioned in the hypothesis that we are trying to verify that the Project Based Teaching Method influences the learning outcome evaluation. The table of regression analysis shows the result of the influence of Project Based Method for learning outcome 'Evaluation'.

Table 4.14.7.1 Regression Analysis of Project Based Learning Method for the learning outcome Evaluation.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.002	.004		-.652	.515
	V1	2.189E-5	.000	.000	.126	.900
	V2	.000	.000	.000	1.226	.221
	V3	.000	.000	.000	.578	.564
	V4	-.001	.000	-.003	-5.522	.000
	V5	-8.540E-6	.000	.000	-.038	.970
	V6	.001	.000	.001	3.074	.002
	V7	9.381E-5	.000	.000	.372	.710
	V8	.001	.000	.001	2.590	.010
	V9	.000	.000	.000	.706	.480
	V10	.000	.000	.001	1.376	.170
	V11	.000	.000	.000	-.765	.445
	V12	.333	.000	.525	1.241E3	.000
	V13	.333	.000	.476	1.113E3	.000
	V14	.333	.000	.652	1.567E3	.000
	V15	.000	.000	.001	1.159	.247
	V16	.001	.000	.001	3.106	.002
	V17	.001	.000	.001	2.353	.019

a. Dependent Variable: V18

Source: SPSS Output

Table 4.14.7.1 Regression Analysis of Project Based Learning Method for the learning outcome Evaluation. The standardized regression coefficient (Beta) is the measure of how strongly the predictor variable evaluation is related to the criterion variable Project Based Teaching method. As we observe in this the criterion variable V13 is .476 that means the predictor variable Evaluation is having a positive correlation with the criterion variable Project Based Teaching Method. Since the value of the correlation is below .500, it is not strongly correlated. The value of the criterion variable V14 is 0.652, high positive correlation, that means it is directly related to the predictive variable Evaluation. The value of the criterion variable V15 is 0.001, no correlation, that means it is not directly related to the predictive variable Evaluation. In other way, if we observe the variables V1 to V5, it is found that all regression coefficients are .000 and .001 etc., zero correlation or negative correlation with less than .500 shows that the predictor variables like memorizing, understanding and application has not been influenced by the Project Based Method. There is a positive correlation between the Project Based Method of Teaching method and the Evaluation ability of the students.

4.14.8 Regression Analysis of Any Other Teaching Method for the learning outcome Evaluation.

In this section of the study, the criterion variable is the learning outcome 'Evaluation' and the predictor variable is Any Other Teaching method. There are three predictor variables used for finding the learning outcome evaluation ability through this teaching method.

V13: Do you agree that this method of teaching immerses the students into realistic business situations and able to draw connections?

V14: Do you agree that by using this method of teaching the students' ability to evaluate a situation or a problem will improve?

V15: Do you agree that by solving problems the students will be able to appraise, argue, defend and select a stand or a decision?

As it is mentioned in the hypothesis that we are trying to verify that the Any Other Teaching Method influences the learning outcome evaluation. The table of regression analysis shows the result of the influence of Any Other Method for learning outcome 'Evaluation'

Table 4.14.8.1 Regression Analysis of Any Other Teaching and Learning Method for the learning outcome Evaluation.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.001	.004		.265	.791
	V1	7.846E-5	.000	.000	.352	.725
	V2	-8.619E-5	.000	.000	-.309	.757
	V3	.000	.000	.000	.538	.591
	V4	.000	.000	.000	1.153	.250
	V5	.000	.000	.000	-.930	.353
	V6	-6.127E-5	.000	.000	-.212	.832
	V7	-8.856E-5	.000	.000	-.404	.687
	V8	.000	.000	.000	-.741	.459
	V9	.000	.001	.000	-.280	.780
	V10	.000	.000	.000	1.131	.259
	V11	.000	.000	.000	-.854	.394
	V12	-2.460E-5	.000	.000	-.084	.933
	V13	.333	.000	.436	1.073E3	.000
	V14	.334	.000	.641	1.511E3	.000
	V15	.333	.000	.535	1.141E3	.000
	V16	.000	.001	.000	.358	.720
	V17	.000	.000	.000	-1.762	.079
	V18	.000	.000	.000	.434	.665

a. Dependent Variable: V19

Source: SPSS Output

Table 4.14.8.1 Regression Analysis of Any Other Teaching Method for the learning outcome Evaluation. The standardized regression coefficient (Beta) is the measure of how strongly the predictor variable evaluation is related to the criterion variable Any Other Teaching method. As we observe in this the criterion variable V13 is .436 that means the predictor variable Evaluation is having a positive correlation with the criterion variable Any Other Teaching Method. Since the value of the correlation is below .500, it is not strongly correlated. The value of the criterion variable V14 is 0.641, high positive correlation, that means it is directly related to the predictive variable Evaluation. The value of the criterion variable V15 is .535, a positive correlation, that means it is directly related to the predictive variable Evaluation. In other way, if we observe the variables V1 to V5, it is found that all regression coefficients are .000 and .001 etc., zero correlation or negative correlation with less than .500 shows that the predictor variables like memorizing, understanding and application has not been influenced by the Project Based Method. There is a positive correlation between the Any Other Teaching Method and the Evaluation ability of the students.

4.14.9 Regression Analysis of Socratic Method for the learning outcome Creativity.

In this section of the study, the criterion variable is the learning outcome 'Creativity' and the predictor variable is Socratic Teaching method. There are three predictor variables used for finding the learning outcome creativity through this teaching method.

V16: Does Socratic Method make your creativity in developing solutions and learning by self?

V17: Do you agree that quality of the questions students ask in the class determines the quality of the thinking as well as learning?

V18: Do you agree that the questions by the teachers make the students able to create their own models?

As it is mentioned in the hypothesis that we are trying to verify that the Socratic Method of Teaching influences the learning outcome Creativity. The table of regression analysis shows the result of the influence of Socratic Method for learning outcome 'Creativity'

Table 4.14.9.1 Regression Analysis of Socratic Method for the learning outcome Creativity

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.214	.619		3.579	.001
	V1	-.095	.032	-.235	-2.929	.004
	V2	.126	.037	.312	3.404	.001
	V3	.111	.038	.287	2.929	.004
	V4	-.060	.023	-.152	-2.559	.012
	V5	.073	.035	.129	2.088	.040
	V6	-.112	.042	-.291	-2.679	.009
	V7	-.017	.025	-.044	-.675	.501
	V8	-.075	.029	-.191	-2.602	.011
	V9	-.032	.030	-.074	-1.054	.295
	V10	-.068	.046	-.111	-1.482	.142
	V12	.021	.030	.041	.708	.481
	V13	.077	.028	.200	2.772	.007
	V14	.074	.028	.177	2.606	.011
	V15	.345	.033	.557	10.309	.000
	V16	.063	.054	.099	1.167	.246

a. Dependent Variable: V17

Source: SPSS Output

Table 4.16.8.1 Regression Analysis of Any Other Teaching Method for the learning outcome Creativity. The standardized regression coefficient (Beta) is the measure of how strongly the predictor variable evaluation is related to the criterion variable Socratic method. As we observe in this the criterion variable V16 is .0.099 that means the predictor variable Creativity is having

a positive correlation with the criterion variable Socratic Method of Teaching. Since the value of the correlation is below .500, it is not strongly correlated. The value of the criterion variable V15 is 0.557, positive correlation, that means it is directly related to the predictive variable Creativity. The value of the criterion variable V17 and V 18 are not given, that means it is directly related to the predictive variable Evaluation. In other way, if we observe the variables V1 to V5, it is found that all regression coefficients are .000 and .001 etc., zero correlation or negative correlation with less than .500 shows that the predictor variables like memorizing, understanding and application has not been influenced by the Socratic Method. There is a positive correlation between the Socratic Method and the Creative ability of the students.

