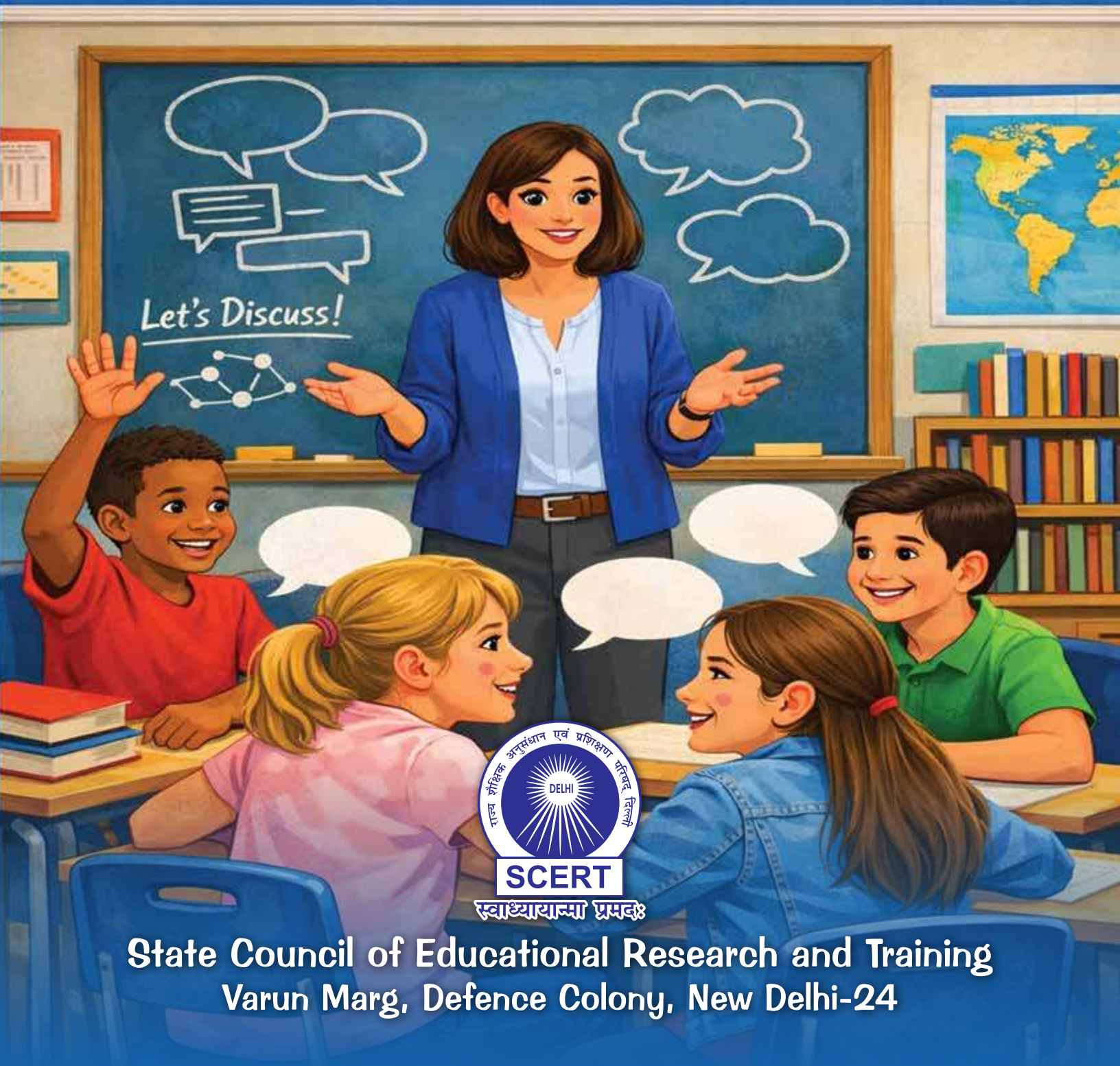


Exploring Dialogic Teaching in Classrooms of Teachers

An Observational Study

Research Report 2025-2026



State Council of Educational Research and Training
Varun Marg, Defence Colony, New Delhi-24

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Preface

It is with great enthusiasm that SCERT present this research study report, “Exploring Dialogic Teaching in Classrooms of Teachers : An Observational Study”. This research marks an important step toward understanding the profound impact of dialogic teaching in today’s classrooms and highlights its potential to transform educational practices.

As the coordinator of this study, We have witnessed the dedication and intellectual rigor that has gone into exploring the depths of dialogic teaching. By focusing on meaningful dialogue as the core of teaching, this approach encourages active participation, critical thinking, and collaborative learning – essential skills for students in the 21st century. The research underscores the effectiveness of creating a classroom environment where students and teachers engage in open, respectful, and purposeful dialogue.

This report offers Teachers valuable insights into how they can shift from teacher-centered to student-centered instruction by embracing dialogic practices. The study findings shed light on the challenges, success and nuances of implementing this approach, providing a roadmap for teachers aiming to enrich their pedagogical strategies.

We would like to express my sincere gratitude to the research team, teachers, and students who contributed to this study. Their commitment and collaborative spirit have made this project a success. We hope this report inspires Teachers to adopt dialogic teaching and create vibrant, interactive classrooms where every voice is valued, and every mind is nurtured.

Warm Regards,

Dr. Sanjay Kumar, Assistant Professor
Dr. Tapshri, Assistant Professor
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About This Research Project

This research study is designed to explore the extent to which contemporary classrooms foster democratization of interaction through dialogic teaching. Dialogic teaching, a pedagogical approach that emphasizes meaningful dialogue between teachers and students, is gaining recognition as an essential tool for promoting deeper understanding, critical thinking, and student engagement. However, the question that drives this research is: How do contemporary classrooms foster democratization of interaction through dialogic teaching?

In today's educational context, democratising classroom interactions is more critical than ever. This means creating a space where all students are encouraged to voice their thoughts, challenge ideas, and engage in purposeful discussion. Dialogic teaching aligns with these goals by transforming the contemporary, teacher-centered classroom into a dynamic environment of mutual learning and open communication.

The primary objective of this study is to assess and improve student outcomes by enhancing the pedagogical capabilities of teachers, particularly in implementing dialogic teaching. Through careful observation and assessment, the study aims to provide actionable insights that can help teachers create more inclusive, democratic, and dialogue-driven classrooms.

Research Objectives:

As the first step in this observational and status study, our goals were to:

- 1. Create an Analytical Framework: Develop an analytical framework and corresponding qualitative parameters to study two key phases of dialogic teaching:**
 - **Stage Setting for Dialogic Teaching:** This phase focuses on how teachers prepare and create an environment conducive to meaningful dialogue.
 - **Dialogic Teaching Implementation:** This phase explores the actual execution of dialogic practices in real-time classroom interactions.



- 2. Develop and Validate Observational Tools:** The study seeks to create observational tools that can effectively gather data and provide insights into the levels and nature of dialogic teaching being practiced in classrooms. These tools will be validated and refined to ensure that they capture the status of dialogic teaching.
- 3. Analyze the Status of Dialogic Teaching in Classrooms:** By utilizing the observational tools, the study will create a narrative that provides a comprehensive analysis of the current levels of dialogic teaching in the identified sample of classrooms. This will include an examination of the extent to which dialogic methods are being utilized in fostering democratic student engagement.
- 4. Suggest Activities to Promote Dialogic Teaching:** Based on the findings of the study, specific activities and strategies will be recommended to help teachers further enhance dialogic interactions in their classrooms. These suggestions will aim to make dialogic teaching more accessible, practical, and impactful.

By examining the classroom of teachers for seeking status of dialogic teaching, this study has provided a deeper understanding of how teachers can foster environments of democratic interaction. The findings will offer valuable guidance to teachers seeking to implement dialogic teaching in ways that enhance student participation, critical thinking, and collaborative learning. Ultimately, the research aims to contribute to the growing body of knowledge on best practices in dialogic teaching and its potential to transform the educational experience.

Executive summary

As the National Education Policy 2020 emphasizes making “space for critical thinking and more holistic, inquiry-based, discovery-based, discussion-based, and analysis-based learning”, it is time for us to dig deeper into the art and science of the dialogic teaching-learning process, a pedagogical practice that inherently and purposely enables all of the above.

Over the last few decades, there have been significant efforts across the globe to research and assess the role of the dialogic teaching-learning process in developing the cognitive potential of students, through creating a classroom environment of reflective inquiry, collaborative learning, and value-creation. It is a credit to the universality of dialogue that researchers and scholars in diverse geographies and economies, observing classes with students of varying age groups and subjects mostly concur with each other in their findings. In addition to convincing theoretical appraisals, studies are presenting crucial empirical evidence, validating a link between the dialogic teaching-learning process and notable learning and development outcomes

(Reznitskaya 2012).

The dialogic teaching-learning process can then be defined as a critical method of teaching that works to foster thinking individuals, using a socio-constructivist approach as opposed to seeing students as empty vessels that need to be filled with information. The latter is also known as the banking concept of education which the renowned philosopher and Teacher Paulo Freire spoke extensively against. He is also often credited for initiating the theory of dialogic pedagogy (Skidmore, Murakami, 2016).

Research has shown that a pattern of classroom interactions where the teacher initiates a question, students respond and the teacher evaluates their responses, is in fact prevalent. Bakhtin (1981) defined such interactions as being monologic, in the sense that the control of the conversation lies with one person - in this case, the teacher.

Rationale of the study:

The rationale for conducting this observational study on dialogic teaching in school teacher classrooms stems from the above review of literature whereas all cited studies recognized the importance of effective teaching methods in enhancing student engagement, critical thinking skills, and overall learning outcomes. Dialogic teaching, as conceptualized by the framework developed by Robin Alexander, places a strong emphasis on fostering meaningful dialogues between teachers and students. “Philosophers say that man forms himself in dialogue”, these famous words are attributed to the poet and Teacher Anne Carson. Physicist and Teacher David Bohm said that in spite of a worldwide system of linkages, “there is, at this very moment, a general feeling that communication is breaking down everywhere, on an unparalleled scale”. Given this background of the world that we are living in today, it becomes all the more urgent and important that we protect the sanctum of learning in our schools and equip it with the right tools and practices so that boundless and free development of young minds can take place. It will also be important to realize the difference between dialogue and any other conversation or discussion. Dialogue is the pursuit of learning, knowledge, understanding or value through purposeful questioning (Skidmore, Murakami 2016). With more dialogic learning in our classes, we can become more open to understanding what we don’t identify with, more tolerant to what we don’t agree with, more perceptive of the knowledge we accumulate, more empathetic to the suffering of others, more vision-oriented towards an inclusive future and simply, more happy. This study is just the first step towards enabling this.

Research Question

This research study is designed to investigate the extent to which the identified sample of school teachers are proficient in the dialogic teaching-learning process. However, the overall driving question behind this study is - Is contemporary classrooms foster democratization of interaction through a dialogic teaching-learning process?

Objectives of the Study

It is clear that researchers need to invest their time, effort and skills to enable development and implementation of dialogic practices in our schools. As the first step, this study aims to achieve the following goals.

- 1. To create an analytical framework and corresponding qualitative parameters to study the stage setting for dialogic teaching-learning process-learning in classrooms. Two phases of dialogic teaching-learning process will be observed:**
 - a. Stage setting for dialogic teaching-learning process
 - b. Dialogic teaching-learning process
- 2. To validate and develop commensurate observational tools which can be used to collect relevant information and data from the classrooms, to study the above-mentioned two phases.**
- 3. To develop a narrative of the status of existing levels of dialogic teaching-learning process in the classroom**

Operational definition of key terms

While it does not have a single, agreed-upon definition and probably rightly so, given the liberality of the term 'dialogue' (Alexander 2018), dialogic teaching holds as its primary aim the improvement of the quality of discussion in the classroom and deepening the engagement of the students in the subject and otherwise. Eugene Matusov, Professor of Education, University of Delaware who uses the Bakhtinian dialogic approach to education is one of the many scholars who acknowledge the conceptual fluidity of dialogue and shares his view of dialogue in a classroom as follows, "I like Bakhtin's idea that meaning-making is dialogic and that meaning-making is a relationship between a question, asked by a person with an interest, urgency, curiosity and/or puzzlement, and an answer, which is provided in a serious way to that question by somebody else. Which means that education starts with the students' questions, not with the teacher's questions and that the asked questions are genuinely interesting for the students. And again, the questions might not always be well-defined or well-articulated. Dialogue might start with a student's tension or a vaguely articulated puzzlement or something like that."

