

**Impacts of meaningful interaction among teachers and
students for positive and effective learning reinforcement:**

A study conducted in a local school in Al Ain

آثار التفاعل الهادف بين المعلمين والطلاب من أجل تعزيز التعلم الإيجابي والفعال

by

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Abstract

The aim of the study is to investigate the students and teachers' perceptions about the effects of classroom discussion on teacher's performance and student's achievement. The importance of this study comes from the pedagogic reasons that classroom discussions are an effective strategy for learning ought to be imparted to students expressly. Students come into science classes expecting lectures. There are distinctive learning speculations built up in view of how students learn. Among these learning speculations are behaviourism learning theory, Cognitive learning theory, and constructivist learning theory. Each learning theory offers distinctive advantages to the students.

Many researchers support that enhanced discussion assumes numerous parts of the learning procedure. A decent discussion can give students work on applying new ideas, develop and widen their insight, request that they inspect thoughts from alternate points of view, and can be utilized to evaluate their comprehension. Hibbert, Siedlok, and Beech (2016, pp.26-44) Found that "interest-driven discourse"— rather than simply "instrumental data"— has clear advantages upon how students. They found that while instrumental trade can prompt an added substance procedure of information sharing where members rise exclusively with bigger "toolsets," interest-driven discourse helped members re-assess what they knew, open up new skylines of examination, and participate in more transformative learning.

The quantitative strategy in this study is gotten from a constructivist and Post positivist perspective with an emphasis on profoundly expertise this specific example of teacher-student relationships. My goal in directing this study turned into to present other precise cases of and fundamental discoveries for the way teacher-student connections are made. Distinguishing explicit variables related to teacher-student members of the family ought to deliver enormous facts to an instructive getting to know institution. The statistical investigates expose strengths and weaknesses in the two groups of the experiment with concerns to direct and late tests. Results identified positive practices that teachers can utilize discussion as an approach to motivate students to participate. The findings suggest that the classroom discussions may give a chance to all the features of classroom dialog that they essentially worth. In addition, it is proposed that further research is required to look closely to other extent types of discussion strategies.

ملخص البحث

آثار التفاعل الهادف بين المعلمين والطلاب من أجل تعزيز التعلم الإيجابي والفعال

النقاش باعتباره استراتيجية للتدريس يعتبر من الأدوات الأكثر قيمة في تسهيل التعلم. إن غياب مشاركة الطالب في مناقشة الصف الدراسي ليس مشكلة حالية وإنما كان منذ عقود مضت. ويشير المعلمون إلى أن بعض المقاربات القائمة لإلهام النقاش في الفصل الدراسي يمكن أن تكون محبطة وتحتاج إلى تحديث في كل وقت لتكون عاطفية. والهدف من هذه الدراسة هو التحقق من تصورات الطلاب والمعلمين حول آثار المناقشة الصفية على أداء المعلم وإنجاز الطالب. وتأتي أهمية هذه الدراسة من أسباب تربوية أن المناقشات الصفية هي استراتيجية فعالة للتعلم يجب أن تنقل إلى الطلاب صراحة لأن الطلاب يأتون إلى صفوف العلوم على انها مجرد محاضرات.

هناك تكهنات التعلم مميزة بنيت في ضوء كيفية تعلم الطلاب. ومن بين هذه التكهنات نظرية التعلم السلوكية، نظرية التعلم المعرفي، ونظرية التعلم البنائية ولكل منها مزايا مميزة للطلاب.

ويدعم العديد من الباحثين أن النقاش المعزز يفترض أجزاء عديدة من إجراءات التعلم. يمكن للمناقشة اللائقة أن تعطي الطلاب العمل على تطبيق أفكار جديدة، لتطوير وتوسيع رؤيتهم، وطلب أن تفحص الأفكار من وجهات نظر بديلة، ويمكن استخدامها لتقييم فهمهم. هيبيرت، سيدلوك، أند بيتش (2016)، صفحة 26-44، وجد أن "الخطاب الذي يحركه الاهتمامات" - وليس مجرد "بيانات مفيدة" - له مزايا واضحة على كيفية قيام الطالب (أ) (بالتحقيق في العوائق في رؤيتهم،) إنشاء جمعيات مع مختلف الطلاب، و (ج) خلق فهم مشترك للمادة التي يجري فحصها. على وجه الخصوص، وجدوا أنه في حين أن التجارة المفيدة يمكن أن تدفع إلى إجراء مادة إضافية لتبادل المعلومات حيث يرتفع الأعضاء حصريا مع "مجموعات أدوات" أكبر، كما ساعد الخطاب القائم على الفائدة الأعضاء على إعادة تقييم ما كانوا يعرفون، وفتح آفاق جديدة للفحص، والمشاركة في المزيد من التعلم التحويلي.

وقد جاءت الاستراتيجيات الكمية في هذه الدراسة من منظور بناء ومنظوري إيجابي مع التركيز على خبرة عميقة هذا المثال المحدد للعلاقات بين المعلم والطلاب. إن هدي في هذه الدراسة هو تقديم حالات دقيقة لطريقة اتصال المعلمين والطلاب. التمييز بين المتغيرات الصريحة المتعلقة بأعضاء المعلمين والطلاب من أفراد الأسرة يجب أن يقدم حقائق هائلة إلى معرفة مفيدة معرفة المؤسسة.

وتكشف التحليلات الإحصائية عن نقاط القوة والضعف في مجموعتي التجربة المتعلقة بالاختبارات المباشرة والمتأخرة. وحددت النتائج الممارسات الإيجابية التي يمكن للمعلمين الاستفادة منها كمنهج لتحفيز الطلاب على المشاركة. وتشير النتائج إلى أن المناقشات الصفية قد تعطي فرصة لجميع ميزات الحوار الفصول الدراسية.

Dedication

“I would like to dedicate my work to my wife who supported me all the times and made my world full of hope and happiness”

Acknowledgement

I would like to express my gratitude to my supervisor Dr. Solomon Arulraj David for the useful comments, remarks and engagement through the learning process of this master thesis. Furthermore, I would like to thank him also for introducing me to the topic as well for the support on the way. In addition, I like to thank the participants in my experimental study, who have willingly shared their precious time during the process of experiment. I would like to thank my loved ones, who have supported me throughout entire process, both by keeping me harmonious and helping me putting pieces together. I will be grateful forever for your love.

It has been a period of intense learning for me, not only in the scientific arena, but also on a personal level. Writing this dissertation has had a big impact on me. I would like to reflect on the people who have supported and helped me so much throughout this period.

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LIST OF ACRONYMS

ADEC	Abu Dhabi Education Council
Irtiq'a	Abu Dhabi School Inspection
MoE	Ministry of Education
SPSS	Statistical Package for Social Sciences
ZPD	Zone of Proximal Development

Chapter One: Introduction

1.1 Introduction

Teachers frequently anticipate that students will have what it takes that are important to take part in a discussion. Students, then again, have been prepared to gather data from the lecture arrange; they are earlier encounters in talks are probably going to be restricted to sincere beliefs on subjects, for example, stem– cell research or advancement. Unexpected variations in desires are pushing and undesirable at any period of life nevertheless, mainly when it disturbs our accomplishment. Along these lines, carrying any new teaching method into the classroom needs to accompany legitimate arrangement for both the students and the teachers.

Moreover, most teachers do not enter teaching with the desire that they will work with reliably very much acted, eager, productive students who appreciate sitting unobtrusively in columns tuning in to educator's address at them. Nor do most educators foresee that every one of their students will obediently utilize their most astounding intellectual procedures to retain, organize, dissect, and think about all that they hear. There might be some days when such a prospect is engaging; however, generally, instructors and students have no less than one thing in like manner: their brains are enlivened and animated by a test. Mechanically, mindful "Stepford" children, prepared continuously for repetition remembrance and one-estimate fits-all direction, would not require instructors. Recorded addresses and course books could serve their necessities.

In conventional classrooms, the common analogy for instructing is the instructor as data provider; information streams just a single route from educator to students. Conversely, the similitude for synergistic classrooms is shared learning. The instructor has vital education about substance, abilities, and guideline, and still gives that data to students. In any case, communitarian instructors likewise esteem and expand upon the information, individual encounters, dialect, techniques, and culture that students convey to the learning circumstance. On the other side, in collaborative classrooms, instructors share expertise with students in specific ways. In most conventional classes, the instructor is largely, if not only, in charge of defining objectives, planning learning undertakings, and evaluating what is found out.

In details, the chapter is divided into several sections. It will include; the introduction, an overview of Education in Abu Dhabi, background information, problem statement, research

questions, research rationale, Definition of terms, classroom discussion, classroom student-centered, learning through discussion, and the research structure.

1.2 An Overview of Education in Abu Dhabi

In the same way as other different countries, the United Arab Emirates (UAE) training framework is associated with change endeavors to enhance the execution of government-funded schools and increment student accomplishment. The Ministry of Education (MoE) and the legislature of the UAE have executed distinctive activities, which concentrated on enhancing the benchmarks of instruction in state funded schools over the UAE. The vast majority of these early activities were brought together and concentrated on enhancing educational programs and instructing learning systems in the classroom. As per Harold (2005), the MoE tried some local efforts to build up the educational modules for subjects, for example, Arabic and Islamic Studies. While in other branches of knowledge, for example, Mathematics, Science, and English, the content based educational programs was 'acquired.' There has likewise been a development towards moving showing procedure come nearer from a more instructor loped to a more student jogged (Tabari, 2014).

In 2005, the Government of Abu Dhabi started seeking after decentralization in training administration through building up Abu Dhabi Education Council (ADEC). The Council "looks to create instruction and instructive organizations in the Emirate of Abu Dhabi, execute ingenious informative strategies, plans, and projects that intend to enhance training, and bolster instructive establishments and staff to accomplish the targets of national advancement as per the most elevated universal gauges.

ADEC inspires all students to improve their strengths, skills, and passions so that they can contribute to the growth of the UAE and become energetic contributors who can participate worldwide in the 21st century. ADEC has also provided schools with as many resources as possible to enhance the teaching and learning process. All classes related to the worldwide websites and were offered with smart and interactive boards. Alongside with all these reforms, some severe problems appeared. One of these issues is significant class sizes or overcrowded classes that may contradict with the previously mentioned trend of improvements and high quality. Many schools, particularly cycle three schools, are suffering from the increasing numbers of students in the one classroom according to the researcher's experience and observation in the field as well as ADEC decree that allows schools to place 30 students in the

class. This situation led to other consequences such as weak classroom management, misbehaviour, and poor academic achievement.

One of the educational reforms initiated by ADEC is the New School Model that is focusing on a student-centered learning approach, in which the modern technology is implemented with the new learning strategies to create independent learners who can compete globally and be a lifelong learner. A wide assortment of learning exercises takes into account the diverse learning styles of every student. Inside this model, the educational programs, which is related to student learning results, and the new showing strategies improve understudy learning by creating the students who acquire the 21st-century skills including communication, Collaboration, Critical thinking, and creativity. Thus, achieving such ambitious aims requires at least moderate classroom sizes that increase the effectiveness of teachers and the students' achievement.