4.14.10 Regression Analysis of Case Method for the learning outcome Creativity

In this section of the study, the criterion variable is the learning outcome 'Creativity' and the predictor variable is Case Study method. There are three predictor variables used for finding the learning outcome creativity through this teaching method.

V16: Do you agree that by doing Case Study, students will be able to investigate and develop innovative solutions to problems under study?

V17: Do you agree that by doing Case Study students will be able to design, assemble and construct models?

V18: Do you agree that the questions by the teachers make the students able to create their own models?

V18: Do you agree that by doing Case Study students will be able to develop, investigate and formulate new theories and concepts?

As it is mentioned in the hypothesis that we are trying to verify that the Case Method of Teaching influences the learning outcome Creativity. The table of regression analysis shows the result of the influence of Socratic Method for learning outcome 'Creativity'

Table 4.14.10.1 Regression Analysis of Case Study Method for the learning outcome Creativity

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.005	.005		1.056	.292
	V1	.000	.000	.000	-.487	.627
	V2	.000	.000	.001	1.145	.253
	V3	.000	.000	-.001	-2.100	.036
	V4	-2.318E-6	.000	.000	-.012	.990
	V5	.000	.000	.000	.476	.634
	V6	.001	.000	.002	2.864	.004
	V8	.000	.000	-.001	-2.141	.033
	V9	.001	.000	.002	2.925	.004
	V10	.000	.000	.000	-1.319	.188
	V11	.000	.000	.000	-.945	.345
	V12	.001	.000	.001	1.806	.072
	V13	.333	.000	.596	1.096E3	.000
	V14	.333	.000	.595	764.373	.000
	V15	.332	.000	.593	1.357E3	.000
	V17	-6.996E-5	.000	.000	-.406	.685
	V18	.000	.000	.000	-.799	.425

a. Dependent Variable: V19

Source: SPSS Output

Table 4.14.10.1 Regression Analysis of Case Study Method for the learning outcome Creativity. The standardized regression coefficient (Beta) is the measure of how strongly the predictor

variable evaluation is related to the criterion variable Socratic method. As we observe in this the criterion variable V16 is .0.000 that means the predictor variable Creativity is not having a correlation with the criterion variable Case Study Method of Teaching. Since the value of the correlation is below .500, it is not strongly correlated. The value of the criterion variable V17 is 0.000, 0 correlation, that means it is not directly related to the predictive variable Creativity. The value of the criterion variable V17 and V 18 are not given, that means it is directly related to the predictive variable Evaluation. In other way, if we observe the variables V1 to V5, it is found that all regression coefficients are .000 and .001 etc., zero correlation or negative correlation with less than .500 shows that the predictor variables like memorizing, understanding and application has not been influenced by the Socratic Method. There is a positive correlation between the Case Method and the Creative ability of the students.

4.14.11 Regression Analysis of Project Based Method for the learning outcome Creativity

In this section of the study, the criterion variable is the learning outcome 'Creativity' and the predictor variable is Project based method. There are three predictor variables used for finding the learning outcome creativity through this teaching method.

V16: Do you agree that by doing a project, students will be able to investigate and develop innovative solutions to problems under study?

V17: Do you agree that by doing a project, students will be able to design, assemble and construct models?

V18: Do you agree that by doing some projects, students will be able to develop, investigate and formulate new theories and concepts?

As it is mentioned in the hypothesis that we are trying to verify that the Project Based Method of Teaching influences the learning outcome Creativity. The table of regression analysis shows the result of the influence of Project Based Method for learning outcome 'Creativity'

Table 4.14.11.1 Regression Analysis of Project Based Learning Method for the learning outcome Creativity

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.018	.003		5.750	.000
	V1	-6.248E-5	.000	.000	-.394	.694
	V2	1.137E-6	.000	.000	.007	.995
	V3	.000	.000	-.001	-3.474	.001
	V4	-5.464E-5	.000	.000	-.248	.804
	V5	.000	.000	.000	.840	.401
	V6	.000	.000	.000	-2.304	.022
	V7	-.001	.000	-.002	-4.555	.000
	V8	.001	.000	.001	2.072	.039
	V9	.000	.000	-.002	-3.962	.000
	V10	.001	.000	.001	2.511	.012
	V11	.000	.000	.000	.793	.428
	V12	.001	.000	.001	2.696	.007
	V13	.000	.000	.000	-1.462	.144
	V14	.000	.000	.000	-1.184	.237
	V15	.333	.000	.654	1.751E3	.000
	V16	.332	.000	.450	1.287E3	.000
	V17	.332	.000	.552	1.543E3	.000

a. Dependent Variable: V18

Source: SPSS Output

Table 4.14.11.1 Regression Analysis of Project Based Teaching and Learning Method for the learning outcome Creativity. The standardized regression coefficient (Beta) is the measure of how strongly the predictor variable evaluation is related to the criterion variable Project Based method. As we observe in this the criterion variable V16 is .0.450 that means the predictor variable Creativity is having a positive correlation with the criterion variable Project Based Method of Teaching. Since the value of the correlation is below .500, it is not strongly correlated. The value of the criterion variable V17 is 0.552, that means the predictor variable creativity is directly correlated to the teaching method Project Based Teaching and Learning. There is a positive correlation between the Project Based Method and the Creative ability of the students.

4.15 Teachers' Interview Result Analysis

The primary data collected for this research is of two types 1) Students' response collected through questionnaire and 2) Teachers' response collected through personal interview. The important questions asked to the teachers and information tabulated were the following.