Dialogic teaching can then be defined as a critical method of teaching that works to foster thinking individuals, using a socio-constructivist approach as opposed to seeing students as empty vessels which need to be filled with information. The latter is also known as the banking-concept of education which the renowned philosopher and Teacher Paulo Freire spoke extensively against. He is also often credited for initiating the theory of dialogic pedagogy (Skidmore, Murakami, 2016).

Dialogue

The word dialogue stems from the Greek word *dialogos*, where *dia* means through and *logos* stands for word, speech or reason. Subsequently, physicist David Bohm offers to define dialogue as a *stream of meaning* flowing from one end to the other. Teacher and entrepreneur, William Isaacs takes it a step further. He writes, “Dialogue is a conversation in which people think together in a relationship. Thinking together implies that you no longer take your own position as final. You relax your grip on certainty and listen to possibilities that result simply from being in relationship with others as possibilities that might not otherwise have occurred”.

Dialogic Teaching

Dialogic teaching harnesses the power of talk to stimulate and extend pupils’ thinking and advance their learning and understanding. It helps the teacher to more precisely diagnose pupils’ needs, frame their learning tasks and assess their progress. It empowers the student for lifelong learning and active citizenship. Dialogic teaching is not just any talk. It is as distinct from the question-answer and listen-tell routines of traditional teaching as it is from the casual conversation of informal discussion (Alexander, 2009).

Dialogic teaching relies on questions that are “fundamentally open or divergent... in terms of allowing a broader degree of uncertainty in what would constitute an adequate answer” (Burbules, 1993). The purpose of divergent questions is neither to test students nor to lead them to a narrow range of answers deemed acceptable by the teacher. Rather, these questions serve to inspire a meaningful inquiry toward new understandings.

Stage Setting for Classroom Dialogue

A process where the teacher and student(s) show - by way of expressions, gestures and/or speech (through examples, citations, illustrations) - the willingness to receive, respect and respond to each others’ ideas and opinions.

Classroom Dialogue

A process of two or more participants engaging in a conversation that has scope of inquiry and exploration for synthesising relevant/contextual/disciplinary content.

Dialogic Classroom

A classroom where teachers and students act as coinquirers, collaboratively engaging in a generation and evaluation of new interpretations of texts in order to “gain a fuller appreciation of the world, [themselves]selves, and one another” (Burbules, 1993). In a dialogic classroom, power relations are flexible, and authority over the content and form of discourse is shared among group members. Students take on key responsibilities for the flow of the discussion. They participate in managing turns, asking questions, judging each other’s answers, introducing new topics, and suggesting procedural changes (Reznitskaya, 2012).

Dialogic Teacher

As per Bakhtin’s dialogism theory, a teacher who strives to create more dialogue in the classroom or a dialogic teacher is one who takes on the roles of learner, listener, contributor, and collaborator in efforts to engage and encourage the students to think, speak and listen.

Research Methodology

Research studies carried out in various countries have repeatedly revealed that commonly used teaching practices are quite distant from an ideal of dialogic teaching (see, for example, Stevens, 1912; Flanders, 1963; Erickson & Shultz, 1996; Alexander, 2001; Hardman, 2019). To address this gap, several intervention studies have been carried out by researchers who have sought to transform participants’ teaching and to monitor any transformation. In all these research projects, participant teachers took part in a development programme, their teaching of lessons was recorded on video and researchers observed (most often by noting the presence of selected indicators) whether any elements of dialogic teaching underwent transformation. The effects achieved differed widely in content and scope. However, for our study, we would first launch an exploration into whether the teachers are employing techniques of dialogic teaching. We wanted to begin this exploration with prospective teachers and the repertoires that they are developing during their educational and training phase.

Population

The target group selected for our status study is all the classrooms of South East District of Directorate of Education, (DoE) Delhi



Sample

Out of this population, the sample will comprise a group of 2 randomly observed classrooms from each NEP stage from South East district of Directorate of Education, (DoE) Delhi school.

Observers

The classrooms was observed by Academic coordinators (ACs) and Mentor teachers (MTs) of South East district of Directorate of Education, (DoE) Delhi

Tools of Data Collection

Coded observation and statistical analysis may not always do complete justice to the versatile practice of dialogic teaching and learning. In-depth conversations with teachers and students and open-ended observation may help us gauge the intimate nature of dialogue in each unique classroom. Many researchers themselves find qualitative case studies far more insightful rather than traditional recording and study of interaction (Lefstein 2020). We need to keep in mind that dialogue is a human social practice and encompasses immense and intricate complexities. Therefore, relevant qualitative tools will need to be developed.

We are aimed to develop and employ the following tool for this study:

1. **Classroom observation tool, to study the level of dialogic teaching in South East district school of Directorate of Education, comprising sub domains for Stage setting for classroom dialogic & classroom dialogue.**

Through classroom observation tool developed by researchers “**Classroom Dialogue Observation Schedule**” Ethical framework. The study did not disturb the institutional setups.

De-limitations of the project

Any research will have its share of limitations and the previous studies conducted in the space of dialogic teaching and learning has also been constrained by many factors. Reznitsakaya (2020) has also exclaimed, “The story of unmitigated success that we often hear and read about can be challenged by considering serious methodological problems present in many studies, measurement issues .. as well inconsistent results, small effects sizes, and even publication bias”. The study is confined to the South East district of the Directorate of Education, (DoE) Delhi. The study was restricted to classroom practices due to the paucity of time and administrative constraints.

Analysis:

In this mixed-method analysis, the quantitative aspect involves the calculation and analysis of percentages to quantify the frequency and distribution of dialogic interactions. A simple plan for quantitative analysis includes the development of a coding system, transcription of observational data, and the assignment of numerical codes to instances of dialogic teaching. Simultaneously, the qualitative component involves thematic analysis to identify patterns and themes within these interactions. We would explore the context, quality, and nature of dialogues to gain a deeper understanding. The integration of quantitative percentages and qualitative insights had provided a comprehensive portrayal of the prevalence and impact of dialogic teaching in the observed classrooms, offering a nuanced perspective that goes beyond mere frequency analysis. This mixed-method approach ensures a more robust and holistic interpretation of the observational data.

Findings:

The findings from the mixed-method analysis of dialogic teaching in classrooms reveal a nuanced picture of instructional dynamics. Quantitatively, it was observed that a substantial percentage of class time, approximately 80%, was dominated by teacher-student interactions. This suggests a teacher-centric instructional approach. Further quantitative analysis discerned variations in the types of teacher-student interactions, such as initiation, response, and explanation. Qualitatively, thematic analysis unveiled recurring patterns in dialogue, highlighting both strengths and potential areas for improvement. Teacher-initiated discussions often focused on conveying information, potentially limiting opportunities for students to engage deeply in critical thinking. Conversely, instances of student-student interaction were less frequent but demonstrated collaborative learning potential. The integration of quantitative percentages and qualitative insights provides a comprehensive understanding, emphasizing the need for a balanced approach that fosters both teacher-student engagement and peer collaboration. These findings underscore the importance of refining instructional strategies to create an inclusive and interactive learning environment.

Educational Implications

The findings of this research study on dialogic teaching in classrooms bear significant educational implications for Teachers, administrators, and policymakers alike. The observed prevalence of teacher-dominated interactions, comprising approximately 80% of class time, suggests a potential need for a re-evaluation of instructional strategies. The implications extend beyond quantitative metrics, delving into the qualitative nature of dialogues. The identification of specific patterns within teacher-

student and student-student interactions sheds light on opportunities to enhance classroom dynamics and student engagement. As education evolves towards more student-centered paradigms, understanding these implications becomes imperative for fostering inclusive, interactive, and effective learning environments. This study not only offers insights into current teaching practices but also serves as a foundation for informed decision-making and continuous improvement within educational settings. The implications for different stakeholder can be as following:

For Policy-Makers:

- Teacher-pupil ratio should be lower. A reduced ratio will allow teachers to provide more individualized attention to each student, addressing their unique learning needs and challenges. This can enable them to engage in deeper and more meaningful interaction in the classroom. Smaller classes can foster increased student participation, collaboration, and engagement. Additionally, the dialogic teaching-learning process should be an integral component of the school syllabi.

For Teacher-Teachers:

- Fostering increased dialogue in the classroom is crucial for creating an engaging and interactive learning environment. New strategies should be devised to increase student-student interaction, such as asking more open-ended questions, encouraging students to build on each other's responses, and facilitating small group discussions. These efforts aim to strengthen the dialogic teaching-learning process.

For Content Developers:

- Content should be planned in a way that allows for ended interaction in the classroom. Planning content with the goal of increasing classroom interaction involves incorporating activities and strategies that encourage students to engage with the material and with each other. It also provides room for teachers to impart the subject in a more dialogic way.

For Prospective Teachers:

- They should learn the techniques of the dialogic teaching-learning process. The dialogic teaching-learning process aims to empower students as active participants in their learning journey. It is imperative that prospective teachers and teacher strive to master this pedagogical technique to help students develop critical thinking skills, improve communication abilities, and deepen their understanding of academic content.

In summary, this mixed-method observational study on dialogic teaching in classrooms provided a comprehensive exploration of instructional dynamics. The quantitative analysis revealed that approximately 80% of class time was dominated by teacher-student interactions. Further quantitative insights delineated variations

in the types of interactions. Qualitative findings, obtained through thematic analysis, illuminated both strengths and areas for improvement within dialogic teaching. Teacher-initiated discussions often focused on information delivery, potentially limiting critical thinking opportunities, while student-student interactions demonstrated collaborative learning potential. The integrated analysis underscores the need for a balanced approach that fosters both teacher-student engagement and peer collaboration. Educational implications emphasize the importance of refining instructional strategies to create inclusive and interactive learning environments. Overall, this research study contributes valuable insights to the ongoing discourse on effective teaching practices and student-centered learning.

As the National Education Policy 2020 emphasizes making “Space for critical thinking and more holistic, inquiry-based, discovery-based, discussion-based, and analysis-based learning”, it is time for us to dig deeper into the art and science of the dialogic teaching-learning process, a pedagogical practice that inherently and purposely enables all of the above.

Over the last few decades, there have been significant efforts across the globe to research and assess the role of the dialogic teaching-learning process in developing the cognitive potential of students, through creating a classroom environment of reflective inquiry, collaborative learning, and value-creation. It is a credit to the universality of dialogue that researchers and scholars in diverse geographies and economies, observing classes with students of varying age groups and subjects mostly concur with each other in their findings. In addition to convincing theoretical appraisals, studies are presenting crucial empirical evidence, validating a link between the dialogic teaching-learning process and notable learning and development outcomes (Reznitskaya 2012).

Due to the liberality of the term ‘dialogue’ (Alexander 2018), there is no single agreed upon definition of the term. However, in the context of education; dialogic teachers primarily focus upon the improved quality of classroom discussions and increased engagement of students in classroom learning. Matusov, E. (2023), Professor of Education, at the University of Delaware who uses the Bakhtinian dialogic approach to education, is one of the many scholars who acknowledge the conceptual fluidity of dialogue and shares his view of dialogue in a classroom as follows, “I like Bakhtin’s idea that meaning-making is dialogic and that meaning-making is a relationship between a question, asked by a person with an interest, urgency, curiosity and/or puzzlement, and an answer, which is provided in a serious way to that question by somebody else. This means that education starts with the students’ questions, not with the teacher’s questions and that the asked questions are genuinely interesting for the students. Again, the questions might be not always well-defined or well-articulated. Dialogue might start with a student’s tension or a vaguely articulated puzzlement or something like that.”

The dialogic teaching-learning process can then be defined as a critical method of teaching that works to foster thinking individuals, using a socio-constructivist approach as opposed to seeing students as empty vessels that need to be filled with information. The latter is also known as the banking concept of education which the renowned philosopher and Teacher Paulo Freire spoke extensively against. He is also often credited for initiating the theory of dialogic pedagogy (Skidmore, Murakami, 2016).