The NSM, the expert of the school key expanded to incorporate for instance the determination, introduction, and end of hold instructors. The school essential in the NSM fills in as an instructional pioneer who gives authority and heading, empowers a common vision for the school, and guarantees that it is overseen and composed to meet its points and targets. Furthermore, ADEC requires better accomplishment from the schools and allow more prominent self-governance to schools in outlining educational module and overseeing assets. After the immense dependence on the Ministry reading material to give the educational modules, the NSM educational modules gives an arrangement of point by point learning results for all subjects and expected educators to outline and utilize an assortment of assets and strategies as a piece of the educational programs. The incorporation of families, instructors, and group with the help of students learning is firmly voiced in the NSM. Subsequently, the rules of the NSM attract regard for the upgrade of self-teach connections underscoring, Close organization amongst schools and families to enhance learning results and progressing and viable self-teach correspondence.

At last, ADEC propelled school self-assessment and the Irtiq'a inspection as instruments for considering schools responsible. Through self-advancement, schools are asked for to make their judgments on how well they are getting along. The point of a program, as per, is to help the school principals to achieve a level of trustworthiness. Besides, receptiveness to utilizing the self-assessment as an administration device, through refreshing their self-assessment frames frequently and connecting it with their change design. The requirement for elite from

Abu Dhabi schools has never been higher, however, in the meantime, the requests set on schools are expanded.

1.3 Background Information

Othman and Murad, (2015, pp.290–303) recommend that when working in groups, students find the opportunity to grow their manners of thinking and all the while expanding correspondence with their associates. In any case, when trust and acknowledgment are not set up, students feel threatened to work in gatherings of outsiders, therefore offering to ascend to their withdrawal from match/bunch work. Over the long haul, this issue is debilitating, as negative states of mind shaped amid community-oriented learning may undermine students' inspiration and engagement in-class exercises. Research on aggregate connection demonstrates the significance of gathering elements—how individuals from a gathering respond to each other—and how to match/amass work can be improved. Hadfield (1992, 10) trusts positive gathering progression "can beneficially affect the assurance, inspiration, and mental self-portrait of its individuals, and in this manner fundamentally influence their learning."

Dundis and Benson, (2003, pp.24-38) indicated that groups achieve better when they intellect themselves as a brought together group with mutual awareness of other's expectations, if for no other explanation than the main job. Gorse and Sanserson, (2007, pp.295-296) battle that the feeling of having a place with a group is probably going to give students a remunerating learning background if the individuals function admirably together. By the by, making energetic student bunches is a testing undertaking that requires cautious perception and suitable intercession from the educator all through the course. This article offers rules and holding exercises to advance an environment of unwinding and association among students who partake in bunch work.

Costa, van Rensburg and Rushton (2007, pp.214-217) inspected the effects of selecting discussion against lecture as an instructional strategy for an orthopaedic under-graduate course. In this experimental investigation, the specialists randomized two groups, one who got data through speech, the other which tended to the points in bunch discussion sessions, to decide student inclinations and learning results. They found that not exclusively did the students lean toward intelligent discussion groups to instructional addresses, however, that there was "weaker, yet measurably huge, confirm that intuitive discussion encourages preferable learning maintenance over the pedantic address arrange".

1.4 Problem Statement

It has been assumed that the general weakness of the students' outcomes and ineffective teacher's performance are due to an inappropriate learning reinforcement, consequently, affects the process of teaching and learning. While empowering classroom discussion has dependably been a challenge for teachers. During the conversations with different instructors, they referred to three sources as potential supporters of this issue: online networking and classroom stuffing. The expansion in online networking might oversee diminishing the number of opportunities for students to take part in significant up close and personal discussions, along these lines expanding the inclination for social disconnection all the while, they may neglect to create crucial social connection aptitudes that prompt holding with their related social on-screen characters.

Some have recommended that the issue might be established in the enduring increment in classroom stuffing. In light of expansive class sizes, students may end up plainly detached or feel lost in the group and in this manner hesitant to partake in classroom discussion. Others place that the issue might be identified with the nature of classroom instructing and learning. Different recommends that the shortfall worldview—the aftereffect of the student's adverse social condition outside of the classroom—combined with expanding class sizes, powers instructors to battle just to keep up efficient classrooms where students come in, sit discreetly at their work areas and take notes. A few educators I talked with recommended that the expanding number of undergrads who were already self-taught might follow the absence of student support. They contend that these students are not acquainted with large classrooms.

1.5 Research Questions

This research study aimed to investigate the students and teachers' perceptions about the effects of classroom discussion on teacher's performance and student's achievement. To achieve the aim of the study, the researcher tried to tackle the following research questions:

- 1) What are the impacts of meaningful interaction among teachers and students for positive and effective learning reinforcement?
- 2) Do students with discussion-based teaching are more likely to improve their academic marks than students with traditional teaching?

Hypotheses:

The 'null hypothesis' might be:

H₀: There is no difference in mean pre- and post-marks

In addition, an 'alternative hypothesis' might be:

H₁: There is a difference in mean pre- and post-marks

1.6 Research Rationale

The objective of this research study was to investigate the students and teachers' perceptions about the effects of classroom discussion on teacher's performance and student's achievement in terms of a positive and effective learning reinforcement.

Since the foundation of ADEC in 2006, schools in Abu Dhabi have seen a wide range of activities of instructive change inside a brief period. The early stage of the change brought more prominent desires, investigation and from the authorities' recognition. Nonetheless, it has definitely caused pressures among school staff. Some of these pressures originated from the changing of school staff parts in the NSM. The piece of the instructor is changing from only a teacher to a facilitator.

As indicated by the George Lucas Educational Foundation, the part of the teacher today is entirely different than it used to be. Teachers utilized to be advised what to teach, and how to show it. They were relied upon to use similar strategies for all students. In the present days of knowledge, the teacher's part is very multifaceted. Their activity is to advise students, enable them to figure out how to utilize their insight and coordinate it into their lives so they will be a profitable individual from society. Teachers are advised to honestly tune into how every student learns and endeavour to encounter and encourage them to study.

Therefore, the importance of this study comes from the pedagogic reasons that classroom discussions are an effective strategy for learning ought to be imparted to students expressly. Students come into science classes expecting lectures. They have created aptitudes for being fruitful in a conventional style course, and thus, it is sensible for them to be anxious about new methodologies. Students ought to be given a chance to make inquiries about the approach or to leave the course. The objectives of the course ought to be unmistakably characterised both in the syllabus and amid the primary day of the course. The dread of utilizing another approach

ought to be relieved however much as could reasonably be expected (this viewpoint gets less demanding with involvement). The evaluating plan exhibited on a primary day should parallel the instructive thinking if students are to adopt the strategy indeed, and it ought to be plainly composed in the syllabus. Once the class has been instructed in this configuration a couple of times, the approaching students may expect a discussion-based approach, however, ought to be furnished with a similar presentation. Students do not need to "become tied up with" the approach at this stage and most will not. It is sound for students to be suspicious.

While research admires the importance of discussion as a pedagogical instrument, teachers appear to battle to set it to practice in their classrooms. What may make training so hard to characterize? What makes training in the meantime exceptionally important but unused or unusable?

Nystrand's studies of classroom discussion concentrate on what students know and how students speak as far as anyone is concerned and gain from each other in classroom discussion. These studies are cantered on what students and educators do inside a talk. While Nystrand contends that dialogically sorted out exchanges change the "epistemic part" of students in the classroom, from learning shoppers (and repeaters) to learning constructors, such examinations neglect to consider the bigger encompass of the classroom and alternate methods for learning in which students are occupied with that classroom (Nystrand, 2006).

For these reasons above, the proposed research method for this study will be both qualitative (descriptive) in which there will be a qualitative observation and quantitative (experimental) in which there will be two experimented groups of students; the two groups are divided into a control group and an experimental group.

1.7 The Research Structure

This study is classified into five chapters. The first chapter starts with the background of the study, the problem of the study, the purpose and research questions, research rationale, and definition of terms and structure of the study. The second chapter reviews the theoretical framework and the previous research study related to classroom discussion. The third chapter explains the methodology of the study including the research methodology, instrument, sample and data collection, and analysis. The fourth chapter presents and displays the findings of the

study. The final chapter concludes the study with discussion, conclusion, and recommendations for practice and research.

1.8 Definition of some important terms

- **Classroom discussion**

Discussion as a teaching approach has been acknowledged as a standout amongst the most important apparatuses in encouraging learning (Hackling, Smith and Murcia, 2011). Classroom discussion is characterized as "a skill of thoughts in which numerous members clarify what they consider and why" (Shemwell and Furtak, 2010, pp.222-250). Discussion strategies are a collection of discussions for open-ended, collaborative exchange of thoughts among a teacher and students or among students to further students considering, learning, critical thinking, understanding, or general appreciation. Participants demonstrate frequent perceptions, respond to the thoughts of others, and think about their thoughts with an end goal to manufacture their insight, comprehension, or translation of the current issue. A characterizing highlight of discussion is that students have powerful agency in the construction of learning, comprehension, or elucidation. They have significant "interpretive expert" for assessing the credibility or legitimacy of participants' reactions.

Furthermore, there are no lectures, no instructional talks, no straightforward spewing forth of others' decisions. Instead, thoughts are proposed, invalidated, and shielded, until, through discourse and basic argumentation, the class recognizes the significance of a given content and, more vital, its veracity or mistake. In all actuality found by the method for the discussion. The Discussion Method requests that students come to class very much arranged. Convincing them to consider their contentions ahead of time and to answer their associates' inquiries and counter-contentions, it hones their forces of reason, examination, and verbalization. It in this way gives them significant abilities vital for accomplishment in any teach or calling

- **Classroom Student-Centered**

Every teacher has his individual approach of teaching. In addition, as traditional teaching styles, change with the beginning of differentiated instruction, more and more teachers are regulating their approach depending on their students' learning needs. Student-centered classrooms are enthusiastic about cooperation, which implies they do not normally have lines of work areas confronting a teacher platform. Rather, work areas or tables are organized with

the goal that it is simple for students to team up on ventures or on investigating readings (as opposed to tuning in to addresses). In addition, regardless of whether teachers are driving lessons on protein combination or the issues paving the way to a world clash, we benefit as much as possible from these potential outcomes. Also, the educator turns into a member and co-student in exchange, making inquiries and maybe revising misguided judgments, however not advising students what they have to know” (Gill, 2013).

“Generally, students may find out about speed by perusing (or tuning in to a lecture), finishing worksheets, at that point noting various decision questions. Yet, if a student maps a neighbourhood course and tracks the ideal opportunity for various legs of an excursion utilizing something like Map My Run, they can decide normal speeds for each fragment of a voyage. The information will be individualized, as will the course and the figuring. Evaluation can be an innovative item and process that includes student decision” (Gill, 2013).

Consequently, teachers, being the central figure in training, must be able and learned with a specific end goal to give the information they could provide for their students. Great educating is an exceptional individual way. Powerful educating is worried about the students as a person and with his general advancement. The teacher must perceive singular contrasts among his/her students and modify guidelines that best suit to the students. It is dependably a reality that as teachers, we assume shifted and indispensable parts in the classroom. Teachers are viewed as the light in the school. We are depended with such a significant number of obligations that range from the extremely easy to most unpredictable and exceptionally difficult employments. Ordinary we experience them as a significant aspect of the work or mission. It is extraordinarily vital that we must comprehend and what should be spurred in doing our function admirably, to have propelled students in the classroom.