Table 4.15.1 Teaching Faculty members' experience and use of teaching methods

Number of years of Teaching Experience	Socratic Method	Case Study Method	Project Based Learning	Any Other Teaching method	**Total**
Less than 1 year	0	1	0	3	**4**
1 to 2 years	2	8	3	4	**17**
2 to 5 years	7	11	6	3	**27**
5 to 10 years	9	12	7	1	**29**
10 years and above	1	1	1	0	**3**
Total	**19**	**33**	**17**	**11**	**80**

Figure 4.15.2 Teaching Faculty members' experience and use of teaching methods

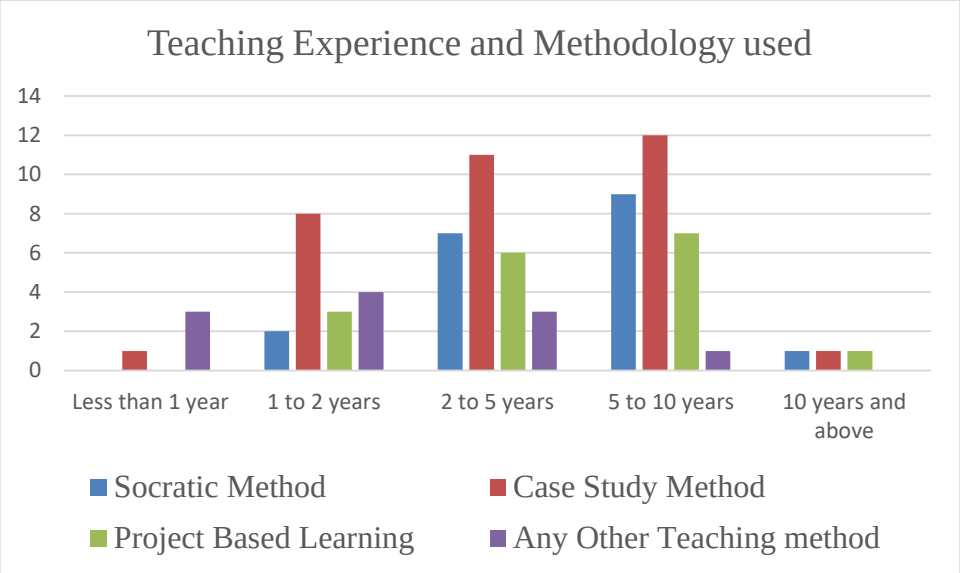


Table 4.15.1 showing Teaching Faculty members' experience and use of teaching methods clearly explains that the teachers having experience use the methods like Socratic method, Case Study method, and Project Based learning whereas the teachers having less experience or no experience are using any other teaching method. Majority of the teachers use Case Study Method for teaching their subject and secondly use the Socratic Method.

Table 4.15.3 Teaching Faculty members' responds on Learning Outcomes

Teaching Method	Memory	Understanding	Application	Analysis	Evaluation	Creativity
Socratic Method	17	20	8	37	8	12
Case Study Method	12	9	36	29	38	28
Project Based Learning	23	21	26	9	32	31
Any Other Teaching method	28	30	10	5	2	9
Total	**80**	**80**	**80**	**80**	**80**	**80**

Figure 4.15.4 Teaching Faculty members' responds on Learning Outcomes

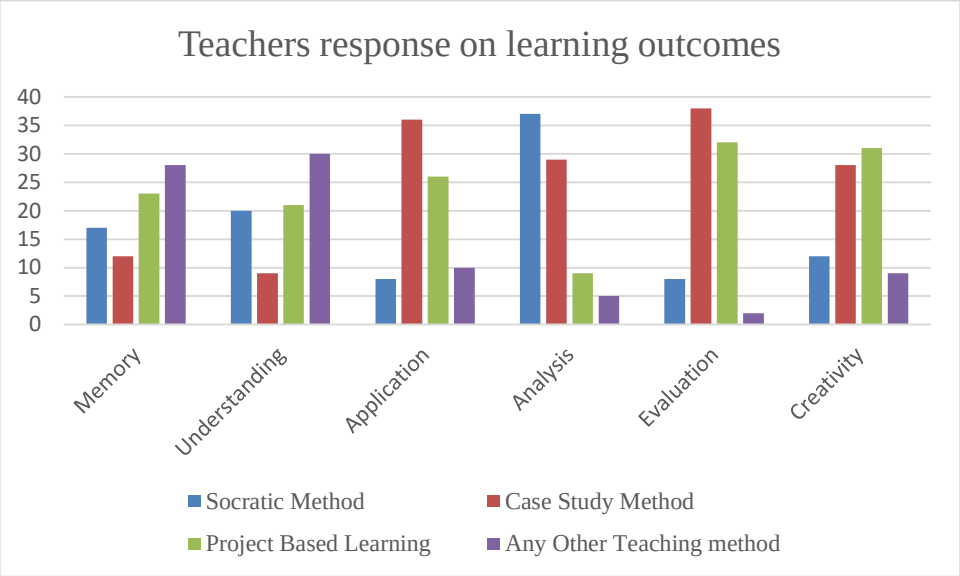


Table 4.15.3 showing Teaching Faculty members' responds on Learning Outcomes describes 6 stages of cognitive learning outcomes. The lower level of learning outcomes like Memory, Understanding, and application are achieved more by any other teaching method, whereas the learning outcomes like analysis, evaluation, and creativity are achieved by the teaching methods like Case Study method, Socratic Method and Project Based Learning. Teaching staff members are of the opinion that out of the higher learning outcomes like analysis is more achieved by Socratic Method, and evaluation is more influenced by Case Study method. In case of creativity, it is understood that innovative ideas and practices are more achieved by the Project Based Teaching and Learning Process.

4.16 Summary

The statistical analysis done for this research is Factor Analysis, ANOVA, t-test, Hypothesis testing and the Descriptive statistical analysis. From all these analysis, it is found that the any teaching method can bring learning outcomes measured through Bloom's Taxonomy. There are three levels of learning outcomes, Cognitive, Affective and Psychomotor. Out of these learning outcomes, what is possible to measure is the Cognitive Learning. Cognitive learning is learning through your brains or intelligent. There are 6 levels of Cognitive learning they are 1. Memorizing, 2. Understanding, 3. Application, 4. Analysis, 5. Evaluation, and 6. Creativity. Usually the first three learning outcomes are possible by any teaching methods. Students, generally learn these first three outcomes starting from their school studies.

This research tries to find out the possibility higher learning outcomes, Analysis, Evaluation, and Creativity through the teaching methods Socratic Method, Case Study Method, Project Based Learning and Any Other Teaching Method. It is found that the ability to analyse is best possible by Socratic Method (SM), the ability to evaluate is best possible by Case Study Method (CM) and the ability of Creativity is best possible by Project Based Learning (PBL)

In all these analysis, it is found that the any teaching method can bring learning outcomes measured through Bloom's Taxonomy. There are three levels of learning outcomes, Cognitive, Affective and Psychomotor. Out of these learning outcomes, what is possible to measure is the Cognitive Learning. Cognitive learning is learning through your brains or intelligent. There are 6 levels of Cognitive learning they are 1. Memorizing, 2. Understanding, 3. Application, 4. Analysis, 5. Evaluation, and 6. Creativity. Usually the first three learning outcomes are possible by any teaching methods. Students, generally learn these first three outcomes starting from their school studies.

The descriptive statistical analysis, the ANOVA test and the regression analysis shows that there is a positive correlation between the dependant variables like analytical ability, evaluation and the creativity and the independent variables like Socratic Teaching Method, Case Study Method and Project Based Learning. These positive correlation is more than 0.500 in majority of the cases of these three methods, however, it is less than 0.500 in other teaching methods.