As stated in the National Education Policy 2020 , “ it is becoming increasingly critical that children not only learn but more importantly learn how to learn. Education, thus, must move less towards content, and more towards learning about how to think critically and solve problems, how to be creative and multidisciplinary, and how to innovate, adapt, and absorb new material in novel and changing fields. Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centered, discussion-based, flexible, and, of course, enjoyable”.

It also states that the “gap between the current state of learning outcomes and what is required must be bridged through undertaking major reforms that bring the highest quality, equity, and integrity into the system”.

This puts the teacher in an indispensable role in the education of students. Teachers and the teaching practice they have gone through, has a lasting impact on pupils as it shapes them for decades after the end of their formal education. As per Vygotsky (1978), social experiences and the corresponding psychological tools of language, symbols, and signs aids the development of the young mind. An expert, either an adult or a more developed peer - could be the teacher in the instance of a classroom - utilizes these tools to promote mental and emotional development (Northcutt 2014). As per a report by the University of Cambridge on the dialogic teaching-learning process, “The complexity of the teacher’s role in enabling dialogic learning is subtle and nuanced. It includes the teacher’s management of the atmosphere and context of the classroom both at micro and macro levels and their awareness of the children’s learning needs with much of this role managed through language”. While most of us agree with the merit of dialogic teaching-learning process, it may not always be fluent for the teacher to incorporate its principles in all classes, “not least because there is an asymmetrical age and power relation between the dominant speaker, the teacher, and children in the class” (Northcutt 2014).

Research has shown that a pattern of classroom interactions where the teacher initiates a question, students respond and the teacher evaluates their responses, is in fact prevalent. Bakhtin (1981) defined such interactions as being monologic, in

the sense that the control of the conversation lies with one person - in this case, the teacher. The layers of the dialogic teaching-learning process may not be naturally understood and for many of us; it may still be encapsulated as the IRE (Initiation-Response-Evaluation)/IRF (Initiation-Response-Feedback/Follow up) technique, which is a myopic view of dialogic pedagogy.

As per the dialogism theory, a dialogic teacher, who strives to create more dialogue in the classroom, takes on the roles of learner, listener, contributor, and collaborator in an effort to engage and encourage students to think, speak, and listen. The undertaking of a dialogic teaching-learning process calls for teachers to position themselves as co-learners in the classroom, where the theoretical and applicable meaning of curriculum can be explored together. In a dialogic classroom, teachers develop effective strategies that allow and enable students to think, reflect, reason, discuss, argue, and explain rather than merely respond, to develop higher-order thinking and articulation (Maine, Cermakova, 2021).

Mortimer and Scott (2003) created a typology of four different communicative approaches. This was based on Bakhtin's dialogism theory. Apart from authoritative and dialogic discourse, their typology also includes interactive discourse, in which more than one person participates, and non-interactive discourse, in which only one person is allowed to speak. By combining these dimensions, Mortimer and Scott postulated the following four types of communicative approaches:

- a. **Non-interactive authoritative:** The teacher delivers a monologue on content that is considered true and presented to students for acquisition.
- b. **Interactive authoritative:** Speakers take turns, the teacher asks questions, and the students respond. The teacher evaluates whether the responses are correct.
- c. **Non-interactive dialogic:** Only one speaker talks, summarizing contrasting ideas and perspectives, comparing them, and offering stimuli for further thought.
- d. **Interactive dialogic:** Speakers take turns, and both the teacher and students present their ideas. The aim is to enable different speakers to express their opinions, which can then be compared and analyzed for converging and diverging points and their sources. Knowledge is understood not as set in stone but instead, as something that eventually emerges out of the dialogue among the teacher and students.

Understanding the Dialogic Teaching-learning Process

A significant challenge to adopting dialogic teaching-learning process practices is the long tradition of having the teacher's voice at the centre of the classroom. There is

also an inherent power relationship between the teacher and students which may not always make the transition towards becoming a co-learner smooth for the teacher. In most cases, there might be a lack of the needed skills to effect meaningful dialogue in the classroom. The result then is an effort to enable the students to recall information rather than helping them imbibe and apply it. We cannot also overlook the very firm reality that there are timetables to be kept, curriculum to be completed in time and tests which we expect the students to pass. A dialogic teaching-learning process will require the teachers to infuse ‘uncertainty and complexity’ in their already airtight schedules as the control will need to be at least partly shared with the students (Lefstein 2020). Given the challenging reality of our current context, intervention programs will be cost-intensive as bringing about any substantial change will require intensive and prolonged work with the teachers (Reznitskaya 2020). In many cases, institutional interventions might be needed to bring effective change.

Needless to say, shortcuts can never be utilized for making education more dialogic, rather a more holistic and involved approach is required. One way to enable this change is to invite teachers to become collaborators in dialogic teaching-learning enhancement programs, rather than being mere recipients of the prescribed skillset. Once teachers feel, identify, and understand the need for dialogic practices, they will inevitably invest themselves in becoming critical stakeholders in the process of ‘learning’ dialogic teaching. It is important to extend a listening ear and a genuine understanding to them and we will find that the process of dialogue is cyclic in nature (Matusov 2020). Also, it would be too much to expect all changes to stem only from the teacher training programs. If we are to truly create dialogic classrooms, then requisite transformation of other aspects of education will also need to be considered.

Research Question

This research study was designed to investigate the extent to which the identified sample of prospective teachers and teacher Teachers are proficient in the dialogic teaching-learning process. However, the overall driving question behind this study is - Is contemporary classrooms foster democratization of interaction through a dialogic teaching-learning process?

Objectives of the Study

It is clear that researchers and scholars need to invest their time, effort and skills to enable development and implementation of dialogic practices in our schools. As the first step, this observational study aims to study the following goals:

1. **To create an analytical framework and corresponding qualitative parameters to study the stage setting and implementation of dialogic teaching-learning**

process-learning in classrooms. Two phases of dialogic teaching-learning process will be observed:

-Stage setting for dialogic teaching-learning process

-Dialogic teaching-learning process

2. **To validate and develop commensurate observational tools which can be used to collect relevant information and data from the classrooms, to study the above-mentioned two phases.**
3. **To develop a narrative of the status of existing levels of dialogic teaching-learning process - learning in the classroom**

Operational definition of key terms

While it does not have a single, agreed-upon definition and probably rightly so, given the liberality of the term 'dialogue' (Alexander 2018), dialogic teaching holds as its primary aim the improvement of the quality of discussion in the classroom and deepening the engagement of the students in the subject and otherwise. Eugene Matusov, Professor of Education, University of Delaware who uses the Bakhtinian dialogic approach to education is one of the many scholars who acknowledge the conceptual fluidity of dialogue and shares his view of dialogue in a classroom as follows, "I like Bakhtin's idea that meaning-making is dialogic and that meaning-making is a relationship between a question, asked by a person with an interest, urgency, curiosity and/or puzzlement, and an answer, which is provided in a serious way to that question by somebody else. Which means that education starts with the students' questions, not with the teacher's questions and that the asked questions are genuinely interesting for the students. And again, the questions might not always be well-defined or well-articulated. Dialogue might start with a student's tension or a vaguely articulated puzzlement or something like that."

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Dialogue

The word dialogue stems from the Greek word *dialogos*, where *dia* means through and *logos* stands for word, speech or reason. Subsequently, physicist David Bohm offers to define dialogue as a *stream of meaning* flowing from one end to the other.

Teacher and entrepreneur, William Isaacs takes it a step further. He writes, “dialogue is a conversation in which people think together in a relationship. Thinking together implies that you no longer take your own position as final. You relax your grip on certainty and listen to possibilities that result simply from being in relationship with others as possibilities that might not otherwise have occurred”.

Dialogic Teaching

Dialogic teaching harnesses the power of talk to stimulate and extend pupils’ thinking and advance their learning and understanding. It helps the teacher to more precisely diagnose pupils’ needs, frame their learning tasks and assess their progress. It empowers the student for lifelong learning and active citizenship. Dialogic teaching is not just any talk. It is as distinct from the question-answer and listen-tell routines of traditional teaching as it is from the casual conversation of informal discussion (Alexander, 2009).

Dialogic teaching relies on questions that are “fundamentally open or divergent... in terms of allowing a broader degree of uncertainty in what would constitute an adequate answer” (Burbules, 1993). The purpose of divergent questions is neither to test students nor to lead them to a narrow range of answers deemed acceptable by the teacher. Rather, these questions serve to inspire a meaningful inquiry toward new understandings.

Stage Setting for Classroom Dialogue

A process where the teacher and student(s) show - by way of expressions, gestures and / or speech (through examples, citations, illustrations) - the willingness to receive, respect and respond to each others’ ideas and opinions.

Classroom Dialogue

A process of two or more participants engaging in a conversation that has scope of inquiry and exploration for synthesising relevant/contextual/disciplinary content.

Dialogic Classroom

A classroom where teachers and students act as coinquirers, collaboratively engaging in a generation and evaluation of new interpretations of texts in order to “gain a fuller appreciation of the world, [themselves]selves, and one another” (Burbules, 1993). In a dialogic classroom, power relations are flexible, and authority over the content and form of discourse is shared among group members. Students take on key responsibilities for the flow of the discussion. They participate in managing turns, asking questions, judging each other’s answers, introducing new topics, and suggesting procedural changes (Reznitskaya, 2012).

Dialogic Teacher

As per Bakhtin's dialogism theory, a teacher who strives to create more dialogue in the classroom or a dialogic teacher is one who takes on the roles of learner, listener, contributor, and collaborator in efforts to engage and encourage the students to think, speak and listen.

Ethical framework

The study did not disturb the institutional setups.

De-limitations of the project

Any research will have its share of limitations and the previous studies conducted in the space of dialogic teaching and learning has also been constrained by many factors. Reznitsakaya (2020) has also exclaimed, "The story of unmitigated success that we often hear and read about can be challenged by considering serious methodological problems present in many studies, measurement issues... as well inconsistent results, small effects sizes, and even publication bias". The study was confined to the South East district of the Directorate of Education, (DoE) Delhi. The study was restricted to classroom practices due to the paucity of time and administrative constraints.

Over the last five decades or so, classroom observation across the globe has presented broadly consistent results. While there is presence of talk in the classroom, most of this talk constituting around 60% of the teaching/ learning process (Sinclair & Coulthard, 1975) can be termed monologic, as the control of these conversations lies with the teacher (Lyle 2008). But before we delve into empirical studies, let us look at pioneers across the fields of psychology, philosophy and education , who have advocated the cause of dialogue in teaching and learning.

Paulo Freire: “It is appropriate to acknowledge at the outset that without Freire, there would be no theory of dialogic pedagogy”, states the book *Dialogic Pedagogy* (Skidmore, Murakami 2016). The Brazilian Teacher and philosopher Paulo Freire’s pioneering work viewed dialogue and education as routes to social empowerment and he stressed upon enabling the voices of those who have long been excluded and oppressed. In his view of the educational world, teacher and student jointly engage in constructing meaning together and both step out of their assigned traditional roles, breaking free from the notions of oppressor and oppressed (Ramis 2018). Freire believed that teacher’s authority suppresses students into passivity, whereas dialogic pedagogy will enable them to take control of and shape their own reality. In his book (*Pedagogy of the oppressed*) *published in 1968*, he stated, “Dialogue is a moment where humans meet to reflect on their reality as they make it and remake it... Dialogue seals the relationship between the cognitive subjects, those who know, and who try to know. Dialogue is the sealing together of the teacher and the students in the joint act of knowing and unknowing the object of study” . For him, pedagogy is humanizing only when it is critical, dialogical, and praxical (Shih, 2018). It is important to note that Freire did not negate the understanding that the teacher possesses a wider range of knowledge and experience. However, this awareness should help the teacher assume a leadership role, albeit a democratic and a responsible one; one where they are willing to re-learn the material, while steering the classroom towards open dialogue. Freire advocated that Teachers must assume the role of ‘teacher-students’ and pedagogy should work to bring about a social change.