Student-cantered learning moves students from detached recipients of data to dynamic members in their disclosure process. What students realize how they learn it and how their education is surveyed are altogether determined by every individual student's needs and capacities? At the framework level, this requires executing educational modules arranging practices, teaching method and evaluation techniques that help driven approaches. In the classroom, instructors make direction and apply innovation in a way that best serves every student's learning venture.

Student-centered learning requires something beyond an expansion in innovation execution. It speaks to a move in the instructive culture toward a framework that backings innovation for standards-based learning and certifiable critical thinking. As a structure advances to a student-focused approach, teachers would more be able to successfully apply the change to enhance learning results and enable students to build up the aptitudes for school and vocation status.

- **Learning Through Discussion**

Having group discussions in the classroom is not advantageous for students' social abilities, yet, besides, their instructive advancement and adapting as well. The inquiry is, however, by what means would we be able to use talks to enhance learning in the classroom honestly?

One way you can utilize group discussion to enhance learning is to ask open-ended inquiries, which will energize basic reasoning and enable students to have an independent mind. For example, in a math lesson, ask your students an investigation, for example, "would you be able to think about some other ways Sam could have discovered this answer?" Get them to record their answers on a whiteboard and after that have a group discourse where your students' remark on some other routes set forward.

At the learning level, discussion assumes numerous parts of the learning procedure. A decent discussion can give students work on applying new ideas, develop and widen their insight, request that they inspect thoughts from alternate points of view, and can be utilized to evaluate their comprehension. Nonetheless, successful talks require planning and in-the-minute engagement concerning the facilitators, and alternative members. At the point when the discussion is getting it done, members not just trade data, they additionally enable each other re-to to decipher their perspectives on the current theme. Hibbert, Siedlok, and Beech, (2016, pp.26-44) Found that "interest-driven discourse"— rather than simply "instrumental data trade"— has clear advantages upon how students (a) investigate impediments in their insight, (b) create associations with different students, and (c) create shared understandings of the material being examined. In particular, they found that while instrumental trade can prompt an added substance procedure of information sharing where members rise exclusively with bigger "toolsets," interest-driven discourse helped members re-assess what they knew, open up new skylines of examination, and participate in more transformative learning.

- **Constructivism**

Constructivism is mostly a theory - considering perception and logical investigation - about how individuals learn. It says that individuals build their comprehension and information of the world, through encountering things and pondering those experiences. When we encounter something new, we need to accommodate it with our past thoughts and experience, perhaps changing what we accept, or possibly disposing of the new data as insignificant. Regardless, we are changing makers of our penetration. To do this, we should make questionings, investigate, and evaluate what we know.

In the classroom, the constructivist perspective of learning can point towards various diverse educating rehearses. In the broadest sense, it typically implies urging students to utilize dynamic methods (tests, certifiable critical thinking) to make more inform knowledge action and afterward to consider and discuss what they are doing and how their comprehension is evolving. The teacher ensures he comprehends the students' prior originations and aides the action to address them and after that expand on them.

For example, groups of students in a science class are talking about an issue in material science. Even though the teacher knows the "appropriate response" to the issue, he concentrates on helping students rehash their inquiries in valuable ways. He prompts every student to consider and inspect his present information. When one of the students thinks of the exact idea, the teacher seizes upon it and shows to the group that may be a productive road for them to investigate. They plan and perform relevant tests. A short time later, the students and teacher discuss what they have realized, and how their perceptions and investigations helped (or did not help) them to better comprehend the idea (Thirteen.org, 2004).

- **Positivism and Post-positivism**

Positivism is an attempt to put the world in a rational, logical box. It is additionally an endeavour to put the world particularly in a realist, physicalize box.

The post-positivists understood this was questionable. People are rational. However, they additionally have unreasonable practices (love and compassion from one perspective and dread and preference on the other). Positivism is in this way a reductionist undertaking that endeavours to dispose of or hush what it did not get it.

Post-positivism says that the view from no place and the clear slate of Enlightenment rationale are both inconceivable and, in some ways, not accommodating for understanding alternate players in each framework. Individuals are embroiled by their personalities - their histories, societies, and lived encounters. You cannot envision them away, and you should not envision them away- - because they shape the choices of different on-screen characters (by and substantial national pioneers) in significantly vital ways.

Post-positivism likewise studies a portion of the belief system of positivism. So, for example, security and regular security are two of the working estimations of positivist universal relations hypothesis and practice. Post-positivism calls "security" into question (Ketsdever, 2016).

CHAPTER TWO: THE LITERATURE REVIEW

2.1 Introduction

The key drive of this chapter is to review studies that undertook educational questions correlated to the impacts of meaningful interaction among teacher and students for positive and effective learning reinforcement. A study of the literature related to teachers' and students' interactions of impact of using classroom discussion as a strategy to increase students' academic performance. The research study will provide some useful insights which helped to illuminate the issues discussed in this study. This chapter is divided into four sections. The first one reviews the conceptual analysis. The second section reviews the theoretical framework. The third one will be a review of the related literature, and the final section will include some current studies which situating my research study.

2.2 Conceptual Analysis of some important issues in the current study.

By this level, it's important to define and focus on some particular questions and concepts. This is because researchers still debate about the impact of classroom discussion as a strategy to motivate students to learn. Therefore, it is worth to break down or analyse the classroom discussion as an approach into its constituent parts in order to gain knowledge and a better understanding in which the strategy is involved.

2.2.1 What is Classroom Discussion?

In literature on teaching, (Muhammad Salim, 2015) stated that, "the term "discussion" regularly denotes to a varied form of teaching methods, which highlight participation, discourse, and two-way communication. The discussion technique is one in which the instructor and a group of students consider a theme, subject, or problem and exchange information, experiences, concepts, opinions, reactions, and conclusions with one another".

Equally important, Larson (2000, pp.661-677), indicated that, "teachers have several concepts of classroom discussion, but these conceptions frequently cross with two reasons for using classroom discussion: (1) discussion as a technique of teaching, where the drive is to help participate students in a lesson, and learn academic content by encouraging verbal interactions; and (2) discussion competence as the subject matter, where the anticipated outcome is for students to learn to discuss more electively".

Research has demonstrated that participation in classroom exercises is vital all together for compelling figuring out how to occur. Dynamic classroom inclusion enables students to learn not simply by sitting in class tuning in to speakers talking, yet by discussing what they are realizing, expounding on it, identifying with past encounters and applying it to their day by day lives. By doing that students are influencing what they to realize as a component of themselves. At the point when students can identify with what they are realizing, they tend to enhance the maintenance of data. What's more, dynamic classroom participation is essential in advancing full of feeling learning.

As researchers indicated, classroom discussion is an intricate air in which students and teachers are ceaselessly imparting through examining, talking, composing and notwithstanding utilizing signals like raising and shaking hand (Erdogan and Kurt, 2015). Most educators would agree that interactive teaching techniques work better for students in learning furthermore, holding the ideas. Much exertion has been given in the previous couple of decades to grow new instructing approaches with the expectation of drawing in the students' minds. Moreover, for discussions to be fruitful, students need to figure out how to lead exchanges and take an interest in them. Students must be furnished with desires and rules to be effective in these undertakings. According to (Grover, 2007), successful discussions require that the students comprehend the contrast between a presentation and a discussion. A presentation is a recitation of realities by the moderator (for example, a speaker) though a discussion includes offering conversation starters that will enable the important themes to develop for promote request. Frequently, the teachers themselves obscure these limits.

Agreeing with (Shemwell and Furtak, 2010, pp.222-250), "Classroom discussion is defined as "an exchange of ideas in which multiple participants explain what they think and why". Furthermore, the discussion showing technique is an outline that gives chance to discourse amongst instructor and students, and students to students. It is a system that focuses on shared discussions, talks, and trade of thoughts in class. It gives open door for all to sit and tune in, and additionally talk and think, accordingly underlining the way toward "coming to know" as profitable as "knowing the correct answer". At the end of the day, a student in a discussion class neither is not inactive audience members nor is the educator a sole entertainer. Students are permitted to create basic intuition capacity, learn to assess thoughts, ideas and standards, techniques and even program and arrangements on the premise of obviously set criteria. For example, a student who takes an interest in a discourse lesson figures out how to help his

perspectives soundly, considering realities, as well. He acknowledges the need to contend coherently, characterize unmistakably - ideas and terms, and analyse fundamentally - guidelines, standards and builds. Such a student figures out how to create esteem preparing abilities in connection to changes that happen in his public.

The active discussion is one of the most common methods of active learning. If the lesson is aimed at remembering the information for a long time, encouraging learners to continue learning, applying learned knowledge in new situations, developing learners' thinking skills, and benefiting from the quality of small groups This ensures that learners in the educational situation participate positively, from the negative attitude to the positive attitude, they contribute to the teacher in thinking about the problems that are presented, and the participants determine that they are looking for solutions, The concept of communication is maintained all the time between the teacher and the learners, which helps the teacher to deal with the subject of the lesson, including the goals of the learners and their previous experience, and to answer the questions of the students.

The objective of the interactive discussion is to achieve several objectives, including content, education, thinking, Increase the degree of interaction and development of certain scientific trends and positive behavioural patterns, for example, by allowing others to participate in expressing their feelings and listening to their opinions and opinions, and cooperating in solutions, and not rushing to impose and disseminate them.

To foster energetic discussion, all students should participate. Gritter (2011, p.447) stated, "Generally the classroom teacher should not be the primary speaker unless he or she is prompting students to make textual connections or connections among student contributions".

Through my research, I found that discussion process is, as an instructional strategy resembles a convoluted fortune chase drove by the teacher yet plotted out by the students' support (or absence of). The teacher's part isn't to figure out which way to take to get to the fortune, however to manage the students through the learning procedure. The part which focal correspondence ideas of "making signifying" plays in the discourse, as instructional strategy uncovered itself to be a significant delicate assignment for the educators and the students.

2.2.2 Motivation is the key force driving student participation.

Motivation can be depicted as an internal, individual, reflective process, which engages, leads and backings a certain conduct. It is an individual "power" deciding a specific conduct. Inspiration is the huge issue that the schools need to fathom today. Motivation procedure and getting execution requires the correspondence between prerequisites, wants and work force's interests inside the associations and achieving the items and assignments consummation, capabilities and obligations (Zlate and Cucui, 2015). Practically, a favourable classroom environment included two-path communication amongst students and teachers. This sort of classroom environment will empower learning and makes both the educator and students feel fulfilled, which inevitably prompts viable learning process. Moreover, most students can get the advantages, for example, the happiness regarding imparting thoughts to others and take in more if they are dynamic to contribute in class discussion. Viable learning process happened when the two educators and students cooperate and effectively take an interest in the learning exercises. All things considered, as we regularly get notification from the scholarly world, students still don't effectively partake or end up plainly inactive in the classroom in spite of supportive gestures and utilization of different showing techniques by the educators to animate dynamic investment from the students.

By the same token, past investigations have demonstrated that there are a few variables impacted the student's support during the time spent learning. The main issue lies the identity of the students. The second vital factor that influences the students to take part effectively in the classroom is the qualities and aptitudes of the teacher. Characteristics that have been appeared by teacher, for example, strong, understanding, agreeable, neighbourliness through positive nonverbal conduct, giving grins and gestured for conceding the appropriate responses that are given by students. Another essential factor that affected the students to talk up in class is the impression of cohorts (Majid et al., 2010).