Chapter V

Result, Discussion and Conclusion

Chapter V

RESULTS, DISCUSSIONS AND CONCLUSION

5.1 Major Results of the Research

MBA stands for Master of Business Administration. It is a postgraduate course that facilitates the candidates in acquiring the different managerial and leadership skills which will be beneficial for them practically in their work life also it helps in enhancing the thought process of a person in a different dimension. It covers different areas such as accounting, finance, marketing, hr, economics, business ethics and so on. MBA full time course duration is 2 years and there are different types of MBAs which has different time duration such as 15-18 months, 2-5yrs etc., In order to get into premier institutions to attend this course it is important for the students to clear entrance exams such as CAT or MAT or GMAT etc., **PGDM** is a diploma course which stands for Postgraduate Diploma in Management it is a course that offers management studies same as MBA at post graduate level. This course is also for the duration of 2 years and the criteria to get into this course is same as MBA i.e., we have to clear entrance exams like CAT, MAT or other exams. This course also has different types and each types have their own duration and semester/trimester systems. **PGPM** stands for Post Graduate Program in Management. The course is planned in such a way that the entire experience that we gain from the two-year course is gained from this one- year course. It is also referred to as One-year MBA program. All the above-mentioned programmes give plenty of job opportunities.

From the analysis made we can understand that majority of the students opt finance as their specialization i.e., (37%). The scope of finance is wide and today, there is a lot of demand for candidates equipped with knowledge in this particular field. As we know that "Finance is the life cell of the business" many organisations want their employees you to possess knowledge in this particular field in order to acquire, manage and utilize their funds efficiently and effectively. The lowest is International Business which stands at (4%). There are chances for increase in he demands for this particular specialization in the upcoming future. As we know that, MBA is a direct postgraduate course to the BBA majority of the students who have completed BBA in their under graduation (53%) have taken MBA as their post-graduation course. Students who have taken LLB stand at (3%) and they are the lowest as there is no much relation and continuity in

these two courses. Coming to the age group, usually as per the Indian education system students complete their under graduation between 20-21 years. Mostly students who complete under graduation will immediately do their MBA or other PG courses with respect to their field for even more deeper knowledge and better employment opportunities. In that aspect, 78% of the students who are doing these courses fall between the age group (21-24 years). When we observe the marital status, it is found that majority candidates who are doing MBA course is single only handful of candidates are married. Coming to the other diploma courses majority of them are married. The (28) students who come under this category are mostly doing their diploma courses. When it comes to the different methods of teaching and its application in different subjects, **Accounting** majorly requires Socratic method of teaching and the case study method is rarely used for an accounting subject. **Economics** a subject which is a multi- disciplinary subject and also at the same time deals with lot of practical aspects in our day-to-day life and it has more application of case method and in the next level comes the project-based method, Socratic method no other methods would be as apt as these methods are used. **Statistics** one of the important practical courses that has to be handled by teachers using Socratic method and case method and project- based method are rarely or never used. Subjects such as **Principles of Management and HR/OB** which are the basic and the most important foundation subjects for a course like MBA follow mostly Project Based Method that gives them an actual practical understanding of the real-world Business scenario. **Marketing** another important discipline under commerce field and it scores high on Socratic method and project- based method for a practical exposure. It is very difficult to try on any other method other than these basic methods. Accounting and this particular subject named **"Finance"** goes hand in hand and this subject requires more of Socratic method to be used as a teaching methodology and relatively good other different methods of teaching. **Communications** is a subject that follows Socratic method and project- based method highly in everyday class. **Productions and Operations** is the area that is mainly taken up by Engineering students and this subject mostly requires Socratic method of learning and project- based method. **International Business** a very important subject that gives the picture of the International Environment. This subject mostly follows Socratic method, case method, project- based method and any other method is very rarely used and sometimes never used. **Ethics and Principles** is the other subject that is being offered in this course where they follow mostly Socratic Method and any other method is very rarely used. It is understood that Socratic method is primarily used as a teaching tool for almost all the subjects mentioned above. It has a positive relationship between case method and project- based method.

We can get an idea about the specialization, previous education information before MBA and other diploma courses, marital status of the candidates, varied subjects offered and what kind of teaching methodology is mostly applied for each of these subjects and how they are related to each other (i.e., are they positively or negatively correlated with each other). Candidates basically choose their post- graduation courses based on their requirement and career opportunities available for such courses post the completion. In that aspect we can see this course gives innumerable growth opportunities for candidates who have completed mainly BBA, BCom and Engineering. It is found that people who are pursuing their career in the field of law are very low in numbers the main reason is there is no that much application of this subject in future same goes with bachelor of Science and Arts degree. MBA is a subject that gives us an in-depth knowledge on the management studies with its respective specializations if there can be a special branch like M. Com International Business, M. Com Financial Analysis or MBA Hospital Management etc., that will give a new career choice or a different perspective to the students who have pursued the courses mentioned above.

5.2 Major Findings and Results

This research has followed the major analytical tools like Factor Analysis, ANOVA, t-test, Correlation and regression analysis. Major objectives of the study like the Teaching Methodologies and their impact on the learning outcomes

Factor Analysis shows that Socratic Method of Teaching have the learning outcome of Recollecting facts, understanding theories, Application of formulae and models, Analysing the problems, evaluating concepts and models and Ability to create new models, ideas and products, however, more prominently with evaluating concepts, ideas and models.

Factor Analysis shows that Case study method of Teaching give the result of Memorizing, understanding theories, Application of formulae and models, Analysing the problems, evaluating concepts and models and Ability to create new models, ideas and products, however, more prominently with the analytical ability of the students.

Factor Analysis shows that Project Based Teaching and Learning give the result of Memorizing, understanding theories, Application of formulae and models, Analysing the problems, evaluating concepts and models and Ability to create new models, ideas and products, however, more prominently with creativity.

It is observed from the primary data collected that Indian students have a tendency of studying an ongoing program because of the decision for selecting a course of study is not an individual decision, but influenced by parents, relatives, friends and peer groups.

An observation from the primary data collected that the majority of the Indian students do not have work experience before they come for a post graduate studies in Management.

Majority of the students have done their graduation in Management or Commerce, therefore, an MBA program is just a continuation of their studies rather than taking it into the seriousness of higher learning outcomes like analysis, evaluation and creativity.

Age group of the majority of students are between 21 and 26, that makes it evident that studies are not taken seriously for achieving their professional goals.

It is evident from the primary data collected that most of the teachers in management uses Socratic Method as their teaching method, as they feel that asking questions to students will get more attention from students and helpful in recollecting their previous learning.

Project Based Teaching and Learning is also used by teachers in many subjects, especially giving assignments to the students. Assignments are considered to be small projects and students' involvement in activities will bring learning in them.

For Accounting and Financial Management Subjects most of the teachers use Socratic Method and Problem based teaching and learning as it is easy for handling the classroom.

Economics is taught by using all the three teaching methodologies; Socratic Method, Case Study Method, Project Based Learning and other teaching methodologies.