Lev Vygotsky: Much research in the field of cognitive development over the last many decades, especially socio-cultural theory, will find its roots in the work of the Russian psychologist Lev Vygotsky. He was an advocate of the idea that “language,

thought, and reasoning are actively constructed in cultural and social contexts, through collaboration with more expert others” (Northcutt 2014). By extension, any conversation on dialogic teaching-learning process or learning will also find a thread of origin back to Vygotsky’s emphasis on language as the driving force behind cognitive development. He stressed the fundamental role of social interaction in the process of “making meaning” (Vygotsky 1978). His views contrasted those of the Swiss psychologist Piaget’s which suggested that development precedes learning. He firmly believed that social learning resulted in development. His interest lay in the potential of a child being triggered and developed through its conversations with family, peers and teachers. This idea was captured in what he termed as the learner’s Zone of Proximal Development (Vygotsky (1978) seminal notion of Zone of Proximal Development, originally developed to account for the learning potential of children), the space between what a learner can do with and without assistance from a more capable peer or adult guidance. Owing to Vygotsky’s ideas, abundant research has been conducted and continues to be undertaken in order to explore the impact of talk on learning and development. This has further motivated educational research in dialogic learning (Lyle 2008). Daniels, Harry. (2016). Vygotsky and dialogic pedagogy, University of Oxford says, “At the heart of the Vygotskian understanding of Obuchenie (learning) is a dialogic conception of pedagogy which encompasses not only a dialectical understanding of the social relations of schooling but also of conceptual development”.

Jerome Bruner: Psychologist Jerome Bruner built upon the ideas of Vygotsky through his contributions in the field of cognitive learning in educational psychology. He claimed that ‘most learning in most settings is a communal activity, a sharing of the culture’ (Lyle 2008). Bruner advocated student capacity and autonomy, arguing that students must be self-discerning with regards to the subject matter and not rely solely on the teacher to discover the deeper meaning and understanding of what they are studying. He believed that Teachers often underestimate students’ innate ability to interact and learn (Bruner, 1986, 1990, 1996). So dialogic learning may open the unexplored ways to learners to make them independent in their learning endeavors.

Mikhail Bakhtin: Considered to be one of the most important theorists of discourse and dialogue in the 20th century, Mikhail Bakhtin spent his youth in the Russian towns of Vilnius and Odessa, which were known for their mix of cultures and languages. This inspired Bakhtin’s interest in heteroglossia or many languages. Post his university days, he came to be a part of a group of intellectuals engaging in many conversations, debates and dialogues. Bakhtin was a contemporary of Vygotsky and on similar lines, viewed not just language but also thought as a dialogic practice.

Bakhtin who had famously said, “*to be means to communicate*”, believed that there is a constant dialogue in which people are engaged, be it with each other or with other things around us. He also argued for the uniqueness of each voice and its contribution through conversations to social pairs/groups to generate new and shared meanings (Northcutt 2014). His theory of dialogism views each utterance to have a strong relationship with past and future utterances, being influenced by and in turn influencing them. Bakhtin iterated that this is not the same as people holding differing opinions but insisted on the existence of varied perspectives and believed that truth can be established when these differing views engage meaningfully with each other. Knowledge is produced when people and their unique utterances interact with one another. Bakhtin had emphasized the difference between dialogic and monologic talk and used the example of teacher-student interaction to illustrate monologic talk, arguing that it is devoid of true dialogue. Lyle (2008) also captures the implication of Bakhtin’s ideas succinctly saying, “Monologic and dialogic talk can be conceptualized as binary opposites and as such are proving useful for those engaged in classroom-based observational research, where, following Bakhtin, traditional patterns of classroom discourse are increasingly identified as monologic, and contrasted in the literature with the Bakhtinian concept of dialogism”.

Michael Halliday: Like Vygotsky, social linguist Halliday believed that development of the mind is a social process. Both argued the case for language playing a fundamental role in development. Both were committed to translating their theory into practical ideas to further the educational experience of students (Wells 2007, 2009). Halliday (1994) believed that, from the very beginning a child develops understanding and meaning as a joint construction, “dialogically enacted between himself and some significant other”. As the child grows and starts interacting more deeply with the environment that is predisposed to teach, the potential for dialogic learning multiplies. Northcutt(2014) states in her research, “Halliday’s contribution to classroom teaching is that he stressed the importance of dialogue at every level of educational curricula, and his work reflected the units of language on which current discourse analyses are based”.

Gordon Wells: Working to explore the role of language in education, Wells was initially intrigued by the work of Noam Chomsky, who is also sometimes referred to as the ‘father of modern linguistics’. But in his own words, it was the theories put forth by Vygotsky and Halliday that particularly impacted his interest and subsequent work in the field of language development. He has prized dialogue in classrooms to equip students with knowledge and relevant skills. Like Vygotsky, Wells believes that it is through the mediation of language that children are guided by expert others towards a higher order of thinking. Wells has made a distinction

between the progressive approach in education with students in focus, and the primitive structured approach which is teacher-led but focuses on curriculum, primary information & skill acquisition. The two approaches lie on opposing ends of pedagogy, the former valuing classroom dialogue to co-construct meaning; while the latter committed to only delivery and retention of information. Important points to note from Wells' work would be his views on the limitations of relevant research. According to him, in most research, observations are only analyzed from the point of view of the researcher who may not have in-depth understanding of the classroom and its culture (Northcutt 2014). Wells (Wells, 1986; p. 196) says, "My aim is to develop a vision of education that is both relevant to the challenges of contemporary society and supportive of individual growth and development; one that, with an emphasis on the creation of communities of inquiry, in which meaning is co-constructed dialogically through speech, writing and other modes of action and communication, seeks to value the contributions of all participants in the shared search for understanding and the development of effective and responsible action" .

Interaction Analysis (IA), developed in 1963 by Ned A. Flanders, is an analytical observation scheme that gives an insight into what a teacher does while teaching. It is a systematic observation that represents a useful means of identifying, studying, classifying and measuring specific variables as teachers and their students interact within instructional learning situations. It uses a system of categories to encode and quantify classroom behaviour of both teachers and students.

The Categories are given below:

Category 1 (Teacher talk - Indirect influence or response): Accepts feeling

Accepts and clarifies an attitude or feeling tone of a pupil in a non-threatening manner. Feeling may be positive or negative. Predicting and recalling feelings are included.

Teacher: Why are you sad Preye?

Preye: Sir, I lost my pocket money

Teacher: Well, that is enough to make one sad, but cheer up, a replacement will come up.

Category 2 (Teacher talk-Indirect influence or response): Praises or encourages

Praises or encourages action or behavior. Jokes that release tension, but not at the expense of another individual; nodding heads saying um, hmm or go on are included.

Teacher: How many states are in Nigeria?

Ebi: 36 states Sir!

Teacher: Very good. Put your hand together for Ebi.

Category 3 (Teacher talk-Indirect influence or response): Accepts or uses ideas of pupils

Clarifying, building or developing ideas suggested by a pupil. Teachers' extensions of pupil ideas are included but as the teacher brings more of his own ideas into play, shift to category five.

Tokoni: Sir I think a major reason for massive failure among students is ill-preparedness of students towards assessments.

Fortress: I would like to say that the lack of preparation is as a result of poor reading habits among students.

Teacher: Tokoni and Fortress had suggested interesting points of view.

Fortress buttressed Tokoni's ill preparedness of students by linking it to our societal disregard for a reading culture.

Category 4 (Teacher talk-Direct influence or initiation): Asks questions

Asking a question about content or procedures; based on teacher ideas, with the intent that the pupil will answer.

Teacher: What is the difference between dramatization and simulation methods of teaching?

Category 5 (Teacher talk-Direct influence or initiation): Lecture

Giving facts of opinions about content or procedures; expressing his own ideas, giving his own explanation or citing an authority other than a pupil.

Teacher: Social studies education is centered round the desire to proffer solutions to perceived and anticipated problems that arises from man's interaction with the environment. It is a school discipline.

Category 6 (Teacher talk-Direct influence or initiation): Giving directions

Directions, commands or orders to which a student is expected to comply.

Teacher: Sele, I want you to tell me what you have done with your textbook.

(The degree of freedom that Sele has in response to his teacher's direction determines whether it is a command or direction).

Category 7 (Teacher talk-Direct influence or initiation): Criticizes or justifies authority.

Statements intended to change pupil behaviour from non-acceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-references.

Teacher: What do you think you are doing out of your seat Femi?

Category 8: Pupil-talk-response

Talk by pupils in response to the teacher. Teacher initiates the contact or solicits pupil statements or structures the situation. Freedom to express one's own ideas is limited.

Teacher: Do you understand? **Students:** Yes (chorus)

Category 9: Pupil-talk-initiation

Talk by pupils that they initiate. Expressing own ideas; initiating a new topic; freedom to develop opinions and a line of thought, like asking thought, like asking thoughtful questions; going beyond the existing structure.

Teacher had just taught on air pollution A student, not asked for her opinion but stood up to give her experience of inhaling smoke emitted from a running generator and that made her sneezed and coughed for a while to explain the effect of air pollution.

Category 10: Silence or Confusion

Silence or confusion: Pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

Teacher: Bring out your English textbook and open to page 20 (Period of silence and confusion as the students try to find the page)

As a result of research with his coding instrument, Flanders uncovered the two-thirds rule: about two-thirds of classroom time is devoted to talking, about two-thirds of this time the person talking is the teacher, and two-thirds of the teacher's talk is "direct" (that is, lecturing, giving directions, and controlling students). The two-thirds rule is actually three related two-thirds rules and serves to substantiate that typically teachers verbally dominate the classroom.

Based on this, in the 70s, the five-year ORACLE (Observational Research and Classroom Learning Evaluation) research study was undertaken in the UK and funded by the Economic and Social Research Council (ESRC), formerly the Social Science Research Council (SSRC), which is part of UK Research and Innovation (UKRI). The ORACLE research study began in 1975 and employed the following observational tools:

- a. The Pupil record – The classroom activities of one pupil at a time were recorded, especially their interaction with the teacher, other pupils, the activities they pursued as part of their work, and their location.
- b. A Teacher records in terms of types of questions used, and statements made. The team also recorded silent interactions. The observers were trained and they worked to maximize intercoder reliability by using pairs of coders.

- c. A Summary sheet, also known as an observer record, offering descriptions of the classroom layout and activities going on there, including grouping procedures used by teachers. The team also asked teachers to complete a short questionnaire.

In this study, 58 classrooms were studied, drawn from 19 schools; 300 observations of pupils were made, and 180 of teachers. The results showed that teacher pupil interaction is asymmetrical: only 16% of the time for each pupil is spent interacting with the teacher, and 12% of that 16% is spent interacting in a whole class format.

The findings presented that,

- a. Most teacher pupil interactions were focused on the task, mostly about 'making statements' rather than questioning.
- b. Teacher questions tended mostly to be task or task supervision questions, or routine questions. Only 5% of questions observed could be coded as 'open'.

The two-thirds rule of Flanders became more lopsided by the 90s, with Maurice and Galton estimating teacher talk at three-fourths, primarily consisting of one-way communication. Erickson and Shultz (1996) express their understanding of the student experience by stating, 'Much of classroom life is a monologue followed by a test'. In a study of over 100 middle and high school classes (Nystrand et al. 1997), it was found that two-way talk comprised less than 15% teacher instruction. In the case of students with lower than average grades, it was virtually nil.

With technological developments, computer-based software was being used to observe and analyze the classrooms. Lessons could be video-recorded, the raw data could be stored and studied with the growing tools. A mix of qualitative and quantitative methods were increasingly used by researchers to make the studies more comprehensive (Mercer 2010).

At the turn of the century, in a large-scale comparative study conducted from 1994-98 across five countries of India, Russia, France, England and the United States, British educationist Robin Alexander aimed to study how geo-cultural traditions impacted teaching practices in the classroom. From his study, emerged the following six versions of teaching:

- *Teaching as transmission* sees education primarily as a process of instructing children to absorb, replicate and apply basic information and skills
- *Teaching as initiation* sees education as the means of providing access to, and passing on from one generation to the next, the culture's stock of high-status knowledge, for example in literature, the arts, the humanities and the sciences

- *Teaching as negotiation* reflects the Deweyan idea that teachers and students jointly create knowledge and understanding rather than relate to one another as an authoritative source of knowledge and its passive recipient
- *Teaching as facilitation* guides the teacher by principles which are developmental (and more specifically, Piagetian) rather than cultural or epistemological. The teacher respects and nurtures individual differences, and waits until children are ready to move on instead of pressing them to do so
- *Teaching as acceleration*, in contrast, implements the Vygotskian principle that education is planned and guided acculturation rather than facilitated ‘natural’ development, and indeed that the teacher seeks to outpace development rather than follow it
- *Teaching as a technique*, finally, is relatively neutral in its stance on society, knowledge and the child. Here the important issue is the efficiency of teaching regardless of the context of values, and to that end imperatives like structure, the economic use of time and space, carefully graduated tasks, regular assessment and clear feedback are more pressing than ideas such as democracy, autonomy, development or the disciplines.