2.2.3 Meaningful interaction

Interaction in the classroom alludes to the discussion amongst teachers and students, and in addition among the students, in which dynamic support and learning of the student sends up noticeably indispensable. Discussions are a piece of the sociocultural exercises through which students build information cooperatively. Discussions between and among different groups in the classroom have been alluded to as educational talk (Thapa and Lin, 2014).

Classroom interaction is contemplated from a social interaction point of view to uncover the instruments instructors and students use to lead their classroom business. This business fluctuates from instructor fronted exercises to student aggregate work, or teacher student dyadic cooperation, and from shared counsels among students to – nothing unexpected for every one of us who have invested energy in classrooms – students’ work of not focusing

Despite claims about the dependability of training and instructional practices, classroom exercises and learning undertakings seem to have changed rather significantly in late decades in many parts of the world. This does not suggest that addressing and customary inquiry and answer designs have vanished, but instead that such practices are tested by different methods of imparting and realizing, where the requests on students are not quite the same as those that portray conventional, educator ruled, classroom collaboration. Today, students from an early age are frequently occupied with amass work and different types of issue-based learning. Learning assignments in such settings are frequently more open-finished and surmise rather complex aptitudes on the parts of students of having the capacity to scan for, select, structure, and assess data and contentions of various types (Kumpulainen, Hmelo-Silver and César, 2009, p.8).

2.2.4 Learning reinforcement

A simple definition of reinforcement is something that occurs after a behaviour that makes the conduct more prone to happen once more. Reinforces can take many structures, including substantial things, for example, stickers or little prizes, and intangible motivators, for example, social exercises, tactile exercises or uncommon benefits. Each class is unique, and a few sorts of reinforces might be utilized to inspire distinctive students.

Before starting any support framework, it is a smart thought to study students to discover what they discover rousing. Contemplate what sorts of things you will have the capacity to offer as reinforcement and rundown those things or exercises on an overview for your students but allow room for suggestions; they may think of extraordinary thoughts as well.

Reinforcement learners interact with their situation and use their knowledge to indicate or evade convinced actions based on the experimental values. Activities that led to acceptable consequences (i.e. consequences that happened or surpassed objectives) in the earlier tend to

be recurrent in the future, while selections that led to unacceptable knowledge are evaded (Luis R. Izquierdo and Segismundo S. Izquierdo, 2008).

2.2.5 Effective learning reinforcement

Effectiveness as a concept in learning can be defined as the aim of productive classroom discussions. At the class level, teachers can enhance student participation in their classes by dedicating time and thought to forming nature and arranging each class session. Moreover, the technique in which they cooperate, both verbally and non-verbally, conveys to students their state of mind about participation. Therefore, how to reinforce students to participate and to engage effectively?

From my experiences as a former teacher and as a school inspector, most students have never driven a discussion. It is ordinary to be frightful about your first attempt. Most us (counting instructors) are apprehensive we'll be humiliated by saying something incorrectly, being negated, or coming up short on things to state. There are a few proposals to enable teachers to conquer their feelings of dread, to get ready, and support it.

To lead a discussion, you should be acquainted with the doled-out material. "Comfortable with" is, we accept, only the correct expression. You require not have aced the material; all things considered, an objective of exchange is to move everybody towards dominance, that is, to enhance everybody's (even the leader's) understanding. To get ready for talk (administration or support), first read and concentrate the task, underlining the more vital or intriguing focuses, and making notes in the edges. At that point consider and record a portion of the principle issues that the creator brings up and a couple of issues correlated to the issues.

Discussions, as sluggish steeds, require some encouraging to keep them moving. A discussion leader can regularly keep things moving with just unobtrusive pushing, giving the class its head when things are going admirably. Obviously, on the off chance that you can contribute something helpful, do as such; yet different sorts of remarks or activities on your part can manage the discussion just as well as an infusion of understanding.

2.3 Theoretical Framework

There are distinctive learning speculations built up in view of how students learn. Among these learning speculations are Behaviourism learning theory, Cognitive learning theory, and Constructivist learning theory. Each learning theory offers distinctive advantages to the students, thus the fitting taking in theory can be connected by the need of the students. Some of the time, the mix of three learning theories can be received to give ideal figuring out how to the students (Maheshwari and Thomas, 2017, pp.083-097).

Lev Vygotsky was a fundamental Russian psychologist who is best known for his sociocultural theory. He trusted that social cooperation assumed a basic part in children' learning. Through such social cooperation, children experience a ceaseless procedure of learning. Vygotsky noted, in any case, that culture significantly impacted this procedure. Impersonation, guided learning, and cooperative adapting all have a basic impact in his hypothesis (Cherry, 2017). As indicated by Vygotsky, the zone of proximal advancement is "the separation between the real formative level as dictated by free critical thinking and the level of potential improvement as decided through critical thinking under grown-up direction, or as a team with more proficient associates". As per this hypothesis, learning from the social cooperation progresses toward becoming disguised. For instance, by watching different students playing a game, a student can learn, comprehend, and execute the principles of the observed game. The more social connection students are presented to; the more learning students' pick up. Vygotsky trusted this reasoning procedure is firmly identified with the improvement of language (Tugman, 2010).

As indicated by Vygotsky, the zone of proximal development is "the separation between the real formative level as dictated by autonomous critical thinking and the level of potential improvement as decided through critical thinking under grown-up direction, or as a team with more skilled companions." Essentially, this zone is the hole between what a youngster knows and what he doesn't yet know. The way toward securing that data requires aptitudes that a tyke does not yet have or can't do freely, but rather can do with the assistance of a more proficient other.

Moreover, parents and teachers can encourage learning by giving instructive open doors that exist in a child's zone of proximal development. Children can likewise take in an incredible arrangement from peers, so instructors can cultivate this procedure by matching less gifted kids with more learned colleagues (Cherry, 2017). Theoretically, Vygotsky advances learning

settings in which students assume a dynamic part in learning. Parts of the educator and students are in this way moved, as an instructor ought to work together with his or her students keeping in mind the end goal to help encourage meaning development in students. Learning accordingly turns into a complementary ordeal for the students and instructor.

At the constructivist classroom level, teachers make circumstances in which the students will examine their own and each other's suppositions. So, a constructivist educator needs to make circumstances that test the presumptions of conventional instructing and learning (Amineh and Davatgari Asl, 2015). Additionally, in the classroom, the constructivist perspective of learning can point towards various distinctive instructing rehearses. In the broadest sense, it as a rule implies urging students to utilize dynamic strategies (tests, certifiable critical thinking) to make more learning and after that to consider and discuss what they are doing and how their comprehension is evolving. The educator ensures he/she comprehends the students' prior originations, and aides the movement to address them and after that build on them.

Educationally, students are engaged with encounters that test theories and support discussion. At the point when permitted to make forecasts, students frequently create changing theories about common phenomena. The constructivist instructor gives abundant chances to students to test their speculations, particularly through group discussion of solid encounters.

2.3.1 Opportunities and challenges of interactions and classroom discussion

Encouraging classroom discussion has dependably been a challenge for teachers and this is because students' psychology effected by different factors. (McKee, 2015) in his article "Encouraging Classroom Discussion" indicated that, "there is an increasing problem and many educators complain about why students do not participate well. He mentioned "three sources of this problem: social media, classroom overcrowding; and home-schooling". The first source due to the "face-to-face conversations and the tendency for social isolation". As very body noticed that the social media plays now an important and affective role and students in different ages grabbed by the fantasy of media. This situation made many children isolated themselves and lost their social interaction skills. Classroom overcrowding is the most common problem in public schools and lead to large class sizes and some students feel lost with no attention, difficult for the teacher to communicate with each student on a deeper level, teachers may find themselves spending more time handling the classroom organization and student behaviour than really teaching".

(Shah and Inamullah, 2012) in their study of total of 200 students from different government high schools in Pakistan, investigated the impact of overcrowded classrooms on the academic performance of the students at secondary level and how can the efficiency of the teachers and their morale can be affected in overcrowded classrooms? They found that, “student in smaller classes improve more constructive manners, opinions and social interactions. They can function more successfully as supporters and leaders of groups; also, can learn basic skills and subject matter better, more easily and faster. They can think more creatively and divergently and can achieve higher attention and lower absence rates”.

The third source of problem as McKee suggested, the home-schooled students who were previously studied at home by their parents. They do not used to engage with other students and may be unenthusiastic to engage in a discussion.

As a school inspector, during my school visits and meetings with teachers and students, they also mentioned other problems that have a strong impact on students ‘participating and engagement. The greater part of the student’s respondents revealed that they regularly feel threatened in the classroom. Many said that there is dependably no less than one student in class who dumps on every other person's feelings. Others referred to the appalling background of having an educator who coercively fed them his or her supposition on social issues and after that influenced students to feel doltish for contradicting them. A couple of students griped about the class "know it-all;" who has his or her hand raised at each event, along these lines decreasing the open door for different students to take an interest in the classroom. Add to that, a significant part of the issue with classroom discussion might be the way that educators have not made an inviting environment for student participation. Students are feeling threatened in the classroom, either by the educator or their other students. A few teachers have neglected to perceive the significance of student inclusion in the course, while others are baffled by their endeavours to connect with students in the classroom discussion (McKee, 2015).

To this end, (White, 2011) in his study examined the issue of class participation in line with their academic performance. To begin with, White reported that “students did not have the “discursive styles" expected to impart adequately in the school classroom. To talking their culture’s vernacular, the students felt ill-equipped to talk in a school setting. Second, students did not have "the content knowledge" required to share in classroom discussion. Third, students felt that taking part in academic discourse would be "equivalent to 'offering out' their social or

ethnic conventions. Fourth, teachers should "set moderately unequivocal tenets for cooperation and encourage a group of students by building up a classroom situation inside which minority student feel safe to take an interest in classroom discussion will help motivate them to participate. Finally, White believe that teachers ought to do everything and they can teach their students how to participate in academic discussion, to incorporate influencing the students to understand that they should be fit".

2.4 Review of the Related Literature

At the students' academic performance, class discussions offer students chances to test their thoughts and conclusions against the thoughts and suppositions of their associates. It is critical to set the correct tone for talk in the classroom at an opportune time in the semester, and to set up a compatibility with your students. Studies have demonstrated that students who add to class discussions at an opportune time in the semester are substantially more liable to keep adding to class discourses all through the semester than those students who stay calm amid the underlying couple of long stretches of the term. Along these lines, it is basic to discover approaches to include all students in the developmental discourses of the course (University of Pittsburgh, 2017).

Discussion techniques are a range of discussions for open-finished, community-oriented exchange of thoughts among an educator and students or among students with the end goal of advancing students considering, learning, critical thinking, understanding, or scholarly appreciation. Participants exhibit various perspectives, react to the thoughts of others, and consider their own thoughts with an end goal to assemble their insight, comprehension, or understanding of the current issue. A standout amongst the most difficult showing techniques, leading discussions can likewise be a standout amongst the most fulfilling. Utilizing exchanges as an essential showing strategy enables you to invigorate basic considering. As you build up an affinity with your students, you can exhibit that you value their commitments while you move them to think even more profoundly and to express their thoughts all the more obviously. Numerous questions, regardless of whether asked by you or by the students, give a method for measuring learning and investigating inside and out the key ideas of the course.