For teaching Statistics Socratic Questions and Problem Based teaching and learning is used by the majority of teachers.

Subjects like Principles of Management, Organizational Behaviour, and Human Resource Management majority of the teachers use Socratic Method and Case Study Method.

Marketing Management is taught basically by using Case studies, as it is easy for the students to connect real life problems and solutions through the case studies.

For teaching subjects like Communication, most of the teachers use Socratic Questions as it improves the students' verbal communication.

Production and Operations management is taught by using Socratic Method and Project Based learning. Small projects given as assignments will create an enthusiasm and motivation for students to create their own models.

Subjects like International Business, all three teaching methodologies like Socratic Method, Case Study Method, and Project Based Learning are equally used by the faculty members.

For teaching Business Ethics, Values and Ethical principles, teachers use Socratic Method extensively. Socratic questions help students in value clarification and stand on their integrity.

Hypothesis test using ANOVA shows that Socratic Method does not influence the learning outcome Analytical ability where as it influences the evaluation ability of the students.

Hypothesis test using ANOVA shows that Socratic Method of teaching influences the creativity of the students.

Hypothesis test using ANOVA shows that Case Study Method of Teaching influences the learning outcome Analytical ability and also it influences the evaluation ability of the students.

Hypothesis test using ANOVA shows that Case Study method of teaching initiate the student's ability to create their own models and ideas.

Hypothesis test using ANOVA shows that Project Based Teaching and Learning will influence the learning outcome Analytical ability.

Project Based Study method of teaching initiate the student's ability to evaluate and clarify the concepts and models.

Project Based Learning method of teaching initiate the student's ability to create their own models and ideas.

Any other Teaching method has more influence on the learning outcomes memorizing, understanding, and application.

Hypothesis test using ANOVA shows that Any Teaching Method does not influence the learning outcome Analytical ability.

Hypothesis test using ANOVA shows that Any method of teaching does not initiate the student's ability to create their own models and ideas.

Descriptive statistical table shows that Socratic Method (Mean 3.892107473) has more influence on analytical ability whereas Project Based Learning (Mean 3.770780856) has the next position and Case Method (Mean 3.666666667) has the least among these three methods of teaching.

Descriptive statistical table shows that Case Study Method (Mean 3.810833333) has more influence on evaluation ability whereas Project Based Learning (Mean 3.798333333) has the next position and Socratic Method (Mean 3.68625) has the least among these three methods of teaching.

Descriptive statistical table shows when it comes to the creativity of the students Project Based Learning (Mean 3.89504618) has the best ability to create and Socratic Method (Mean 3.770780856) has next and the Case Study Method (Mean 3.505457599) has lowest among these three methods.

Regression analysis show that high degree of positive correlation between the predictor variable analytical ability of the students and the Socratic Method of Teaching.

Regression analysis show that high degree of positive correlation between the predictor variable Evaluation ability of the students and the Socratic Method of Teaching.

Regression analysis show that high degree of positive correlation between the predictor variable Creativity of the students and the Socratic Method of Teaching.

Regression analysis show that high degree of positive correlation between the predictor variable Analytical ability of the students and the Case Study Method of Teaching.

Regression analysis show that high degree of positive correlation between the predictor variable Evaluation ability of the students and the Case Study Method of Teaching.

Regression analysis show that high degree of positive correlation between the predictor variable Creativity of the students and the Case Study Method of Teaching.

Regression analysis show that high degree of positive correlation between the predictor variable Analytical ability of the students and the Project Based Method of Teaching.

Regression analysis show that high degree of positive correlation between the predictor variable Evaluation ability of the students and the Project Based Method of Teaching.

Regression analysis show that high degree of positive correlation between the predictor variable Creativity of the students and the Project Based Method of Teaching.

Any other teaching method does not have much influence on any of the higher learning outcomes like analytical ability, evaluation and creativity.

5.3 Scope for further Research

- This study is limited to autonomous and affiliated colleges in Bangalore. The future researchers can work on institutions in other cities and towns in Karnataka and other states of India so that we can get the data of the MBA and other diploma courses structure around the entire state.
- The data collected about this course can be taken as a base and a comparative analysis can be performed between these colleges and the B-Schools and also other autonomous colleges and affiliated colleges in other states.
- This study about Teaching Methodologies and its influence on learning outcome can be studied in major business schools in the world so that the students' maturity and their goal achieving tendency will affect the learning outcomes as well as the teaching methodologies adopted by the faculty members.
- Awareness of various teaching methodologies among students is important for the objective based research, therefore, this study can be further done first by creating awareness among the teachers and students.
- Culture, Practices, Need, Employment Opportunities of Bangalore students are totally different from most of the European countries, U. S. A, Japan and African Nations, therefore, this study can be done better in those countries.

5.4 Limitations of the Study

- This study is conducted only in Bangalore based post-graduate management colleges and universities, therefore, the culture, background and the demographic variables affecting the data are restricted to Bangalore region.
- The Indian students continue their studies in post-graduation immediately after their graduation, therefore, the expected learning outcome of these students are limited to the extent of employability.
- This study is limited to three teaching methodologies; Socratic Method, Case Study Method and Project Based Teaching and Learning. However, various new methods of teaching could be studied for finding their influence on the learning outcome.

- The pilot study of this research is done for two Business Management Colleges in Bangalore to test the reliability of the data, it could be possible to make a pilot study to other business schools especially in other states of India.
- The primary data collected during the COVID-19 period was through Google forms where the researcher could not give an awareness of various teaching methodologies to the respondents.

Table 5.5 Comparison of the Research findings with the available Literature

N	Hypothesis	Findings from Literature	Research findings	Remarks on deviation
1	There is no significant influence of Socratic teaching method and the analytical ability of the control group of post graduate management students	Socratic Method, an approach to teaching [Haris, Senad, 2016] explains and found Socratic Method of Teaching will help students to achieve their dreams (goals)	This research has sought to find that the Socratic Method of Teaching brings students ability to analyse and find solutions. There is a positive correlation between the Socratic Method and the Analytical ability of the students.	Students' goal achievement is possible with a combination of their core competency and smart working. This research finds specific relationship between analytical ability and the Socratic Method of Teaching.
2	There is no significant influence of Socratic teaching method and	Socratic Circles for the Evaluation [Heather, 2010] This article tries to find the learning ability of evaluation	This research studies the relationship between the ability of Evaluation and the Socratic Method of Teaching. There is a positive correlation between	This study found that the students ability to evaluate by Socratic Questions even without making a

	the evaluation ability of the control group of post graduate management students	by creating Socratic Circles in students group for effective learning.	the evaluation and the Socratic Method of Teaching.	Socratic Circles (Group)
3	There is no significant influence of Socratic teaching method and the creativity of the control group of post graduate management students	The study of Socratic Method of teaching on critical thinking skills of the students is used for finding the ability of the students in English language learning [Roger, D 2015]	This research found that there is a strong direct relationship between Socratic Method of Teaching and the Learning Outcome Creativity among the students in many subjects. It proves the ability of the students been initiated by Socratic Questions.	This study has used for all management subjects taught for Post Graduate Management Program.
4	There is no significant influence of Case Study method and the analytical ability of the control	Promotion of Critical Thinking by using Case Studies as Teaching Method [Inna, 2010] Found that using Case Studies in Teaching will assist Nursing Educators to promote	According to this study, management courses, especially those that focus on non-practical theory, have high critical thinking and analytical skills compared to those that focus on memory, understanding, and application.	Students' analytical skills will advance by participating in practical subject activities. This study discovered that case studies in theory classes