His study also classified classroom discourse into: “Classroom organization (whole class, group, individual); Pedagogic mode (direct instruction, discussion, monitoring); Pedagogic function (rote learning, instruction, Scaffolding, Assessment, Information sharing, Problem solving, Scaffolding, Supervision); and discourse form (interrogatory, expository, evaluative, dialogic)” (Skidmore, Murakami, 2016). The study validates previous research that direct instruction is the most dominant method of teaching despite the cultural variety of classrooms (Alexander 2001). The study found that,

- In classrooms, interactions tended to be brief rather than sustained, and teachers moved from one child to another in rapid succession in order to maximize participation, or from one question to another in the interests of maintaining pace, rather than developing sustained and incremental lines of thinking and understanding
- Teachers asked questions about content, but children’s questions were confined to points of procedure
- Closed questions predominated
- Children concentrated on identifying ‘correct’ answers, and teachers glossed over ‘wrong’ answers rather than using them as stepping stones to understanding.

His research found that teacher talk and questions are mostly close-ended, with children’s responses averaging five seconds, with three words or less for 70% of the time. In a study (Hardman et al. 2004) that analyzed 156 live and video-recorded lessons, it was found that teacher-led recitation was the dominant voice in the

classroom. Open ended questions constituted only 10% of the lesson, with 85% of the teachers not engaging in such conversations at all. A teacher built upon the responses of students only 4% of the time, and only 11% of student responses elicited further probing by the teacher.

Applebee, Langer, Nystrand & Gamoran 2003; Nystrand, Wu, Gamoran, Zeiser & Long 2003, in a computerized analysis of 200 video-recorded lessons of eight and ninth grade classes in the US, it was found that time spent in whole class discussion was less than 50 seconds in eighth and 15 seconds in ninth. Dialogue was rare, with most teaching being recitational - with only 66 out of 1151 episodes being interactive

In 2015-16, grade five teachers and a teacher mentor each in 38 schools were trained in a dialogic teaching-learning process by a team from the Cambridge Primary Review Trust (CPRT) and the University of York. Following this intervention, students were tested in English, mathematics, and science. There was also a control group of 38 schools to evaluate the results against.

The dialogic teaching-learning process intervention was designed to improve the quality of classroom talk as a means of increasing pupils' engagement, learning, and attainment, particularly those from disadvantaged backgrounds. The core strategies were:

- Mentoring
- video and audio recording for self-evaluation and development
- and an iterative process of target-setting, implementation, recording, and review.

Participating schools received a range of resources to foreground the principles of the dialogic teaching-learning process and to support the professional development of participants and their colleagues. In addition, schools received audio-visual recording equipment to facilitate the recording of classroom talk – a vital element of the research study's strategy.

Trial design. This trial employed a three-level (pupils within classes within schools) clustered RCT design. Randomisation was at school level, with half of the schools forming the intervention group and half of the schools forming a control group. Schools in the control condition were asked to engage in 'business as usual' for the duration of the research study.

Every participating teacher, mentor, and school head was provided by the research study team with the following resources:

- The CPRT/University of York dialogic teaching-learning process research study, trial stage 2015/2016, 'Handbook for schools'. The handbook sets out the programme's aims,

rationale, and strategies, specifies in detail the programme to be followed over the two terms, cycle by cycle, and provides extensive lesson transcript material to exemplify the various repertoires of teacher and pupil talk to which the intervention is directed.

- Separate booklet containing monitoring forms for each planning/review cycle, for completion during mentor meetings.
- Alexander, R. J. (2015) *Towards dialogic teaching-learning process: rethinking classroom talk*, (4th edition, 2015 reprint), York: Dialogos. This presents the approach and evidence on which the research study is chiefly based, and lists additional professional sources and resources.
- Michaels, S. and O'Connor, C. (2012) *Talk Science Primer*, Boston MA: TERC. This book details teacher talk moves through which pupil talk can be extended and built upon in one subject, science.
- Alexander, R. J. (2015) 'dialogic teaching-learning process Repertoires': a laminated card summarizing, from the two publications above, the talk repertoires which the research study aims to explore, foster, and improve.

All participants had access to materials on the research study website, including most of the publications above and two specially-prepared video presentations shown at the induction sessions:

- Dialogic teaching-learning process. This contains a sequence of clips of teachers and pupils talking, with commentary. It is structured into sections dealing with dialogic teaching-learning process repertoires and moves.
- Video Recording in Classrooms. This provides basic advice on how to make good quality video and audio recordings for use during the research study.

Procedure. Year 5 teachers were asked to run 11 planning/review/refocusing cycles with their classes, six in phase 1 ('Expanding repertoires') and five in phase 2 ('Advancing dialogue') – meaning the entire intervention programme lasts for 20 weeks across two terms. During phase 1 ('Expanding repertoires'), the focus was on increasing and enhancing the different kinds of talk used by teachers and pupils. During phase 2 ('Advancing dialogue') the focus was on applying the repertoires within a six-week programme in English, mathematics, science, and one non-core subject. Each cycle had two foci – a 'directed' and 'responsive' focus. The directed focus was one that all teachers were expected to engage with during a given cycle, while the responsive focus represented an opportunity for teachers to adapt and develop the approach to suit the context of their own classroom. Initially, ground rules for talk are established (for example, listen carefully, respect others' ideas, don't interrupt), then different teacher and pupil talk repertoires (for example, questioning, exposition, feedback, probing and building on pupil contributions, expanding pupil

learning talk) are introduced and refined with a view to applying them in varied contexts (such as whole-class teaching, teacher-led small-group discussion, pupil-led small-group discussion, teacher-pupil one-to-one, and paired pupil to pupil). The intention of the research study was that these repertoires should be applied across the curriculum, though within this research study there was a particular focus on English, mathematics, and science.

Students in the intervention group made “two additional months’ progress in English and science, and one additional month’s progress in mathematics, compared to children in control schools, on average”. The training was regarded highly by the principals, teachers and teacher mentors.

These are just some instances where the lack of a dialogic teaching-learning process was observed and an intervention to correct it yielded positive results. For many decades now, advocates of dialogic teaching-learning process and learning have called for measures to encourage genuine, meaningful interactions in the classroom, enabling the students and teachers to unite towards the common goal of human development.

Rationale

The rationale for conducting the observational study on dialogic teaching in teacher education classrooms stems from the above review of literature whereas all cited studies recognized the importance of effective teaching methods in enhancing student engagement, critical thinking skills, and overall learning outcomes. Dialogic teaching, as conceptualized by the framework developed by Robin Alexander, places a strong emphasis on fostering meaningful dialogues between teachers and students. “Philosophers say that man forms himself in dialogue”, these famous words are attributed to the poet and Teacher Anne Carson. Physicist and Teacher David Bohm said that in spite of a worldwide system of linkages, “there is, at this very moment, a general feeling that communication is breaking down everywhere, on an unparalleled scale”. Given this background of the world that we are living in today, it becomes all the more urgent and important that we protect the sanctum of learning in our schools and equip it with the right tools and practices so that boundless and free development of young minds can take place. It will also be important to realize the difference between dialogue and any other conversation or discussion. Dialogue is the pursuit of learning, knowledge, understanding or value through purposeful questioning (Skidmore, Murakami 2016). With more dialogic learning in our classes, we can become more open to understanding what we don’t identify with, more tolerant to what we don’t agree with, more perceptive of the knowledge we accumulate, more

empathetic to the suffering of others, more vision-oriented towards an inclusive future and simply, more happy. This study is just the first step towards enabling this. The following are the broad areas of understanding related to dialogic teaching learning processes which brings in our cognizance and insight to carry out the study:

Pedagogical Significance

Dialogic teaching is considered a student-centered approach that facilitates active learning and intellectual development. Understanding how teachers employ dialogic strategies can provide insights into the pedagogical landscape, offering potential improvements in teaching methodologies.

Enhancing Student Engagement

Research suggests that student engagement is closely linked to effective teaching strategies. Dialogic teaching, with its emphasis on interaction and student participation, has the potential to significantly enhance student engagement. This study seeks to explore the extent to which dialogic teaching methods contribute to increased student involvement in the learning process.

Developing Critical Thinking Skills

Dialogic teaching encourages students to think critically, articulate their thoughts, and engage in meaningful discussions. Investigating the presence and quality of dialogic interactions in the classroom will help assess the extent to which these practices contribute to the development of critical thinking skills among students.

Teacher Professional Development

Understanding how dialogic teaching is implemented can provide valuable insights for teacher professional development. This study may identify areas where teachers excel in fostering dialogue and areas where additional training or support may be beneficial, contributing to ongoing efforts in improving teaching practices.

Classroom Dynamics and Inclusivity

Dialogic teaching emphasizes inclusive practices, allowing diverse voices to be heard. This study will explore how dialogic teaching influences classroom dynamics, whether it promotes an inclusive learning environment, and how teachers manage diverse perspectives within dialogic interactions.

Practical Implications for Education Policy

Findings from this study may inform education policymakers about the efficacy of dialogic teaching in diverse educational settings. This knowledge can guide

the development of policies that support and incentivize the adoption of effective teaching practices.

Addressing Gaps in Existing Literature

While dialogic teaching has gained attention in educational research, there may be gaps in our understanding of its practical implementation and impact. This study aims to contribute to the existing literature by providing empirical evidence and insights into the dynamics of dialogic teaching in classrooms.

In summary, this observational study on dialogic teaching is driven by the need to explore, understand, and evaluate the practical implications of this teaching approach. The findings will contribute to the ongoing discourse on effective teaching strategies and have the potential to inform both classroom practices and educational policies.

Research studies carried out in various countries have repeatedly revealed that commonly used teaching practices are quite distant from an ideal of dialogic teaching (see, for example, Stevens, 1912; Flanders, 1963; Erickson & Shultz, 1996; Alexander, 2001; Hardman, 2019). To address this gap, several intervention studies have been carried out by researchers who have sought to transform participants' teaching and to monitor any transformation. In all these research projects, participant teachers took part in a development programme, their teaching of lessons was recorded on video and researchers observed (most often by noting the presence of selected indicators) whether any elements of dialogic teaching underwent transformation. The effects achieved differed widely in content and scope. However, for this study, we would first launch an exploration into whether the teachers are employing techniques of dialogic teaching. We wanted to begin this exploration with prospective teachers and the repertoires that they are developing during their educational and training phase.

Population

The target group selected for this status study is all the classrooms of South East district of Directorate of Education, (DoE) Delhi

Sample

Out of this population, the sample will comprise a group of 2 randomly observed classrooms from each NEP stage from every school.

Observers

The classrooms will be observed by Academic coordinators (ACs) and Mentor teachers (MTs) of South East district of Directorate of Education, (DoE) Delhi.

Tools of Data Collection

Coded observation and statistical analysis may not always do complete justice to the versatile practice of dialogic teaching and learning. In-depth conversations with teachers and students and open-ended observation may help us gauge the intimate nature of dialogue in each unique classroom. Many researchers themselves find qualitative case studies far more insightful rather than traditional recording and study of interaction (Lefstein 2020). We need to keep in mind that dialogue is a human social

practice and encompasses immense and intricate complexities. Therefore, relevant qualitative tools will need to be developed. We had developed and employed the following tool to collect data for this study:

- Classroom observation tool, to study the level of dialogic teaching- learning process

Mechanism of carrying out data collection

Through classroom observation tool developed by researchers “**Classroom Dialogue Observation Schedule**”

Ethical framework

The study did not disturb the institutional setups. Research where participants or other individuals may be identifiable in the material used or generated may involve more than minimal risk and require a full ethics review. For example, visual or vocal methods producing images or sound recordings, or interviews with teachers and students, who may be identifiable. The observers had ensured that data is kept securely and does not lead to any breach of agreed confidentiality. We must also take explicit consent for the use and re-use of images, visual data, as required by the study.