Additionally, the Discussion Method requests that students come to class very much arranged. Convincing them to thoroughly consider their contentions ahead of time and to answer their associates' inquiries and counter-contentions, it hones their forces of reason, examination, and

explanation. It in this way furnishes them with crucial aptitudes vital for accomplishment in any teach or calling. Moreover, in the classroom environment, discussion is the most ideal method for advancing helpful learning and advantageous instructing circumstance. It alludes to the technique for direction, which give students a chance to express their perspectives or feelings orally on specific issues. One individual talks at a time, while others are tune in. It doesn't generally include the introduction of new data and ideas. It additionally involves sharing of thoughts and encounters, taking care of issues and advancing resilience with comprehension. Discussion strategy is reasonable as a rule and can be utilized as a part of numerous circumstances of educating and learning.

Practically, as a teacher who has worked for ten years and a school inspector, I know that small groups' discussions are superior to an entire class discussion. It urges more pupils to give their own perspectives through open support. Pupils are partitioned into little groups of, four, five, six, seven, eight or nine and given inquiries or undertaking to talk about and after that report back. Each group ought to have a gathering pioneer who is told to control the discourse procedure and somebody who can report back of what has be talked about.

According to (LAKSHMI and ZEHRABI, 2012), in the classroom discussions students learn not just from their teacher yet additionally from alternate members in the interaction. Everybody in the group decipher the topic in his\her claim way. Next piece of these highlights is relational abilities. On the off chance that the students are taking part in the discussions number of times they can be flawless in playing out their relational abilities. Among all these relational abilities undivided attention, talking and non-verbal correspondence take dynamic strides. Besides that, effective listening for taking an interest in the discussion one can't be the gifted however have great listening aptitudes. Without having any thought on the given point on the off chance that they listen deliberately they can have the capacity to contribute very much in view of their fundamental learning. Being an outgoing person in discussion is an additional advantage. Add to the above, Larson (2000, pp.661-677), in his case study when he examined teachers' thinking about classroom discussion indicated that, "teachers believe of discussion as a skill that demands preparation sessions. At times, they design discussions, so students may practice engaging in spoken interfaces with one another. They believe that students become improved discussants when they observe the teacher model suitable performance during a discussion, then accept chances to practice engaging in discussions".

Hollander (2002, p.317) in his article "Learning to Discuss: Strategies for Improving the Quality of Class Discussion" also stated that, discussion and other collaborating teaching approaches support "deep" rather than "surface" learning and effect in greater student eagerness. He continued to say "Discussions strength students to explore for their identifiable solutions, give students practice in articulating their own ideas, expand their gratitude for intricacy and variety, and improve their listening, thinking, and analytical skills. In addition, discussions rise students' self-confidence and accordingly their motivation, giving them feedback on how good they comprehend progression material". He continued "as indicated by research on learning methodologies (and in view of research in cognitive psychology), when students have the chance to draw in with the class material-question it, clarify it, and consider it in connection to their own particular lives or the "genuine world" it will probably be comprehended and held".

Weaver and Qi, (2005, pp.570-601) noticed that those students who keenly participate in class discussions are expected to learn more than those who do not. Jones (2008, pp.59-63) likewise indicated that, class participation also encourages involvement and contractual request of knowledge. Students can show their beliefs and perspectives, and in return, collect analytical evaluation/feedback from the teacher as well as peers to evaluate the qualities of their thoughts.

Dallimore, Hertenstein and Platt (2008, pp.163-172) had also denoted that, classroom discussion is significant, and many researchers have shown that classroom discussion rises students 'verbal and written interaction.

2.5 Situating the Current Study

Regarding situating my current study within the context of other educational and theoretical studies, it is worth noting that there are tremendous strides has been made in the area of finding better ways to motivate students to learn. From the whole classroom discussion strategies to specific types of large and small group discussions such as developmental discussion, panel discussion, Discussion Clusters, debate discussion, and the role-playing. As I argue about the importance of the classroom discussion as a positive reinforcement for students to learn, there were many studies have been made to show the signs of the students' interaction in the classroom. Some studies demonstrated that it is the student gender as an influential factor, different studies have discovered that studies more every now and again than females. A few investigations have proposed that student age has a more grounded effect than student gender

orientation on cooperation in classroom dialog. Class size is another variable can significantly affect student cooperation in the discussion. Most examinations have discovered that more association happens in smaller classes

Fassinger (1995) contended that teacher characteristics (e.g., sexual orientation) have little effect on students' interest. Instead, student characteristics (certainty, perception, intrigue, arrangement) and class attributes (measure, enthusiastic atmosphere, collaboration standards, visit substantial gathering exchanges) were more critical effects on interest. In like manner, Aitken and Neer (1993) reasoned that it is student attribute (inspiration or the deficiency in that department) that best clarifies students' absence of cooperation. Notwithstanding, plainly teacher practices can impact student attributes like understanding and intrigue and can impact class characteristics, for example, passionate atmosphere and communication standards. Nunn (1996) contended that it is teacher showing methods, (for example, applaud, offering conversation starters, requesting elaboration, and utilizing students' names) that altogether enhance levels of talk. In this manner, Nunn presumes that educators do assume a critical part in student investment. Fritschner (2000) found that students will probably take an interest in 300-400 level courses than in 100-200 level courses.

CHAPTER THREE: METHODOLOGY

3.1 Chapter outline

This chapter gives a full explanation of the method for completing this research study. It incorporates few insights about the outline and strategies that were actualized; the instruments that were planned and used to gather information; the participants who were enlisted; the techniques for information investigation were expressed. Other issues related to the reliability and validity were clarified as well as the ethical consideration was discussed.

Therefore, the chapter is divided into several sections. The outline of this chapter, the research design, the site (Scope / delimitation), the population and sample, the data collection plan, the data analysis plan, the reliability, the ethical consideration, and the role of the Researcher.

3.2 The Research Approaches

The quantitative strategy in this study is gotten from a constructivist and Post positivist perspective with an emphasis on profoundly expertise this specific example of teacher-student relationships. My goal in directing this study turned into to present other precise cases of and fundamental discoveries for the way teacher-student connections are made. Distinguishing explicit variables related to teacher-student members of the family ought to deliver enormous facts to an instructive getting to know institution. Recommendations for how those discoveries can affect the getting to know the situation is tested.

A Classroom Discussion Rubric (Appendix G) was utilized during the discussion time frames to assess students' oral relational abilities. The instructor imparted the expectations from the rubric before assessing the understudies. The rubric was utilized to assemble a quantitative assessment of understudies' talk aptitudes.

3.2.1 Post-positivism Overview

According to (Creswell, 2014, pp.163-172) Post-positivism depicts a way to deal with learning and is undoubtedly an appraisal of the idea of reality. It is both an epistemological and ontological position. It might be short-sighted characterized as those methodologies that genuinely succeeded. Positivism (for instance, authenticity), however more thoroughly, it might be comprehended as an investigation of positivist epistemology furthermore,

philosophy, in which positivist cases concerning both the target idea of reality and the capacity of science to observe that the truth is rejected.

Furthermore, Post positivist hold a deterministic logic in which causes (likely) decide impacts or results. Consequently, the issues examined by post positivists mirror the need to distinguish and evaluate the causes that impact results, for example, found in tests. It is likewise reductionist in that the plan is to lessen the thoughts into a little, discrete set to test, for example, the factors that include theories and research questions. The information that creates through a Post positivist focal point depends on cautious perception and estimation of the target reality that exists "out there" on the planet. In this manner, creating numeric measures of attitudes and concentrate the conduct of people winds up plainly central to a Post positivist. At last, some laws or speculations represent the world, and these should be tried or checked and refined with the goal that we can comprehend the world. Along these lines, in the coherent strategy—the acknowledged way to deal with the look into by Post positivist—a specialist starts with a hypothesis, gathers information that either bolsters or disproves the theory, and after that makes significant amendments and behaviours further tests (Creswell, 2014, pp.163-172).

Willis, J. W. (2007) in his book “Foundations of qualitative research: Interpretive and critical approaches” described it is a "milder type of positivism "that takes after similar standards however permits more cooperation between the analyst and his/her exploration members. It utilizes extra techniques, for example, overview inquiries about and subjective strategies, for example, talking and member perception. This worldview is the changed logical technique for the sociologies. It expects to deliver objective and generalizable learning about social cases, trying to attest the nearness of widespread properties/laws seeing someone among pre-characterized factors. This epistemology is showed by semi exploratory research plans that use treatment, result measures and test units, yet don't utilize arbitrary task to make examination from which treatment caused change is gathered.

According to (Willis, 2007), Post positivist investigation depends on a hypothesis first model. Before directing a standard report, the analyst would create particular speculations to be tried. Truth be told, the whole investigation would be arranged in detail in light of the fact that the rationale of this sort of research calls for everything to be obviously and definitely expressed before the information are gathered. Specially appointed conclusions are seen with doubt. Through measurable examination, information is translated with respect to the ramifications of

a hypothesis. The hypothesis starts things out, at that point you lead the research to test your hypothesis.

As I investigate the impact of classroom discussion in students' academic achievement, my argument is that classroom discussion and learning have to be side to side in which students learn and construct their knowledge through experimenting their assumptions.

3.2.2 Constructivism Overview

Regarding constructivism, (Creswell, 2014, pp.163-172) indicated that, social constructivists consider that people look for comprehension of the world in which they live and work. People create personal implications of their encounters—implications coordinated toward specific articles or things. These repercussions differ and different, driving the scientist to search for the many-sided quality of perspectives instead of narrowing consequences into a couple of classes or thoughts. The objective of the exam is to depend however much as could reasonably be expected on the members' perspectives of the circumstance being examined. The inquiries end up plainly expansive and general so that the members can develop the significance of a circumstance, ordinarily fashioned in discourses or cooperation with different people. The more open-ended the scrutinizing, the better, as the scientist listens precisely to what individuals say or do in their life settings.

According to (Dr. BADA and Olusegun, 2018, pp.68-69) in the constructivist classroom, the concentration tends to move from the instructor to the students. The classroom is not any more a place where the instructor ("master") empties information into detached students, who hold up like discharge vessels to be filled. In the constructivist classroom, the students are asked to be effectively engaged with their own particular procedure of learning. The instructor capacities more as a facilitator who mentors, intercedes, prompts, and enables students to create and survey their comprehension, and after their learning. Furthermore, in the constructivist classroom, both educator and students consider information not as inactive titbits to be retained, but rather as a dynamic, regularly changing perspective of the world and the capacity to effectively extend and investigate that view.

Likewise, (Amineh and Asl, 2015, pp.9-16) stated that in constructivism, learning is represented as a productive procedure in which the student is building an inside representation of information, an individual elucidation of experience. This portrayal is constantly open to

adjustment, its structure and linkages framing the ground to which other information structures are joined. Learning is then a dynamic procedure in which encounter has a vital part in understanding and getting a handle on the importance. This perspective of information does not really dismiss the presence of this present reality, rather it concurs that reality places compels on the current ideas, and battles that all people's learning of the world is the understandings of their encounters.

3.3 Research Design

This current study implemented a fundamental comparative design that included two tests (pre- and post-test) for data collection with the intent for generalizing from a sample to a population. The two tests research aimed to collect data to answer the research questions, about teachers' and students' interactions on classroom discussion. The test is an instrument to collect data that describes some features of a population.