	group of post graduate management students	active learning and develop critical thinking skills.		also helped students' analytical thinking.
5	There is no significant influence of Case Study method and the evaluation ability of the control group of post graduate management students	Question posing capability as an alternative evaluation method: Analysis of an environmental case study [Yehudit, 1999] This study found that by doing case studies on environmental matters, students used evaluation ability.	This study discovered that when case studies are used in the classroom for any subject, students use assessment first, followed by creativity and analysis.	The usage of case studies across a range of subjects and its impact on learning outcomes—not just evaluation but all higher learning outcomes—are the divergence in this instance.
6	There is no significant influence of Case Study method and the creativity of the control group of post graduate management students	Auditing a case study: Enhancing case-based learning in education for sustainability [Emblen, 2022] Journal of Cleaner Production, volume 381, December 2022.	According to this study, audit-based learning makes it easier to analyse interconnected, diverse sustainability practises and job skills, including sustainability knowledge, skills, and capacities.	The research deviates by discussing cognitive, employability, and sustainability abilities but not in detail the higher learning objectives like analysis, assessment, and creativity.

7	There is no significant influence of Project Based Learning method and the analytical ability of the control group of post graduate management students	Learning Outcomes of Project-Based and Inquiry-Based Learning Activities [Panasan et al, 2010] Journal of Social Sciences, Vol 6, 2010.	Students can better grasp scientific concepts by participating in project-based learning activities and inquiry-based learning activities, which are both effective teaching strategies. It'd be more effective. In this study, fifth grade children who learnt through the structuring of project-based and inquiry-based learning activities were compared in terms of their academic accomplishment, science process abilities, and analytical thinking.	The study deviates from the literature in that we assessed higher-order learning outcomes such as analysis, assessment, and creativity, while the literature demonstrates the analytical skills of students who were tested in science classes.
8	There is no significant influence of Project Based Learning method and the evaluation ability of the control group of post graduate	Quantity versus quality in Project Based Learning Practices [Keegan and Turner, 2016] Sage Journals, Vol 32, Issue 1, 2016	This study involved 19 companies from across Europe and a variety of different industries. They used concepts of variation, selection, and retention in organisational learning to analyse their findings and report the challenges faced by project-based firms. The study found that time constraints, centralization, and deferral are the main characteristics of learning in project-based firms.	This study deviates in that it links organisational learning to employability skills like variation, selection, and retention; yet, we discovered that project-based learning produces greater learning outcomes like analytical

	management students			prowess, evaluation, and originality.
9	There is no significant influence of Project Based Learning method and creativity of the control group of post graduate management students	Enhancing Students' Creativity through STEM Project-Based Learning [Hanif et al, 2019] Journal of Science Learning, Vol 2, Page 50-57.	If pupils are actively participating in educational activities, they will learn more effectively. One of the alternative teaching methods that involved pupils in worthwhile learning is STEM project-based learning. Investigating the effects of STEM project-based learning on students' creativity in the areas of light and optics is the goal of this study.	This work deviates from the research since it only looked at students' inventiveness in the field of light and optics. However, we discovered that project-based learning is helpful for several management-related topics in our study.
10	There is no significant influence of Any Other Teaching method and the analytical ability of the control group of post graduate	Problem Solving, Reasoning, and Analytical Thinking in a Classroom Environment [Robbins,2011, The Behavior Analyst Today, 12(1), page 41–48. https://doi.org/10.1037/h0100710]	In the past 15 years, specialised processes have been developed as a result of the work done at Morningside Academy, a school for children with exceptional needs. These steps entail adapting "Think Aloud Pair Problem Solving" (after Whimbey & Lochhead, 1991) techniques created for college students so that they may be taught	This work discusses analytical ability and clear thinking, which is different from our research because it found that all teaching strategies have an impact on analytical ability.

	management students		to young learners and by introducing a set of "Fluent Thinking Skills" to the pupils.	
11	There is no significant influence of Any Other Teaching method and the evaluation ability of the control group of post graduate management students	Student Evaluation of Teaching: Methodological Critique [Sproule, 2000]	The research work has two distinct goals. The first step is to lay out two objections to those who would continue to support the sole use of raw SET data to assess "teaching efficacy" in the "summative" function. The second goal is to provide an explanation for why university officials still only consider these data when determining "teaching effectiveness" in the face of such difficulties.	The difference between our study and this one is that we examined the higher learning result evaluation for all subjects, whereas they employed statistical tools to test teaching effectiveness.
12	There is no significant influence of Any Other Teaching method and the creativity of the control group of post graduate	An analysis of research and literature on CREATIVITY IN EDUCATION [Craft, 2001, Report prepared for the Qualifications and Curriculum Authority]	It is evident that if students' creativity is to be encouraged, a variety of various issues need to be clarified. These elements include the student, the process, the teacher's tactics, the activity's social setting, and the outcome. For instance, it has been asserted that early family experiences for independent action boost creative	This study demonstrates that two factors, early family experiences and teacher involvement in creativity training, contribute to creativity. However, our research shows that only changing

	management students		achievement and that teacher involvement in creativity training programmes in schools makes them more successful. Even very tiny elements of the immediate social environment can have an impact on an individual's creativity.	the teaching approach does not determine whether or not the creativity in teaching management subjects may be increased.

Source: Table created by the Researcher

5.6 Suggestions and Recommendations

1. This study on teaching methodologies are based on the understanding that students are aware of the different teaching methodologies, however, it may not be true for most of the students in management. Therefore, a detailed pilot study creating awareness about the teaching methodologies are important.
2. Students must have the seriousness of their studies and must be aware of the learning outcomes expected for achieving their goals and dreams, especially while attending the classroom lectures and various activities.
3. Many students are not aware about the learning outcomes and measurement of cognitive learning according to Bloom's Taxonomy, therefore, it would be better that the teachers give an introduction about the learning outcome, especially the higher learning outcomes like analysis, evaluation and creativity.
4. Indian Students are not having the work-experience before joining the master's program in management, therefore, not able to decide on their career objectives. Career guidance is advisable for the students in Post Graduate management studies.
5. Most of the Business Schools conducting MBA program are constraint with a vast syllabus for each subject and teachers usually try to complete the portions instead of teaching with quality for achieving students' goals.
6. The purpose of education is still uncertain or education for a job is the understanding of many students who responded for this research. Therefore, it is suggested that these

students must be guided for the purpose of education like education for employment, education for entrepreneurship, and education for enhanced life.