Consent entails express agreement of the individual to take/use/re-use videos, audios, images, data featuring them and their views. Signed consent forms are viewed as safeguarding researchers and their employing institutions, making issues of consent clear to research participants and ensuring attention to issues of copyright. However, using signed consent forms does not negate the necessity of explaining the research to potential participants and for what precisely their consent is being sought to do and does not give researchers the right to use images in unrestricted ways. Ethically, researchers should consider the implications of the data they might be collecting and brief the participants seeking permission and explaining the purpose prior to taking images of others. Researchers are advised to consider whether or not someone might be at risk of harm or moral criticism as a result of use of the image. Another aspect to consider is the ownership of data. While legally the image taker owns the image, he/she can assign copyright to the researcher/commissioning institute.

Consent from children. The law around the process of consent for children to participate in all types of research is complex and relates to the notion of capacity or competence. The United Nations Convention on the Rights of the Child (UNCRC) defines a child as everyone under 18 unless, “under the law applicable to the child, majority is attained earlier”. Generally speaking children who are able to understand the implications of participation in a research project are viewed as having ‘capacity’

to make a decision about whether or not to take part in research. However researchers should follow appropriate guidelines and it is considered a good practice to seek consent from children, parents and other stakeholders (e.g. teachers) to safeguard researchers from any problems that might arise.

We drafted consent forms for principals, teachers, students (or their parents), and devised relevant and appropriate guidelines for researchers.

De-limitations of the project

Any research will have its share of limitations and the previous studies conducted in the space of dialogic teaching and learning has also been constrained by many factors. Reznitsakaya (2020) has also exclaimed, “The story of unmitigated success that we often hear and read about can be challenged by considering serious methodological problems present in many studies, measurement issues .. as well inconsistent results, small effects sizes, and even publication bias”. The study was confined to the South East district of the Directorate of Education, (DoE) Delhi. The study was also kept restricted to classroom practices due to the paucity of time and administrative constraints.

Analysis

Coded observations and statistical analysis may not always do complete justice to the versatile practice of dialogic teaching-learning process and learning. In-depth conversations with teachers and students, and open-ended observation may help us gauge the intimate nature of dialogue in each unique classroom. Many researchers themselves find qualitative case studies far more insightful rather than traditional recording and study of interaction (Lefstein 2020). However, the convincing power of quantitative analysis even in the world of dialogic classrooms cannot be ignored. It is often the encouraging numbers in statistical studies that prompt further theoretical exploration in the subject. Empirical evidence is therefore crucial to take subsequent corrective measures. It is important for us to ascertain whether a dialogic teaching-learning process exists; and whether its existence makes a real difference to the student, the teacher and the overall classroom. For dialogic learning to become more comprehensive and ubiquitous, it is also important that stakeholders outside of the academic world can understand simply how the evaluative results and quantitative results help here. We need to keep in mind that dialogue is a human social practice and encompasses immense and intricate complexities. Therefore, quantitative evaluations will need to be simplified to compliment these complexities and cut across barriers of diverse but invested fields (Howe 2020).

The first use of a systematic method to observe classroom talk dates back to the early 20th century; the first account being published in 1912 in the US (Stevens 1912). It was reported that in elementary classrooms, teachers were the primary speakers with 65% of their talk focused on making students recall information imparted earlier. As we entered the 1940s, studies started using the process-product approach where verbal and non-verbal behaviour was correlated with certain outcome measures. The Flanders' Interaction Analysis system was well-known and widely used. It allowed for "multiple coding using ten categories of behaviours for capturing the interaction sequences of a lesson" (Hardman 2019).

In this mixed-method analysis, we aimed to comprehensively understand the dynamics of dialogic teaching in classrooms by employing both quantitative and qualitative approaches. The quantitative aspect involves the calculation and analysis

of percentages to quantify the frequency and distribution of dialogic interactions. This will be achieved by coding instances of teacher-student and student-student interactions and determining the proportion of class time devoted to each. A simple plan for the quantitative analysis includes the development of a coding system, transcription of observational data, and the assignment of numerical codes to instances of dialogic teaching. Simultaneously, the qualitative component involves thematic analysis to identify patterns and themes within these interactions. We will explore the context, quality, and nature of dialogues to gain a deeper understanding. The integration of quantitative percentages and qualitative insights will provide a comprehensive portrayal of the prevalence and impact of dialogic teaching in the observed classrooms, offering a nuanced perspective that goes beyond mere frequency analysis. This mixed-method approach ensures a more robust and holistic interpretation of the observational data.

Theme 1. Time spent on teacher-student/student-student interaction

Q1.1 How much time did the class spend on teacher-student interaction?

The time spent on teacher-student interaction in a classroom plays a pivotal role in the educational process and student outcomes. Research consistently highlights that effective teacher-student interactions are fundamental to fostering an environment conducive to learning. These interactions facilitate the development of a supportive and engaging classroom atmosphere, which is essential for promoting academic achievement and personal growth among students.

In the context of this study, **teacher-student interaction** refers to the dynamic exchanges between teachers and students during classroom activities. These interactions encompass various forms of communication, including verbal dialogue, non-verbal cues, feedback, and instructional methods. The quality and nature of these interactions significantly influence students' academic performance, engagement, and overall development.

Effective teacher-student interactions are characterized by:

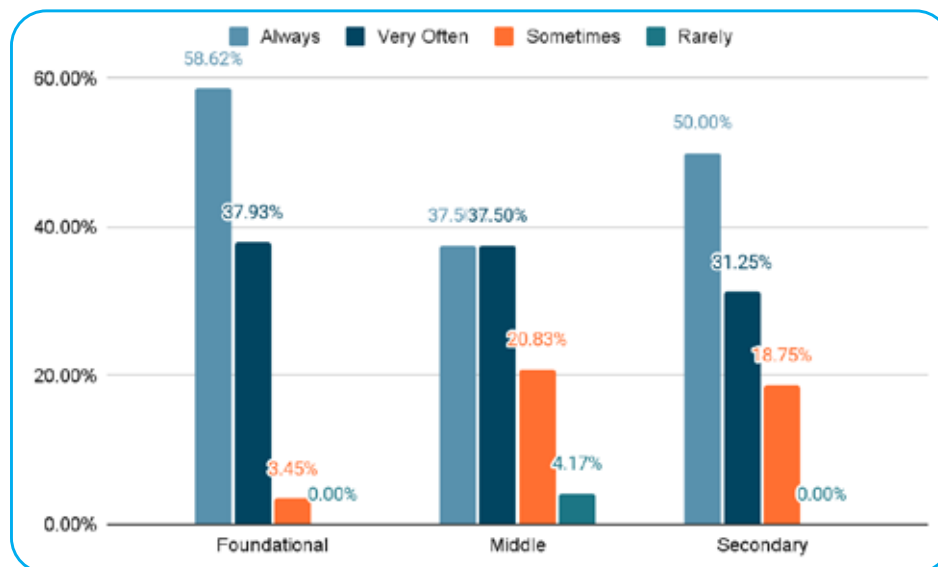
- **Emotional Support:** Creating a positive learning environment where students feel respected, valued, and motivated.
- **Instructional Support:** Providing clear guidance, constructive feedback, and scaffolding to facilitate understanding and skill development.
- **Classroom Organization:** Establishing structured routines and managing classroom behaviors to optimize learning opportunities.

These components are essential for fostering student engagement and promoting

effective learning outcomes. ([SpringerLink-https://link.springer.com/chapter/10.1007/978-3-031-31678-4_18?utm_source=chatgpt.com](https://link.springer.com/chapter/10.1007/978-3-031-31678-4_18?utm_source=chatgpt.com))

Research indicates that high-quality teacher-student interactions contribute to improved student engagement, better academic achievements, and enhanced social skills. Conversely, negative interactions can hinder student motivation and learning. Therefore, understanding and improving the dynamics of teacher-student interactions are crucial for educational success. ([Harvard Graduate School of Education-https://www.gse.harvard.edu/ideas/usable-knowledge/21/03/teacher-student-relationships-matter?utm_source=chatgpt.com](https://www.gse.harvard.edu/ideas/usable-knowledge/21/03/teacher-student-relationships-matter?utm_source=chatgpt.com))

So within this study, teacher-student interaction encompasses the multifaceted communications and relationships between Teachers and learners, which are pivotal in shaping the educational experience and outcomes. This interaction encompasses various forms, including instructional guidance, where teachers impart knowledge and explain concepts, as well as feedback, which helps students understand their progress and areas for improvement. It also involves questioning to stimulate critical thinking, discussion to encourage the exchange of ideas, and emotional support to foster a positive learning environment.



Focus of the data: This study shows that the time spent on teacher-student interaction is most prevalent in foundational classrooms with 58.62% of the classes ‘always’ spending their time towards it. Another 37.93% classrooms experience teacher-student interaction ‘very often’, with a minimal of 3.45% classrooms engaging in it only ‘sometimes’.

These figures change significantly as the study observes middle stage classrooms, with a lower number of 37.5% classrooms ‘always’ engaging in teacher-student interaction.

A similar percentage of classes engage 'very often' in such interaction. 20.83% and 4.17% middle stage classrooms experience teacher-student interaction 'sometimes' and 'rarely', respectively, as observed in the study.

Teacher-student interaction increases slightly in secondary classes, with half the classrooms 'always' engaging in it. 31.25% and 18.75% classrooms witness this interaction 'very often' and 'sometimes'.

Interpretation & Discussion: Several interrelated factors could emphasise a larger amount of time spent on teacher-student interaction in elementary classrooms. Young children in these early stages require more guidance and support to grasp basic concepts and develop effective learning habits. Consequently, Primary Teachers adopt a more hands-on and interactive teaching approach to ensure that students receive the individualised attention they need. Additionally, primary teachers often utilise interactive and engaging teaching methods, such as storytelling, play-based learning, and collaborative activities, which naturally involve higher levels of teacher-student interaction.

In contrast, teacher-student interaction could be less frequent in higher classes due to the increased focus on the complexity of subject matter. Moreover, the structure of middle and secondary education, often characterized by larger class sizes and more specialized subject teaching, may limit the opportunities for personalized interaction between teachers and students. The curriculum in higher classes also tends to be more content-heavy, with teachers covering extensive material within limited timeframes, further constraining the frequency and depth of interactions. Also, educational settings in these classrooms often place a greater emphasis on assessments and performance metrics, leading teachers to allocate more time to lecturing and less to interactive teaching methods.

In conclusion, the time spent on teacher-student interaction in a classroom is integral to the educational process, influencing various aspects of student learning and development. By fostering dialogue between teachers and students that enhances motivation and engagement, develops critical thinking skills, and improves classroom management, the foundation for a supportive and effective learning environment can be laid.

Q1.2 How much time did the class spend on student-student interaction?

Student-student interaction refers to the communication, collaboration, and exchange of ideas between students during classroom activities or group work. It includes both verbal and non-verbal exchanges that occur as part of formal instruction (e.g., group discussions, peer feedback) or informal learning moments (e.g., helping each other,

social conversations). This interaction is critical for fostering collaboration, peer learning, and social development.

In the context of classroom settings, student-student interaction involves:

- **Collaborative Learning:** Students working together to solve problems, complete tasks, or share knowledge.
- **Peer Feedback:** Students giving and receiving constructive criticism.
- **Social Engagement:** Building relationships and developing communication skills.
- **Shared Inquiry:** Engaging in discussions to explore and deepen understanding of concepts.

Supporting Research on Student-Student Interaction

1. Johnson (1981):

In the seminal study *Student-Student Interaction: The Neglected Variable in Education*, Johnson highlights that peer interactions are often overlooked but play a vital role in academic and social development. Collaborative activities lead to better understanding and retention of concepts, as students explain and refine their thinking while interacting with peers.

2. Hertz-Lazarowitz et al. (1984):

In their naturalistic study of **student-student interaction in science classrooms**, Hertz-Lazarowitz et al. found that cooperative learning and student-led discussions significantly enhanced students' comprehension of scientific concepts and critical thinking skills.

3. MacLeod et al. (2019):

In a systematic literature review, MacLeod et al. highlighted that student-student connectedness in higher education is essential for engagement and success. Peer collaboration fosters a sense of belonging, critical for student well-being and academic achievement.