The research question of this study was planned to give portrayal and clarification of the impact of meaningful interactions and discussion for positive and effective learning reinforcement. In increases, the research question was intended to generalize the results. For these reasons, the most fitting technique was the quantitative strategy. The quantitative technique is known as the accumulation and examination of numerical information to portray current conditions, research relations; and clarify, foresee, and think about reason impact wonders intrigue. The other purpose behind picking the quantitative strategy was the desire to sum up the consequences of the investigation by directing the examination on a delegate sample.

3.4 The Scope and the Delimitation of the Study

The dissertation discusses the impact of meaningful interactions and discussion on positive and productive learning reinforcement. It aroused from the need of investigating better teaching and learning ways to increase students' academic achievement and to put them on the right path of future knowledge. It also, refers to other important factors such as motivation and effective and positive learning reinforcement.

Educationally, most students of the public schools in Emirate of Abu Dhabi are lake of communication and interaction skills and still depend on the teachers' interference to complete their given tasks. With this situation and especially in primary grades, the need to switch to

different strategies of teaching has become essential and necessary. Because of the previously stated details, students of the public schools' experience from being lectured, an absence of regard and trust in their capacities to take responsibility for their learning. They also lack collaboration and communication with their equals on group work and tasks, an absence of imagination utilizing their advanced devices, an absence of central leadership.

Furthermore, students come into science classes assuming lectures. They have created abilities for being used in a conventional style course, and henceforth, it is sensible for them to be uneasy of new methodologies. Students ought to be given a chance to make inquiries about the approach or to leave the course. The objectives of the course ought to be unmistakably characterized both in the syllabus and amid the primary day of the course. The dread of utilizing another approach ought to be mollified however much as could reasonably be expected

On the other hand, it has been assumed that the general weakness of the students' outcomes and ineffective teacher's performance are due to an inappropriate learning reinforcement and consequently impacts the process of teaching and learning. As I investigated how students can be challenged in classrooms, I believed that one way to reinforce them to participate is that teachers know how to lead their classrooms discussions in order to create healthy and active lessons.

The study is delimited to a group of four classes from Grade 10 coming from public school. Unfortunately, this study does not cover all the aspects that affect the classrooms discussions such as gender, ages and special needs students. This was because of the time of the researcher and the academic year. As the small population size of the experimental and the control groups, the study was conducted in the end of trimester one and most teachers were busy to finish their curriculums especially in the middle and the secondary schools.

The research data was based on observation and pre-and post-test data of secondary grades children based on their involvements and interaction with selected teachers.

3.4.1 Population and Sample

The study includes 80 students from a public secondary school in Al Ain, United Arab Emirates frame the population of inhabitants in the present investigation. Worth saying, participants of this investigation share an indistinguishable social foundation. All of the participants are

Emirati students living in a similar region. Moreover, every one of them share nearly the same prudent foundation in other words no monetary gap among the students that may influence their nature of learning. The students were chosen from one governmental school. They were male students between 15-16 years old. The chosen teachers were selected during the first meeting with the school supervisor of science.

3.4.2 Data Collection Plan

The study will observe four classrooms. There will be a pre-test with all the four classrooms. Then there will be a post-test. Finally, measuring the pre-and post-test results. Also, for observation, there will be a specific rubric that will be important to observe the dynamics inside the classrooms before and after the interaction strategy was given. This study was conducted and finished through one semester; I attended the classes three days each week.

As a school inspector, I have had the chance to visit many schools in the Emirate of Abu Dhabi and in Al Ain City. It was a secondary boys' school. I met the school supervisor of science, and I explained about my investigation through my research. He chose two of his best teachers and managed a meeting with them. I told my investigation topic to the teachers, and they were happy to work with me. I asked them to start a new chapter so that I can follow them with my observation notes. Most of the students had a previous knowledge but not much about what are they going to learn. The duration of the experiment will take four weeks to both groups.

At the study level, every teacher has two classes. Students within the experimental group had been told with discussion-based learning method. The classes were arbitrarily allocated as control and experimental group. A total of 50 students from two classes of one school were involved in the study. They were chosen through purposive sampling method. The group which was assigned to an experimental group was instructed in discussion-based learning (grade 10 C and 10 D) whereas the other group was traditionally taught (grade 10 A and 10 B).

The selected teachers were given two training weeks on meaningful interactions in classroom. The two training weeks focused practically on the book “Thinking through quality questioning: Deepening learner engagement as a great resource of questioning strategies” by Jackie A. Walsh, Beth D. Sattes (2011). Besides that, critical Thinking Skills were also included and given to the teacher which can be used for all activities requiring planned or aware thought; Reasoning, Evaluating, Analysing, Problem Solving, and Decision Making. Basically, I have

had one focused question through the two training weeks “what kind of questions should teachers ask to increase challenge in the classroom which lead to active classroom?”

As the teachers simplify discussion and postures questions, this also helps as demonstrating successful questions for students. The two weeks likewise included concentrating on the Bloom's scientific categorization is an orderly way to deal with educating and discovering that can be utilized as an asset for question outline. Levels of educating and learning are broken into no less than six parts: Evaluation, Synthesis, Analysis, Application, Comprehension, and Knowledge where the instructor hone the few levels to develop questions in view of learning destinations.

Initially, with the experimental group, the teacher carefully introduced the learning skills that they should demonstrate. He emphasized learning to analyse arguments critically, practice synthesizing conflicting views and relate the material to their own lives. He also explained that; the students will use the discussion to help students' link concepts to their own lives; to encourage students to evaluate material critically and to address topics that are open-ended or can be addressed effectively through multiple approaches.

Practically, in the engagement stage, the teacher endeavoured to expand students' consideration, prepare them intrigued and to learn. Consequently, students had chances to make a few connections between earlier information and present learning encounters.

By giving them definite instructions to follow and some ground rules before launching into the discussion, he wanted to be sure that everyone recognizes the standards of behaviour. He also wanted to make sure that the students know not to interfere and reminded everyone the point of this discussion is for everyone to share equally, to be aware of time, and to make their points succinctly, so everyone has the chance to share. He encouraged them to deliberate their explanations seriously and to avoid becoming self-protective if somebody disagrees. Additionally, to start, he managed them as small groups and each group has a leader.

Then again, in the control group, the teacher-coordinated strategy speaking to the conventional system was utilized. He utilized directly instructing and question and arrangement techniques to educate related themes and essential standards. Central factors and inquiry and arrangement strategies worthy the common instructing approach wherein students are uninvolved have been utilized even as training the concealed chokes unit. Showing procedures comprised of the

instructor's clarifications and reading the material. In this group, the teacher outfitted instructing using address and discourse techniques to guide the thoughts. The teacher subordinates the entire class as a unit, composed notes at the board about the meaning of standards, and go out worksheets for students to wrap up. The essential fundamental rule demonstrated that learning appears as data that is transmitted to students. After the instructor's causes, a couple of standards were said, accelerated by educator - coordinated inquiries. Worksheets have been explicitly advanced for every lesson. These required composed reactions and fortified the norms introduced inside the schoolroom sessions. They had been accumulated and amended utilizing the scientist. Every experience generally comprised of the instructor offering the reasonable way to determine issues. Most of the lessons time was committed to the arrangement in dialog originating from the educator's illumination and inquiries.

3.5 Data Analysis Plan

The data was implied into a Statistical Package for the Social Sciences (SPSS) for analysis. For the purpose of this study, I used Paired-samples t- test (dependent t test) to parallel the means of two variables for a single group. The process calculates the alterations among values of the two variables for each case and tests whether the average differs from zero.

Data analysis is the way toward conveying request and importance to crude information. The collected information was investigated utilizing quantitative data strategies.

3.5.1 The Tests

As I started with the diagnostic test multiple choices (the pre-test) and before beginning the four weeks' program, the four classes took the test to set up their level of. Most students had some information, and previous understanding of the selected topics as the teachers introduced the issues to them. After that, the papers were collected and marked. The test included 20 questions and each question was analysed in three categories; correct, not correct, and not answered. Once the students finished the four weeks of studying and observation, the two groups were given the post-test multiple choices. It also, marked and analysed in three categories; correct, not correct, and not answered.

3.5.2 The Classroom Observation

I spent most of the time in lesson observations and I recorded the extent of students' ready to take every necessary step set for them by their teachers and I searched for supporting proof/cases of fulfilment, advance and learning aptitudes. Observations of teaching and evaluation of learning were recorded as they happened. At the point when was fitting, I addressed students to check their comprehension of the lesson. I recorded the nature of students' social and self-awareness in view of my perception and engagement with students.

The teacher of every classroom in the study was seen in the classroom so as to rate his affectability and responsively to students as a rule, and additionally the strength of his classroom style. These perceptions occurred in November 2017, with every teacher observed for roughly 60 minutes.

3.5.3 Validity

Validation of the instrument is most important according to (Creswell, 2012, pp.16-18), It is good evidence for demonstrating that the test scores interpretation' matches its proposed use; in other words, the instrument measures what it is supposed to measure. The validity of my instrument comes with the process that it passed through to be used in the research study. The 20 multiple choices questions came from the EMSA exams (2012, 2014, and 2015). The test passed through a suitable validation by the Australian Council for Educational Research and Abu Dhabi Education Council. At the same time, the paper of the given test was given to four teachers of science in cycle 3 to check its language and contents and to the science supervisor. The four science teachers were reviewed and accepted by the advisor.

3.5.4 Reliability

Creswell (2012, pp.16-18) characterizes reliability and states that the scores from estimating factors that are steady and predictable was imperative to remain at the level of the dependability of members' reactions to judge the consistency of their answers. Cronbach's Alpha was found and showed that the scores of the two tests are reliable since they are between 0 to 1 as shown clearly in Table 1 and Table 2.

Table 1.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.645	.618	8

After testing the reliability through the Cronbach's Alpha and based on this analysis, it was found that the overall reliability coefficient of this study was very good, and this is an indication of the stability of the pre and post-test for all 10 grades. In social science, Cronbach's Alpha > 0.7 is considered as acceptable. The Cronbach's Alpha in this test is .61, less than the standard but it is still high.

Table2.

Item Statistics			
	Mean	Std. Deviation	N
10 A	61.5500	8.51299	20
10 A	71.5500	7.92381	20
10 B	63.1500	8.41224	20
10 B	71.4500	8.64794	20
10 C	60.5000	7.59155	20
10 C	82.0000	6.95852	20
10 D	63.4000	8.00263	20
10 D	83.9000	5.77563	20

Table (2) shows the superiority of students in the experimental group. The average number of students in the experimental group was between (82. and 83.9), compared to (71.5 and 71.4) for the control group. The difference between the mean and experimental scores of the experimental and experimental groups is not significant. The essential difference to learning their members according to the method of discussion

3.6 Ethical Consideration

The researcher led the investigation in a way that secured the namelessness of the respondents. To secure their privacy, respondents did not recognize themselves by names. Besides, the tests submitted and gathered in a plain envelop with no sign to the school name. All participants were informed that they were welcome to support or reject to participate in the study. Moreover, the introductory letter (**APPENDIX C**) to the study expressed that their reactions would be kept classified and the statistical data won't be uncovered. All participants were provided with the researcher contact information keeping in mind the end goal to enable them to make inquiries about the reviews or to ask about the research findings.

To enrol participants for the present study, a subsequent examination amid the resulting school year, an enlistment letter was sent home with the students from school to parents of the 80 students. The teachers who consented to take an interest in the study were educated by the school supervisor.