5.7 Conclusion

- To make a conclusion of this study, the researcher has arrived at the following points.
    - The Socratic Method of teaching is basically used by the teachers for subjects like Principles of management, Business Ethics, Organizational Behaviour, Human Resource Management and Marketing.
    - The higher learning outcomes of analytical ability, evaluation and creativity are highly influenced by Socratic Method.
    - The most influenced learning outcome of Socratic Method is the analytical ability, and then the creativity and evaluation.
    - The Case Study Method of teaching is basically used by the teachers for subjects like International Business, Marketing Management, Organizational Behaviour, Human Resource Management and Business Ethics.
    - The higher learning outcomes of analytical ability, evaluation and creativity are highly influenced by Case Study Method.
    - The most influenced learning outcome of Case Study Method is the evaluation, and then the analytical ability and creativity.
    - The Project Based Learning is basically used by the teachers for subjects like Economics, Production and Operations management, International Business, International Finance, Business Analytics, Operations Research and Research Methodology.
    - The higher learning outcomes of analytical ability, evaluation and creativity are highly influenced by Project Based Learning.
    - The most influenced learning outcome of Project Based Learning is the Creativity, and then the evaluation, and then the analytical ability.
    - Any other teaching method is generally having the learning outcomes understanding, memorizing and application.
    - A comparative analysis of Socratic Method and Case Study Method shows that there is a high positive correlation between Socratic Method and Analytical ability whereas the high positive correlation between Case study method and evaluation exists.

- A comparative analysis of Socratic Method and Project Based Learning shows that there is a high positive correlation between Socratic Method and Analytical ability whereas the high positive correlation between Project Based Learning and creativity exists.
- A comparative analysis of Project Based Learning and Case Study shows that there is a high positive correlation between Project Based Learning and Creativity whereas the high positive correlation between Case Study method and evaluation exists.
- This study has revealed that there is not much impact of the respondents graduate studies and the learning outcomes.
- This study also found that there is no influence of the respondents' selection of specialization like Finance, Human Resource Management, Marketing, International Business and Operations Management on the learning outcomes.

- Business Schools in India and different countries have differences in their approach in their studies and research. Therefore, the study of this type discussing about the teaching methodologies and its impact on the learning outcomes are considered differently by the students.
- This study can be conducted in various universities in developed countries so that the maturity of the students in understanding the learning outcomes are much varied, therefore, the possibility of getting different result is high.
- Education in India, including Post-Graduate studies are majorly sponsored by Parents and the students take it as education for a degree rather than education for life. In such cases, the learning outcome and approach to the methodologies are also different.
- This research tries to find out the possibility higher learning outcomes, Analysis, Evaluation, and Creativity through the teaching methods Socratic Method, Case Study Method, Project Based Learning and Any Other Teaching Method. It is found that the ability to analyse is best possible by Socratic Method (SM), the ability to evaluate is best possible by Case Study Method (CM) and the ability of Creativity is best possible by Project Based Learning (PBL)

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ANEXURES

QUESTIONNAIRE

Impact of Teaching Methods on Perceived Learning Outcomes: A Study of B-School students in Bengaluru.

Dear Respondents,

I Pious Thomas, am currently pursuing Ph. D at ICFAI University, Jharkhand on "Impact of Teaching Methods on Perceived Learning Outcomes: A Study of B-School students in Bengaluru"

This Questionnaire is mainly collected for research purpose, and the information will be kept confidential and results will be used strictly for research only. Hence I request the respondents to fill it honestly to get reliable results. Your kind cooperation in filling this Questionnaire will be highly appreciable.

The teaching methods considered in my study are

1. Socratic Method (SM), wherein classroom instruction and evaluation is based on questions and discussions.

2. Case Studies (CM), wherein discussions are held on a Problem Situation, which is also called a Case Study.

3. Project/problem Based Learning (PBL), wherein students learn by working on a real life problem or project.

(Please fill the questionnaire by TICKING only one circle)

SOCIO DEMOGRAPHIC FACTORS

Name (Optional) :

A. Course : ◯ MBA ◯ PGDM ◯ PGPM ◯ ANY OTHER

B. Name of the specialization (like Marketing, Finance, HRM, Production, International Business etc.) :_____

C. Graduation : ◯ B.Com ◯ B.E/B.Tech ◯ BBA/BBM ◯ BA ◯ ◯
B.Sc. L.L.B.

1. Current Semester :
2. College name :
3. Age (Completed) : ◯ < 20 yrs ◯ 21- 24yrs ◯ 25- 29 yrs ◯ 30 – 34 yrs ◯ > 35 yrs
4. Marital status : ◯ Single ◯ Married
5. Work Experience (If any) : ◯ 0 Years ◯ < 1 Year ◯ 1 – 2 years ◯ 2 – 5 Years
6. Region of your native : ◯ North India ◯ East India ◯ South India ◯ West India ◯ Central India ◯ Other Country (Name_____)

Respondents, please put respective number (points) from the points given below for answering questions from 7 to 17.

Frequency of use: 1. Never used 2. Rarely used 3. Sometimes used. 4. Usually used 5. Used in every class

Subjects	**Course Offered/ Not offered**	**A. Socratic Method**	**B. Case Method**	**C. Project Based Learning**	**D. Any Other Method**
Usage	**Yes/No**	How frequently used?	How frequently used?	How frequently used?	How frequently used?
7. Accounting					
8. Economics					
9. Statistics					
10. Principles of Management					
11. HR/OB					
12. Marketing					
13. Finance					

14. Communication					
15. Production and Operations					
16. International Business					
17. Ethics and Principles					
18. Any other subject					

RESEARCH QUESTIONS

SD – Strongly Disagree D- Disagree N – Neutral A – Agree SA – Strongly Agree

Please use the above abbreviations for answering the following questions.

SOCRATIC METHOD

S.No	VARIABLES	SD	D	N	A	SA
		1	2	3	4	5
SM1	Does Socratic Method exhibit memory of previously learned material by recalling fundamental facts, terms, basic concepts and answers about the selection? (1)					
SM2	Does Socratic Method demonstrate the recollection of facts and ideas by organizing, comparing, translating, interpreting, giving descriptors and stating main ideas? (1)					
SM3	Are you able to recollect the knowledge you gained from school studies by listening to your teachers' questions? (1)					

SM4	Does Socratic Method give you the understanding of facts, concepts and theories? (2)					
SM5	Do you agree that you understand the lessons better by listening to right questions and doing it practically? (2)					
SM6	Do you agree that the quality questions by the teachers make you understand the facts and figures connected together to form information? (2)					
SM7	Do you think right questions generate right thoughts, right words and right actions? (3)					
SM8	Do you agree that the activity based classes are motivated by the questions from the teacher and students? (3)					
SM9	Does Socratic Method create positive attitude towards learning, developing skills and applying in live situations? (3)					
SM10	Do you agree questions with interpretation organize the way in you for analyzing the concepts, theories and problems? (4)					
SM11	Do you think questioning drive your thoughts to deal with complexity and breaking into components for finding solutions? (4)					
SM12	Do you agree teachers questions forces you to find answers of what, when, who, where, why and how? (4)					