Teacher-student interaction refers to the exchanges between teachers and students during the teaching-learning process. These interactions are dynamic and encompass verbal communication (e.g., asking questions, providing feedback) and non-verbal cues (e.g., gestures, tone of voice). They shape the classroom environment, impact student engagement, and influence learning outcomes.

Supporting Research on Teacher-Student Interaction

1. Nystrand et al. (2010):

In *Questions in Time: Investigating the Structure and Dynamics of Unfolding Classroom Discourse*, Nystrand and colleagues explore how teacher-student interactions, particularly through dialogic questioning, drive meaningful classroom discussions. The study underscores the importance of open-ended questions and feedback loops in enhancing critical thinking and engagement.

2. Alexander (2001):

Alexander's *Culture and Pedagogy* examines teacher-student interactions across cultural contexts. It highlights how dialogic teaching fosters deep learning by encouraging reciprocal exchanges between teachers and students.

3. Lyle (2008):

Lyle discusses the importance of dialogic teaching in facilitating teacher-student interactions that move beyond rote learning. The study provides evidence that structured, meaningful dialogue can improve understanding and student agency.

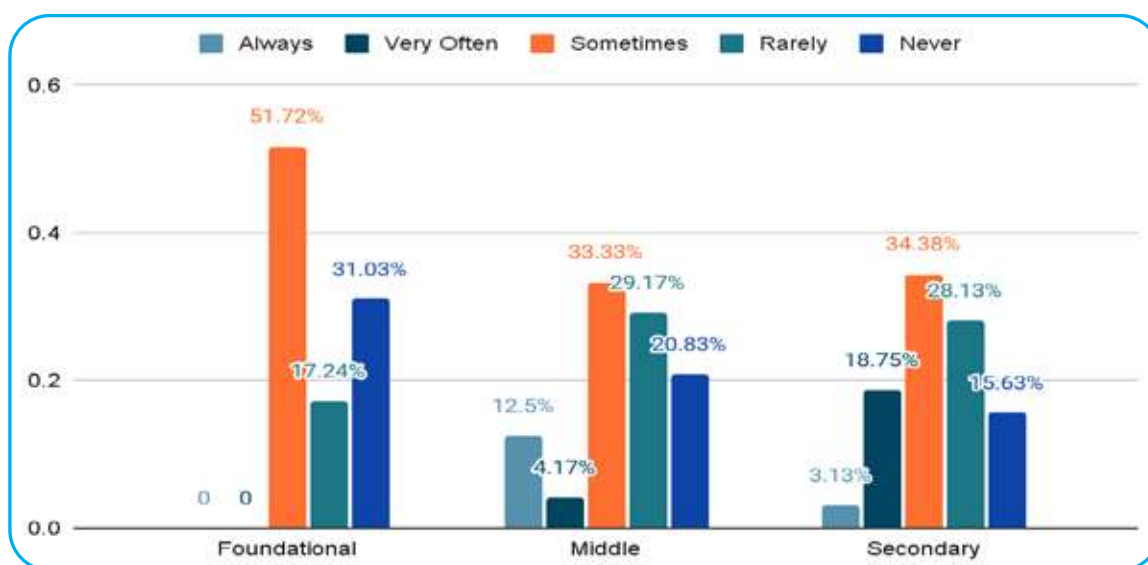
4. Reznitskaya (2012):

Reznitskaya's study on dialogic teaching emphasizes the role of teacher-student interactions in creating a shared space for knowledge construction. Effective interactions involve balancing control and participation, allowing students to contribute meaningfully to discussions.

Both **student-student** and **teacher-student interactions** are integral to effective teaching and learning. While teacher-student interactions set the tone and provide structure, student-student interactions foster collaboration, critical thinking, and peer support. Combining both can create a robust learning environment, as supported by various research studies.

Student-student or peer interaction is crucial in creating dialogic classrooms, where knowledge construction can occur through collaborative dialogue and critical thinking. Peer interactions encourage active participation, allowing students to articulate and challenge ideas, thus deepening their understanding. This dialogic approach fosters a learning community in which diverse perspectives are valued, enhancing cognitive and social skills. Through such discussions, students can develop communication and argumentation skills, learn to respect differing viewpoints, and contribute significantly to the development of a dynamic, engaging, and inclusive educational environment.

Student-student interaction includes peer engagement that enhances learning and social development. This interaction often takes place during group work or collaborative projects, where students share ideas, solve problems together, and learn from each other's perspectives. It also involves discussions and debates that encourage critical thinking and allow students to articulate their thoughts while listening to others. Peer feedback is another key element, where students assess each other's work, offering constructive criticism and support. Informal interactions, such as conversations during breaks or while working on assignments, also play a role in building relationships, developing communication skills, and fostering a sense of community within the classroom.



Focus of the data: In a contrast from teacher-student interaction, no foundational classroom was observed to engage in student-student interaction 'always' or 'very often'. A little over half the classrooms 'sometimes' witnessed peer interaction with 17.24% of the classrooms 'rarely' experiencing it. Nearly one-third of the classrooms (31.03%) recorded no interaction amongst the students.

Student-student interaction was observed to be slightly more in middle and secondary classrooms. Both stages followed a similar trend. At the middle stage, 12.5% classrooms experienced peer interaction 'always', 4.17% 'very often', 33.33% 'sometimes', 29.17% 'rarely' and 20.83% classrooms never experienced student-student discussion.

At the secondary stage, 3.13% classrooms were observed to have student-student interaction 'always', 18.75% 'very often', 34.38% 'sometimes', 28.13% 'rarely' and 15.63% classrooms recorded no student-student interaction.

Interpretation & Discussion:

The low levels of student-student interaction in foundational classrooms could be due to the developmental stage of young learners and the focus on teacher-led classrooms. At this early educational level, teachers may often equate a lack of peer interaction with a disciplined classroom, perceiving quiet, orderly environments as indicators of effective classroom management. Consequently, the emphasis remains on teacher-student interactions to provide the necessary support and structure for early learning.

As students grow and mature, their ability to engage in **critical thinking, collaboration, and independent reasoning** improves significantly. This developmental trajectory equips them with advanced **cognitive and social skills** necessary for meaningful discussions and group activities. Consequently, teachers in **middle and secondary classes** are more likely to leverage these skills to foster **peer interaction**, which plays a crucial role in enhancing understanding and nurturing independent thought.

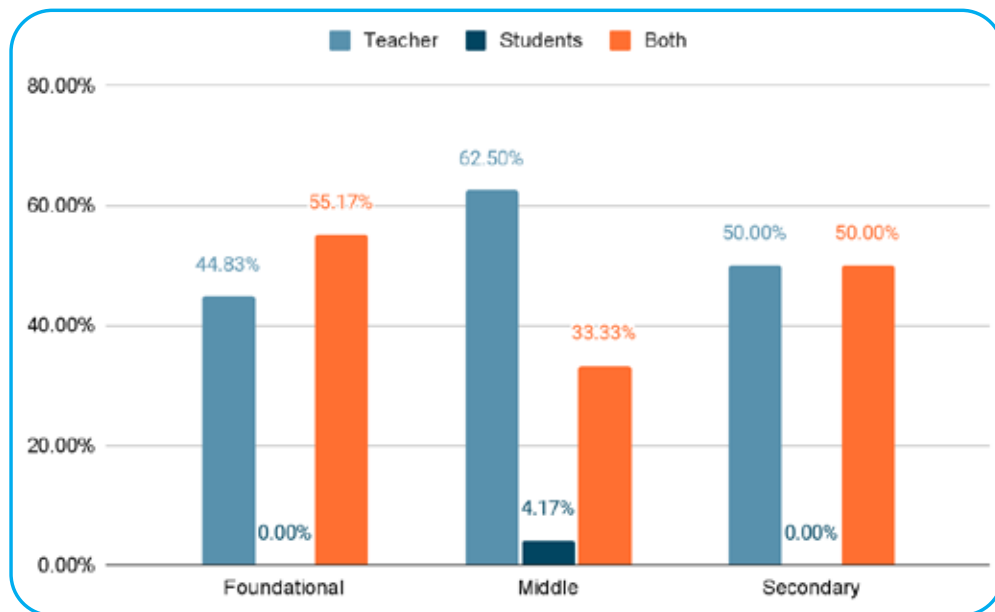
It also helps students form their own opinions by exposing them to diverse perspectives and encouraging critical thinking. When students engage in dialogue with one another, they encounter different viewpoints and arguments that challenge their existing beliefs. This exchange of ideas prompts them to reflect on their own thoughts, question assumptions, and consider alternative perspectives. Through this process, students learn to articulate their positions more clearly, defend their ideas with evidence, and develop a more nuanced understanding of the topics at hand.

Theme 2. Sharing the floor

Q2.1 Who led the classroom interaction?

The leadership of classroom interaction, whether by the teacher or the students, significantly influences the creation of a dialogic classroom. In a teacher-led classroom, interactions are often more structured and focused on content delivery and control. This approach can ensure that key concepts are covered and that classroom management is maintained, but it may limit the depth of student engagement and the development of critical thinking skills. In contrast, a student-led approach may foster a more dialogic environment, where students take an active role in leading discussions, express their ideas, question assumptions, and engage with diverse perspectives.

A dialogic classroom thrives on a balanced approach where students are active participants in the learning process. This balance enhances critical thinking, engagement, and the co-construction of knowledge, creating a richer and more dynamic educational experience.



Focus of the data: At the foundational stage, 44.83% classrooms witnessed teacher-led interactions while in 55.17% classrooms, both teachers and students jointly led the discussions. There were no classes where students led the interaction.

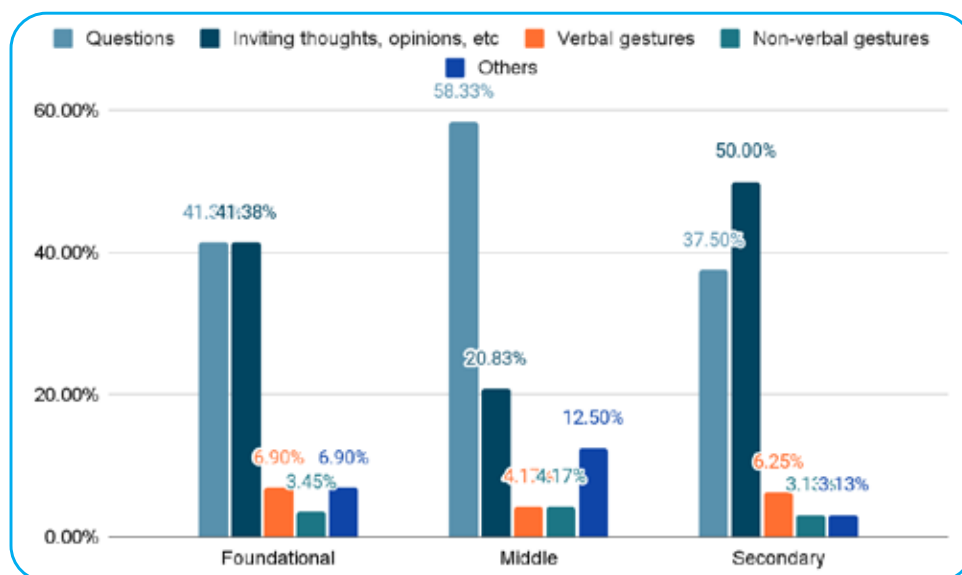
At the middle stage, teacher-led interactions were observed in a higher of 62.5% classrooms. 4.17% classrooms had student-led interactions and one-third classrooms had a mix of both.

In secondary classes, there were again no classrooms with student-led discussions, while half experienced teacher-led interactions and the other half experienced discussions led by both the teachers and the students.

Interpretation & Discussion: When teachers lead classroom discussions, it may typically signify a traditional, teacher-centred approach where the teacher is the primary source of knowledge and authority. This method often results in limited student engagement, reduced opportunities for critical thinking, and a narrower range of perspectives, as students play a more passive role. While this approach can ensure efficient content coverage and maintain classroom order, it can stifle open communication and the development of independent learning skills. As the study observed minimal to no classrooms where the interaction was completely led by the students, it is plausible to note that our current educational environment does not facilitate handing over the entire responsibility of the discussion to the students. Teacher control is maintained nearly throughout. To foster a more dynamic and inclusive learning environment, balancing teacher leadership with student-led interactions is essential, promoting active participation, diverse viewpoints, and the co-construction of knowledge.