3.7 The role of the Researcher

Concerning my role in this study, as an observer, I attended the four classes three days per week. Through sitting at the back, I was recording my notes without any interference or talking with the students. In some rare situations, I was just going around to see what the small groups were doing to complete their tasks. Regarding the tests (**APPENDIX A**), I just asked the teachers to set up the classes to do the tests. The model answer and the marking scheme of the tests were already prepared from the department of exams which I got it from the Authority of Education and Knowledge in Abu Dhabi.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Discussion of Research Question One

The purposes of this quantitative study, the study was first aimed to investigate the impacts of meaningful interaction among teachers and students for positive and effective learning reinforcement. The results of the experiment demonstrated that students do profit by classroom discussions. Moreover, the participants in the experimental group showed a high level of improvement due to discussion-based teaching instructions. Classroom atmosphere was a crucial factor in deciding the level of interest in the classroom. At the point when students felt bolstered, regarded, and were not condemned by their friends, they were more likely to take an interest in the classroom. They additionally noticed that they felt more agreeable in taking part in free-streaming discourse that would work starting with one remark then onto the next and was aware of nature.

According to the results of the paired T-Test, students benefited from the discussions and learning that took place throughout the four weeks of the experiment. There were more asking questions and more interesting about the teacher's teaching strategy in which he focused on the work groups and his attractive ways of questioning.

Notably, students indicated a change in the field of compound responses which was an impoverished territory saw in the control groups. Student execution, all in all, changed from discourse to talk. It would have been advantageous to take a gander at singular students' scores to show signs of improvement comprehension of student execution. Even though the consequences of the tests and tests did not give an unmistakable knowledge into how well the exchanges helped execution, numerous students expressed that the talks helped them in their learning and comprehension of specific subjects. Notably, students indicated a change in the field of compound responses which was an impoverished territory saw in the control groups. Student performance, all in all, changed from discussion to more discussion. It would have been advantageous to take a gander at students' scores to show signs of improvement comprehension of student performance. Even though the consequences of the tests did not give an unmistakable knowledge into how well the exchanges helped execution, numerous students expressed that the discussions helped them in their learning and comprehension of specific subjects.

Interestingly, there was another essential point arose, and students emphasized on it. It is the teacher's strategy of questioning. Paul and Elder (2000) express that 'Believing is not driven by answers yet by questions. Had no inquiries been asked by the individuals who established the framework for a field which could never have created in any case'. To keep a field of thought (or an idea/theme) alive teachers need to always make inquiries of it, as opposed to just enabling that field to shut down. Teachers are then ready to challenge existing or set up answers through addressing to challenge students' reasoning. Research by Smith (1998) states that language rich classrooms are more practical situations for learning and accordingly advance. Target considers led by Smith have demonstrated that young children have a higher IQ at a more youthful age if their parents routinely spoke and asked them, contrasted with those whose guardians did not connect with them. In our classrooms, the capacity of students to have the capacity to express their perspectives and musings is created through our questioning of them.

High-level-psychological inquiries can be characterized as inquiries that expect students to utilize higher request considering or thinking abilities. By utilizing these abilities, students do not recollect just verifiable information. Preferably, they utilize their insight to explain, to dissect, and to assess. It is trusted that this sort of inquiries uncovers the most about regardless of whether a student has genuinely gotten a handle on an idea. Because of that, a student needs a profound comprehension of the theme to answer his kind of question. Teachers do not utilize abnormal state intellectual inquiries with an equal measure of recurrence from they do with low-level-psychological inquiries.

4.2 Research Question One Analysis

The following tables and the summaries addressed the first research question that is mainly related to the impact of classroom discussion on teachers' performance from teachers' and students' as a learning reinforcement. This was done by comparing the means of the data from the related samples; before and after the intervention on the same participants. **The paired t-test** is used to compare the means of the samples of related data.

Table 3. Paired Samples Statistics

Paired Samples Statistics						
			Mean	N	Std. Deviation	Std. Error Mean
pre	Pair 1	10 A	71.5500	20	7.92381	1.77182
		10 B	71.4500	20	8.64794	1.93374
	Pair 2	10 C	82.0000	20	6.95852	1.55597
		10 D	83.9000	20	5.77563	1.29147
post	Pair 3	10 A	61.5500	20	8.51299	1.90356
		10 B	63.1500	20	8.41224	1.88103
	Pair 4	10 C	60.5000	20	7.59155	1.69752
		10 D	63.4000	20	8.00263	1.78944

- Pre-test

Table 3 shows that, the mean of the control group (A and B); for grade 10 A = 71.5 and grade 10 B = 71.4 whereas for the experimental group (C and D); for grade 10 C = 82.00 and grade 10 D = 83.9

- Post -test.

The mean of the control group (A and B); for grade 10 A = 61.5 and grade 10 B = 63.1 whereas for the experimental group (C and D); for grade 10 C = 60.5 and grade 10 D = 63.4

Table 4. Paired Samples Correlations

Paired Samples Correlations					
			N	Correlation	Sig.
Pre	Pair 1	10 A & 10 B	20	.022	.928
	Pair 2	10 C & 10 D	20	-.067	.780
Post	Pair 3	10 A & 10 B	20	.456	.043
	Pair 4	10 C & 10 D	20	-.055	.816

- Pre-test

Table 4 shows that, the coefficient correlation between grade (A+B) = 0.22 and the coefficient correlation between (C+D) = -.067

- Post -test.

The coefficient correlation between grade (A+B) = .456 and the coefficient correlation between (C+D) = -.055

To sum up, through the value of (α) for the experimental group (10C+10D), there are statistically significant differences in value of (α) = 0.374 for the experimental group less than the value of (α) = 0.428 for the control group and this is because the experimental group got different learning strategies rather than the traditional ways of learning.

4.3 Discussion of Research Question two

Do students with discussion-based learning are more likely than students with traditional teaching to improve their academic marks? Referring to the null and the alternative hypothesis to test if there is a difference in mean pre- and post-marks or not, it was evident through the reading of previous tables that there is a difference in mean between the pre and the post-test. Practically, students' performance was better than in the control group. The difference here was between two methods of teaching. The whole class teaching and group work teaching.

The whole class discussion, by and large, empowers familiarity and a vital trade of thoughts among the students. It likewise guarantees educator's entrance to all students. It primarily functions when it is utilized to clarify new thoughts and ideas. It is likewise broadly utilized toward the finish of any lesson to abridge what has been educated or done in that specific lesson. Then again, amass exercises, then again, increment student inclusion in-class exercises. Students in the group talk and convey even more promptly to each other. They figure out how to relate and share thoughts. Furthermore, assemble exercises urge students to learn through dialogs. Students, in the first place, measure the advantages and disadvantages of a given circumstance with each other and after that attempt to locate a coherent answer for the issue. Thirdly, aggregate exercises, urge students to work in a joint effort with each other.

Group work discussion can be a successful technique to spur students, support dynamic learning, and create significant critical reasoning, correspondence, and decision-making skills. Be that as it may, without watchful arranging and assistance, group work can disappoint students and teachers and feel like an exercise in futility. Utilize these recommendations to enable executives to group work efficiently in the classroom.

Regarding the classroom observation of the selected grades of this study, it showed that there were more supported, higher intellectual level communications when students worked in groups than whole class discussions. It is contended in conclusion that the group work

discussion results could be enhanced still further if instructors gave more thoughtfulness regarding preparing students to work in groups and if additional time was given to questioning after group work.

This study primarily investigates the impacts of meaningful interaction among teachers and students for positive and effective learning reinforcement. This chapter exhibits and examines the discoveries, utilizing strategies determined in part three. The chapter shows the outcomes and gives correlations of the test and statistic information in connection with the exploration questions. Research question number one concentrates on the impacts meaningful interaction among teachers and students for positive and productive learning reinforcement by using the paired t-test. Research question number two focuses on the two hypotheses regarding is there any difference or no difference in mean pre- and post-marks.

4.4 Research Question Two Analysis

Do students with discussion-based teaching are more likely to improve their academic marks than students with traditional teaching?

Hypotheses:

The 'null hypothesis' might be:

H₀: There is no difference in mean pre- and post-marks

And an 'alternative hypothesis' might be:

H₁: There is a difference in mean pre- and post-marks

Table 5. Paired Samples Test

		Paired Samples Test								
		Paired Differences						t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Pre	Pair 1	10 A - 10 B	.10000	11.60263	2.59443	-5.33020	5.53020	.039	19	.970
	Pair 2	10 C - 10 D	-1.90000	9.33528	2.08743	-6.26904	2.46904	-.910	19	.374
Post	Pair 3	10 A - 10 B	-1.60000	8.82818	1.97404	-5.73172	2.53172	-.811	19	.428
	Pair 4	10 C - 10 D	-2.90000	11.33184	2.53388	-8.20346	2.40346	-1.144	19	.267

In order to answer the second question, a test was carried out by the paired t-test to examine the null theory H_0 and the alternative theory H_1 . The conclusion of this test confirmed the hypothesis H_1 and rejected the hypothesis H_0 .

By indicating the relevant results for the paired t-test, it can be seen that from table 8

- In the pre-test, the value of $(\alpha) = 0.97$ for the control group (10A+10B)
- In the pre-test, the value of $(\alpha) = 0.374$ for the experimental group (10C+10D)

On the other hand, in the post test

- The value of $(\alpha) = 0.428$ for the control group (10A+10B)
- The value of $(\alpha) = 0.267$ for the experimental group (10C+10D)

It is noted from Table (5) that there are statistically significant differences at the level of significance (0.05) on the measure of self-efficacy, and by reference to the arithmetical averages. These differences are in favour of the experimental group, thus rejecting the null hypothesis and accept the alternative hypothesis, Active learning strategies positively affect development self-efficacy of students. This result can be attributed to the fact that active learning strategies have strengthened students' confidence in themselves and their abilities, and enhanced trust between them and the material teacher. They can choose and work on their own, and reflect on their practice, thinking and expression. So, they became interested in the implementation of the duties and appointments assigned to them, and spend extra effort and time in their completion, and they began actively engaged in their work and enjoy, and proud of their achievement to learn.

CHAPTER FIVE: CONCLUSION

5.1 Summary

This paper introduced a study of the education leaders' attitudes in terms of technology u Impacts of meaningful interaction among teachers and students for positive and effective learning reinforcement. Moreover, the experimental study was showed to except or reject the hypotheses indicated at the beginning of this research. The findings of this research are based on the quantitative approach. The reading of the literature led to theoretical conclusions while experimental findings were correlated with the tests results.

5.2 Key findings

The results can be attributed to the fact that the students of the active learning group were active participants in the learning-learning process and were given the opportunity under these strategies to develop positive attitudes towards learning and to encourage them to explore their attitudes and values. Also, to develop their inner motivation to motivate them to learn, through the experience of practical problems associated with real problems in their lives, and increase their attention, and increase interaction within the classroom, and the development of higher thinking skills and all this leads to the increase of students' learning of what they learn.

Furthermore, referring to the results of the experiment, it was found that students in the experimental group were already benefiting from the classroom discussion. They also found that during the period of the experiment they became active students and their performance was improved through more questioning and effective discussion. This is evident by looking at the results of the pre and post examination and through the classroom observations made by the researcher during class visits. The discussion rubric demonstrated that the student's discussion and questioning capacities varied from every discussion. In any case, taking a gander at singular headings from the rubric, students were conscious to the learning group and responsible for their own reasoning. The part of enhancement watched was the area of thorough reasoning. This is an area that requirements enhancing in different parts of our science class before now.