SM13	Do you agree that questions define tasks, express problems and initiate solutions? (5)					
S	Do you agree that right questions improve curiosity to learn better by evaluating the alternative solutions? (5)					
S	Do you agree that the right questioning by teachers make you able to make better decision making power? (5)					
S	Does Socratic Method make your creativity in developing solutions and learning by self? (6)					
S	Do you agree that quality of the questions students ask in the class determines the quality of the thinking as well as learning? (6)					
S	Do you agree that the questions by the teachers make the students able to create their own models? (6)					

CASE METHOD - CM

S.No	VARIABLES	SD 1	D 2	N 3	A 4	SA 5
CM1	Does Case Study Method exhibit memory of previously learned material					

	by recalling fundamental facts, terms and basic concepts? (1)					
CM2	Do you agree that by using Case Method, you will be able to recollect the theories studied earlier? (1)					
CM3	Do you agree that Case Method will enable you to remember the types of analysis done early or someone else? (1)					
CM4	According to you, does Case Study Method demonstrate understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas? (2)					
CM5	Do you agree that Case Method used by teachers make students understand better the concepts and theories? (2)					
CM6	Do you agree that knowledge come from understanding of information and Case Method is helpful for that? (2)					
CM7	D o you agree that the Case Method is effectively used in Problem solving and Decision making? (3)					
CM8	Do you agree the criteria for selection of cases for study help the students in applying their thoughts and ideas? (3)					
CM9	Do you agree that by solving Case Study in the class the students will be able to apply formulae and models for arriving at optimum solutions? (3)					

CM10	Do you agree that while discussing and solving cases in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions? (4)					
CM11	Do you agree that while doing cases students are able to examine experiment and question the concepts and theories in the classroom? (4)					
CM12	Do you agree that Case method will make students capable of breaking the problem into sub-parts and analyze it? (4)					
CM13	Do you agree that Case Study method of teaching immerses the students into realistic business situations and able to draw connections? (5)					
CM14	Do you agree that by using Case Method the students' ability to evaluate a situation or a problem will improve? (5)					
CM15	Do you agree that by solving Case study the students will be able to appraise, argue, defend and select a stand or a decision? (5)					
CM16	Do you agree that by doing Case Study, students will be able to investigate and develop innovative solutions to problems under study? (6)					

CM17	Do you agree that by doing Case Study students will be able to design, assemble and construct models? (6)					
CM18	Do you agree that by doing Case Study students will be able to develop, investigate and formulate new theories and concepts? (6)					
PROJECT BASED LEARNING/PROBLEM BASED LEARNING - PBL						
S.No	**VARIABLES**	**SD**	**D**	**N**	**A**	**SA**
		1	**2**	**3**	**4**	**5**
PBL1	Does Project/Problem Based Learning exhibit memory of previously learned material by recalling fundamental facts, terms and basic concepts? (1)					
PBL2	Do you agree that by using Project/Problem Based Learning, you will be able to recollect the theories studied earlier? (1)					
PBL3	Do you agree that Project/Problem Based Learning will enable students to remember the types of analysis done early or someone else? (1)					
PBL4	According to you, does Project/Problem Based Learning demonstrate understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas? (2)					

PBL5	Do you agree that Project/Problem Based Teaching used by teachers make students understand better the concepts and theories? (2)					
PBL6	Do you agree that knowledge come from understanding of information and Project/Problem Based Learning is helpful for that? (2)					
PBL7	D o you agree that the Project/Problem Based Learning is effectively used in Problem solving and Decision making? (3)					
PBL8	Do you agree the criteria for selection of Project/Problem Based Learning help the students in applying their thoughts and ideas? (3)					
PBL9	Do you agree that by solving Project/Problem Based teaching in the class the students will be able to apply formulae and models for arriving at optimum solutions? (3)					
PBL10	Do you agree that while discussing and solving problems in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions? (4)					
PBL11	Do you agree that while doing a project students are able to examine experiment and question the concepts and theories in the classroom? (4)					

PBL12	Do you agree that problem solving will make students capable of breaking the problem into sub-parts and analyze it? (4)					
PBL13	Do you agree that Project based method of teaching immerses the students into realistic business situations and able to draw connections? (5)					
PBL14	Do you agree that by using Project/Problem Method the students' ability to evaluate a situation or a problem will improve? (5)					
PBL15	Do you agree that by solving a problem the students will be able to appraise, argue, defend and select a stand or a decision? (5)					
PBL16	Do you agree that by doing a project, students will be able to investigate and develop innovative solutions to problems under study? (6)					
PBL17	Do you agree that by doing a project, students will be able to design, assemble and construct models? (6)					
PBL18	Do you agree that by doing a project students will be able to develop, investigate and formulate new theories and concepts? (6)					

Any other teaching method used _____

S.No	VARIABLES	SD	D	N	A	SA
		1	2	3	4	5
AT1	Does this Method exhibit memory of previously learned material by recalling fundamental facts, terms and basic concepts? (1)					
AT2	Do you agree that by using this teaching method, the student will be able to recollect the theories studied earlier? (1)					
AT3	Do you agree that this method of teaching will enable you to remember the types of analysis done early or someone else? (1)					
AT4	According to you, does this method of teaching demonstrate understanding of facts and ideas by organizing, comparing, interpreting, and stating main ideas? (2)					
AT5	Do you agree that this method of teaching used by teachers make students understand better the concepts and theories? (2)					
AT6	Do you agree that knowledge come from understanding of information and this method of teaching is helpful for that? (2)					
AT7	D o you agree that this method of teaching is effectively used in Problem solving and Decision making? (3)					
AT8	Do you agree the criteria for selection of examples for study help the students in applying their thoughts and ideas? (3)					
AT9	Do you agree that by solving problems in the class the students will be able to apply formulae and models for arriving at optimum solutions? (3)					

AT10	Do you agree that while discussing and solving problems in the classroom, students are able to differentiate, organize and compare concepts and theories to arrive at optimum solutions? (4)					
AT11	Do you agree that while doing an exercise students are able to examine experiment and question the concepts and theories in the classroom? (4)					
AT12	Do you agree that this method of teaching will make students capable of breaking the problem into sub-parts and analyze it? (4)					
AT13	Do you agree that this method of teaching immerses the students into realistic business situations and able to draw connections? (5)					
AT14	Do you agree that by using this method of teaching the students' ability to evaluate a situation or a problem will improve? (5)					
AT15	Do you agree that by solving problems the students will be able to appraise, argue, defend and select a stand or a decision? (5)					
AT16	Do you agree that by doing this method of learning, students will be able to investigate and develop innovative solutions to problems under study? (6)					
AT17	Do you agree that by doing this method of teaching students will be able to design, assemble and construct models? (6)					
AT18	Do you agree that by doing this method of teaching students will be able to develop, investigate and formulate new theories and concepts? (6)					

AT19. Give your valuable suggestions for improving teaching and learning.

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Thank you very much for your response.

Pious Thomas

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