Add to the above, the previous tables show that the experimental group's superiority over the control group in the post-directional achievement test reflects the effectiveness of the teaching method and its positive effect on the level of achievement. This is due to the researcher's assessment that

- The method of dialogue allows learners to participate and interact.
- The dialogue method to achieve the learner's pleasure of discovery and thinking, and away from boredom and boredom, in addition to suspense and reinforcement.

All of this makes the achievement of learners in this way high. The knowledge and concepts that the learner shares in his discussion, and he finds himself in his mind, while the methods of dumping focus on conservation and indoctrination, and do not allow learners to think and discover concepts.

5.3 Implications of the study

There are distinctive perspectives to feature in connection with the ramifications of the examination. The investigation would expose more solid and generalizable outcomes if the sample size was bigger. A bigger populace could be focused on if the examination was led in different emirates. Using classroom discussion as a strategy in teaching can be helping to enhance students' ability to be active learners to the long-term learning, which appears to be the effect of classroom discussion. On the other hand, results of the direct post-test displayed the change between using classroom discussion in learning and using the traditional ways of teaching. On the same side, students stated some distinguishing compensations and difficulties of both approaches.

5.4 Limitations of the current study

The limitations of this study can be shortened as follows; this study was applied on a sample of participants in Al-Ain public secondary schools. In addition, the study is limited to one grade in public schools in Al-Ain city in the UAE and in one academic year. Concerning the population of the study, it comprises of 80 male students from one school. With a little example estimate, the alert must be connected particularly since the investigation concentrated on just one gender from one school. It appears that if the investigation included female students, much would be found out about various learning styles. Moreover, it seems to me that the consequence of the investigation could be more dependable if it included students from different schools.

5.5 Recommendations for further study

- Preparation of science courses in different stages of discussion.

- Training students - teachers in the lessons of practical education in the way of discussion.
- The curricula of science in the Ministry of Education should contain evidence that has lessons prepared according to the method of dialogue so that the teacher can view them and benefit from them.
- Work on training students on dialogue and discussion starting from the basic education stages.
- Making the teacher-led dialogue democratic, allowing all students to take part.
- Follow the teachers of science more than a teaching method in their teaching of science

5.6 Concluding Note

The discoveries of the investigation demonstrate the viability and the handiness of utilizing classroom discussion as a methodology in instructing and learning. Subjects of the experimental group who utilized classroom exchange in learning demonstrated an expanding change in the prompt post-test. On a similar side, the exploratory gathering exceeded the control bunch in the deferred post-test that was intended to evaluate students' maintenance.

In spite of the fact that the discoveries of the present research are in accordance with the experimental examinations that managed a similar issue, members detailed some natural points of interest and impediments. As needs are, it is profoundly prescribed to utilize classroom exchange as a procedure in educating and learning as correlative to the conventional strategies.

In spite of the restrictions examined in chapter 5, this investigation featured some strong focuses in classroom discussion, for example,

- It certifies students as co-makers of information.
 - It builds up the limit with respect to the reasonable correspondence of thoughts and significance.
 - It creates propensities for community-oriented learning.
 - It expands broadness and makes students more empathic.
 - It enables understudies to create abilities of blend and incorporation.
- It prompts change.

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Appendixes

APPENDIX A

THE PRE- AND THE POST TEST

Name : Grade :

THE PRE- AND THE POST TEST

Please choose the correct answer. One answer for each.

1. Candle changes 100 units of chemical energy into 20 units of light energy and some heat energy. No other forms of energy are involved. How many units of heat energy are produced?
 - 120
 - 80
 - 20
 - 5
2. Abdullah prepares to drop a rubber ball from shoulder height. What kind of energy does the ball have?
 - Kinetic
 - Magnetic
 - Electrical
 - Potential
3. Which example describes potential energy only.
 - A ball bouncing off the ground
 - A cart rolling down a hill
 - A stretched elastic band
 - A moving car
4. A manufacturer claims to have produced an electric motor that converts all the electrical energy into kinetic energy. Why is this claim wrong?
 - No device changes 100% of energy to the form that is wanted
 - 100% of the kinetic energy has been changed from electrical energy.
 - More than 100% of the electrical energy is changed into other forms.
 - The motor wastes 100% of the energy.
5. Which light uses the most energy?
 - incandescent
 - fluorescent
 - LED
 - Not enough information is given.

6. Candles can be used as a light source. What is the energy source for a candle?

- elastic
- electric
- kinetic
- chemical

7. What energy conversion occurs when the bulb glows?

- electrical energy to light energy
- light energy to electrical energy
- heat energy to electrical energy
- chemical energy to potential energy

8. What is an environmental benefit of wind energy?

- It is a non-renewable energy source
- It produces no waste gas.
- It can be noisy.
- It uses simple machinery.

9. Which is an example of a fossil fuel?

- petroleum gasoline
- water
- wind
- heat

10. Which of these energy sources is renewable?

- oil
- coal
- natural gas
- water

11. How do humans get energy?

- Running
- jumping
- eating
- sitting

12. Burning wood, coal, or oil releases what kind of energy?

- chemical energy
- light energy
- solar energy
- geothermal energy

13. Which type of energy comes from the sun?

- windmill energy
- biomass energy
- conduction
- solar energy

14. This type of energy is transferred by a difference in temperature.

- light energy
- heat energy
- geothermal energy
- solar energy

15. A machine that runs on the energy generated by a wheel of adjustable blades or slats rotated by the _____ is a(n) _____.

- wind; airplane
- sun; solar
- water; hydroelectric
- wind; windmill

16. Hydrogen atoms do not have

- Electron
- Neutron
- Carbon
- atom

17. All matter is made up of tiny particles known as

- Mixture
- Element
- Atom
- molecule

18. Three fundamental particles of atom are

- Nucleus, Anti-quarks and Electrons

APPENDIX B

Lesson observation Evidence form Guidance

Evidence Form					
School:		Curriculum(s):		Inspector:	
Date:		Duration:		EF Number:	
Grade/ Class		Time In:		Observation/ Evidence Type:	Lesson/ Work scrutiny/ Assembly/ Meeting/ Questionnaire/ Survey/ Doc Review/ Learning walk/ Other Activity
Ability group type:		Time out:			
Subject:		Number of SEN:		Gender M/ F/ Mix	Present:
Support Teachers / CAs		Number of G&T:		M: F:	Number on Roll:
Focus / context (main purpose of the inspection activity)					
<p>Teaching (3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5) & Assessment (3.2.5) Evaluate the impact of teaching:</p> <ul style="list-style-type: none"> Does the teacher have knowledge and pedagogy to transfer? Does teaching meet learning needs? How is the quality of planning and lesson delivery encouraging learning? Quality of questioning to promote learning skills, encouragement to interact with peers and teacher? What does the teacher do that supports learning helps students to make progress? What makes no difference or impinges progress? How well does the teacher assess students or involve them in self /peer assessment? Feedback and feed forward? Refer to (3.2.5 and link with 1.3.1) 					
<p>Learning Skills (refer to 1.3.1, 1.3.2, 1.3.3, 1.3.4) Evaluate how well students learning to, for example:</p> <ul style="list-style-type: none"> Work independently? Or collaboratively? Organise their work? Engagement and responsibility for their own learning? Ask questions? (linked to 3.1.3) Investigate and enquire? Research information? Solve problems? Think critically/ think for themselves? Evaluate their work and know how they can improve? (linked to 3.2.5) 					
<p>Attainment (refer to 1.1.3) Other Notes: (from students' work, class displays, conversations with students, and observations) Evaluate what students know, understand and can do in relation to:</p> <ul style="list-style-type: none"> The standards set out in the curriculum they are following evaluate the attainment levels based on the proportions of students – (use quantitative terms as per Framework) Consider the differences in standards of attainment of different groups, as per Framework (refer to page 21) 					
<p>Progress (refer to 1.2.2, 1.2.3) (from students' work, class displays, conversations with students, and observations) Evaluate what students have gained from the lesson:</p> <ul style="list-style-type: none"> Did they achieve the objectives set out by the teacher? Did they gain any new knowledge of skill in the class room? evaluate the levels of progress made based on the proportions of students – (use quantitative terms as per Framework) Consider the differences in the progress made by different groups, as per Framework (refer to page 21) 					
<p>Others: Evaluate any other aspect related to other performance standards and can be observed in the lesson carefully if only seen/ observed Example:</p> <ul style="list-style-type: none"> - PSD and innovation: particularly students attitude and behavior (2.1.1, 2.1.2,2.1.3), work ethic and innovation (2.3.2) - Curriculum - PCGS 					

Almost All = Greater than 90%
Most = 75% - 90%

Large Majority = 61% - 74%
Majority = 50% - 60%

Large Minority = 31% - 49%
Minority = 16% - 30%

Few = Up to 15%

APPENDIX C

APPENDIX C Informed Agreement Form

You are invited to participate in a research project being conducted by Khaled Hashem Alshkeili, a master student in the College of Education at the British University in Dubai. The purpose of the research is to examine the impact of classroom discussions.

What will you be asked to do?

If you decide to participate, you will be asked to participate in two test (a pre and a post -test) in a different time. It may take approximately two periods (90 minutes) to participate. These tests will be conducted in your class time (during selected science periods). In general, the tests questions will be related to the Science class. Additionally, if you choose to participate; you may be invited to provide copies of some of your work from Science class. These might include assignments that you have handed in or worked on in Science class.

Confidentiality

I will make an audiotape of our interviews and transcribe the tape. The written transcript will be used for analysis. I am the only person who will hear the tapes. The audiotapes and the typed transcripts will be stored in a locked file cabinet in my home office. Your name will not appear on any documents. A code name will be used to protect your identity. The key linking your name to the data will be destroyed after the data analysis is complete.

Voluntary

Participation is voluntary. If you choose to take part in this study, you may stop at any time during the study. You may skip any questions you do not wish to answer.

Contact Information

If you have any questions about this study, please contact me by email at

Khaled.alshekaili@adec.ac.ae

If you have any questions about your rights as a research participant, please contact

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Your signature below indicated that you have read and understand the above information. You will receive a copy of this form.

Signature

APPENDIX D

Classroom Discussion Rubric

	Listen	Summarize	Build	Mark
Accountable to the Learning Community	Pays attention to the statements of others, maintains eye contact, uses appropriate tone and volume	Restates the ideas of a previous speaker in new language	Adds to the statement of a previous speaker	Directs attention to the importance of another's statement
	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)

	Verify	Unpack	Support	Link
Accountable to the Knowledge	Check your understanding of previous statements and knowledge	Explain how you arrived at your answer	Give examples and evidence to support your answer	Point out the relationships among previous statements and knowledge
	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)
Accountable to Rigorous Thinking	Defend Defend your reasoning against a different point of view	Challenge Ask a previous speaker to explain and provide evidence for a statement	Combine Incorporate knowledge from multiple resources to form your ideas	Predict Draw conclusions about what might happen next or as a result of ideas
	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)	_____4 (consistently) _____3 (most of the time) _____2 (some of the time) _____1 (rarely) _____0 (not at all)

Adapted from Classroom Discussion Guidelines
www.education.ky.gov/users/otl/AOB/AOB%20Resource%204E.doc