Q2.2 How did the teacher invite or encourage participation from the students?

Teachers may invite student participation through a variety of methods, including posing questions, soliciting thoughts and opinions, and employing both verbal and non-verbal cues. To maximise the potential for dialogue, reflection, and critical thinking, teachers can utilise open-ended techniques. Open-ended questions and prompts encourage students to explore concepts more deeply, articulate their ideas, and engage in meaningful discussions that go beyond simple factual responses. This approach not only enriches the learning experience but also supports the development of essential cognitive and communicative skills (references).



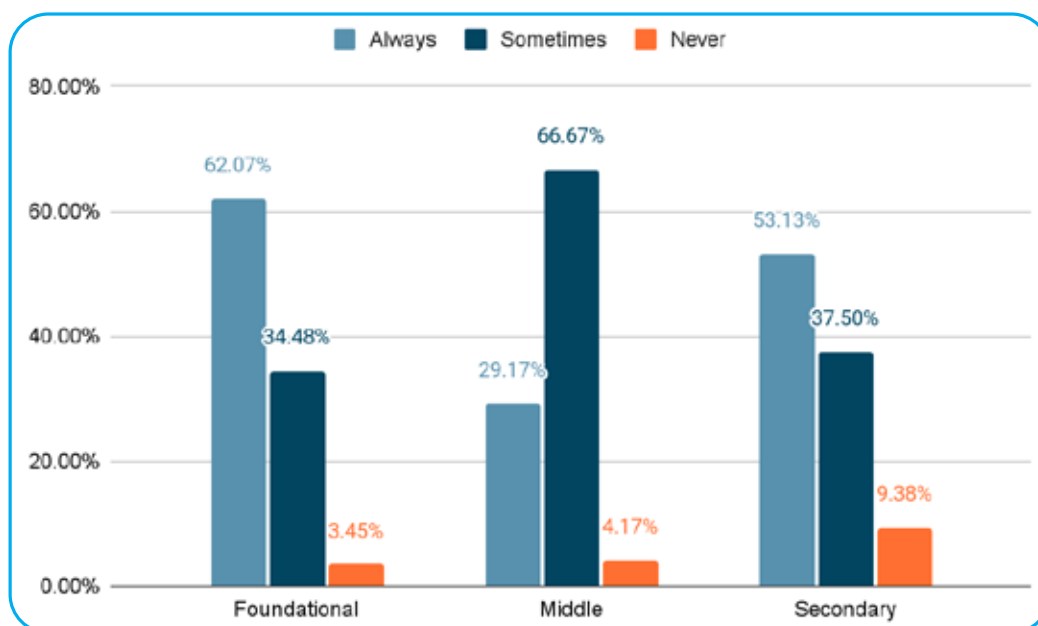
Focus of the data: Teachers employed questions to invite participation in 41.38% foundational classrooms, 58.33% middle stage classrooms and 37.5% secondary stage classrooms. While this number was observed to be unchanged in cases where the teacher invited and encouraged student thoughts and opinions at the elementary stage, it witnessed a sharp decline in middle classes (20.83%) but an increase in secondary classes (50%). The other tools were comparatively less used. Verbal gestures were used in 6.9% foundational, 4.17% middle and 6.25% secondary classrooms while non-verbal gestures were utilised in 3.45% foundational, 4.17% middle and 3.13% secondary classes. Other tools were used in 6.9%, 12.5% and 3.13% classrooms at the three respective ascending stages.

Interpretation & Discussion: When teachers predominantly use closed-ended questions in a classroom, it signifies a limitation in fostering a truly dialogic environment. Closed-ended questions typically elicit brief, specific responses, often checking for retention and understanding. This approach may restrict the depth and breadth of student engagement, as it does not encourage students to elaborate, reflect,

or explore multiple viewpoints. It is particularly dominant in middle stage classrooms. In a dialogic classroom, the goal is to promote open, meaningful dialogue where students are encouraged to discuss, question, and critically engage with content. When teachers invite student thoughts and reflections, it significantly enhances dialogue in the classroom by creating an interactive and participatory learning environment. Such dynamic exchange that not only enriches the learning experience but also empowers students to take ownership of their learning, ultimately leading to a more engaging and responsive educational setting is missing in a significant share of the classrooms - included in discussion. However, our study observes that students are encouraged to share their thoughts and opinions comparatively more in foundational and secondary classrooms. Besides verbal prompts, non-verbal tools including eye contact, gestures, and body language, play a crucial role in fostering participation. For example, a teacher's attentive posture and affirmative nods can signal openness and support, encouraging students to share their ideas more freely. These non-verbal gestures are also observed to be missing in majority of the classrooms.

Q2.3 How frequently does the teacher nominate students while inviting participation?

Teacher nomination of students while inviting participation may significantly impact classroom dialogue. It can ensure a more equitable distribution of participation. However, it can also inadvertently reinforce predictable biases, further putting the spotlight on the top students, potentially limiting inclusivity and richness of the dialogue. To maximize the benefits of this approach, teachers should employ nomination strategies that balance inclusivity with supportive techniques, fostering an environment where students feel encouraged to engage actively and contribute meaningfully to the dialogue.



Focus of the data: Research reveals varying patterns of student nomination by the teachers. In the foundational stage, teachers ‘always’ nominated students in 62.07% of the classrooms, ‘sometimes’ nominated them in 34.48%, and never nominated them in 3.45%. This approach suggests a lack of adequate proactive participation by students.

In middle classrooms, the frequency of teacher nomination shifts, with 29.17% classes witnessing consistent nomination, 66.67% witnessing it ‘sometimes’ and 4.17% classes never nominating students.

In the secondary stage, 53.13% classrooms always nominated students, 37.5% sometimes did so, and 9.38% never nominated students.

Interpretation & Discussion:

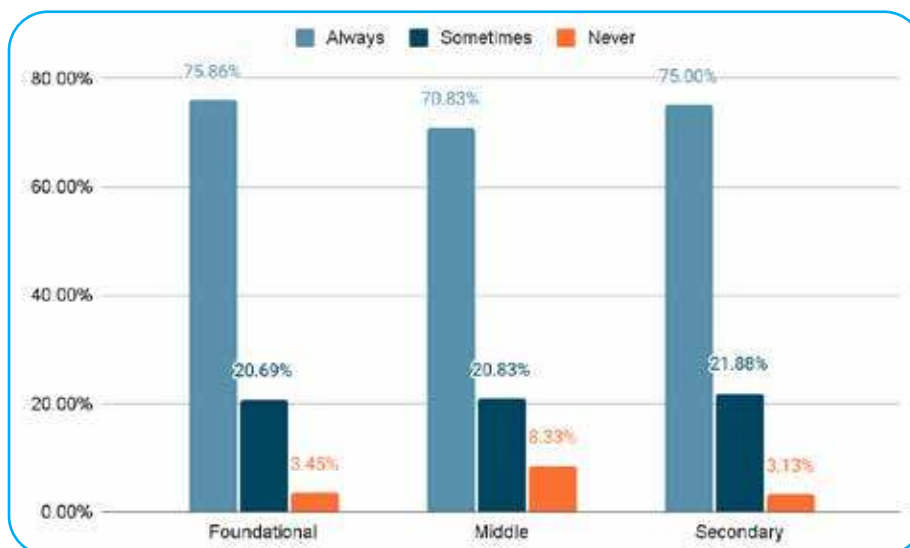
These findings highlight the evolution of teacher nomination practices across educational stages. High rates of teacher nomination in classroom interactions may indicate a teacher-dominated classroom. It may reflect a classroom dynamic where students are accustomed to a passive role, relying on the teacher to drive the conversation. Alternatively, a section or all of the students may not be proactively engaging with the content, leading the teacher to take a more directive role in eliciting participation. This pattern can arise for several reasons: students may be hesitant to speak up, lack confidence, or be unsure of how to contribute meaningfully. However, this reliance on nomination can also signal a need for more effective strategies to foster intrinsic motivation and active engagement among students. By diversifying instructional approaches, incorporating more interactive and student-centred activities, and creating a classroom environment that encourages spontaneous contributions, teachers can help mitigate the dependence on nomination and promote a more proactive participatory learning experience.

When a teacher consistently nominates students to answer questions, it can curb or limit voluntary participation, causing some students to become passive learners rather than active participants. It may lead to feelings of anxiety or pressure among students who are frequently called upon. Or, this might unintentionally reinforce disparities in participation, where certain students are chosen more often, potentially sidelining quieter or less confident students.

On the contrary, when a teacher never nominates students to answer questions, it can lead to an imbalanced classroom dynamic where only the most confident or outspoken students regularly participate. This approach might cause other students to remain disengaged, missing opportunities to contribute. It may prevent a diverse range of perspectives from being heard, limiting the depth of classroom dialogue.

Q2.4 How often do teachers welcome and respect the questions and ideas shared by the students?

Teachers welcoming and respecting questions and ideas shared by students on classroom dialogue affirms and values student contributions. This approach significantly enhances the quality of classroom dialogue by encouraging students to engage more actively and confidently in discussions.



Focus of the data: In the foundational stage, teachers consistently welcomed and respected student questions and ideas in 75.86% of classrooms, sometimes doing so in 20.69%, and 3.45% classrooms never incorporating this practice.

Similarly, in the middle stage, 70.83% of classrooms experienced teachers always respecting student input, while 20.83% did so occasionally, and 8.33% never.

In the secondary stage, teachers again welcomed student contributions in 75% of classrooms, with 21.88% sometimes fostering such an environment, and 3.13% never doing so.

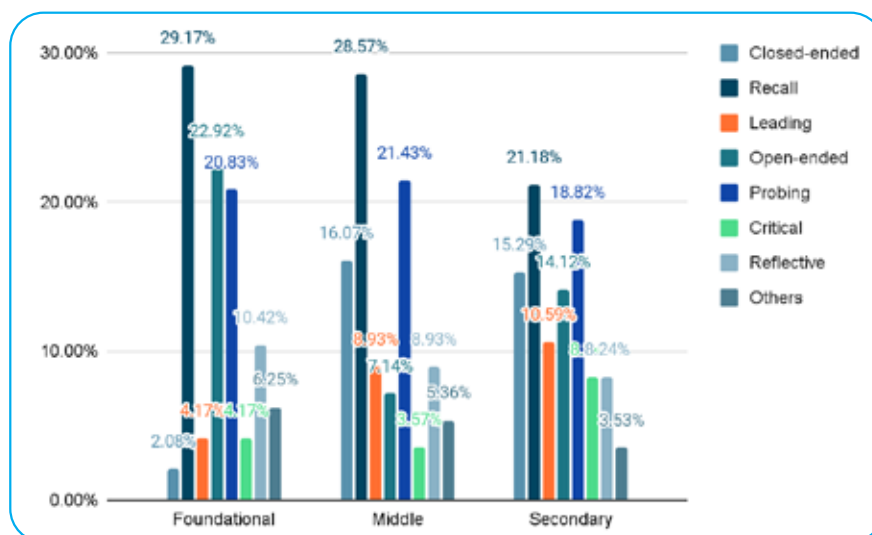
Interpretation & Discussion: These observations underscore a generally positive trend. Nearly three-fourths of all classrooms observed across stages, demonstrated teachers welcoming and respecting student questions and responses, a practice indicative of a positive and supportive learning environment. This approach fosters a climate of mutual respect and encourages active student engagement, which is crucial for meaningful classroom dialogue and cognitive development. However, in instances where such practices were not evident, it highlights a significant issue that requires urgent attention. The lack of teacher responsiveness to student inquiries and contributions can undermine student motivation, inhibit participation, and stifle the development of critical thinking skills. Addressing these deficiencies is essential to ensure that all students have equitable opportunities to engage in the learning process and to cultivate an inclusive educational environment that values and leverages student input.

Q2.5 Which type of questions/responses were welcomed or encouraged by the teachers?

Closed-ended and recall-based questions are types of inquiries that require specific, often brief responses. These questions are valuable for assessing students' factual knowledge and ensuring that foundational information has been learned. They can quickly gauge comprehension and provide immediate feedback to both teachers and students about understanding of the material. However, their overuse can have several limiting effects on classroom dialogue as they tend to restrict the depth of student responses. It may result in a more passive learning environment where students are primarily focused on recalling facts rather than engaging in deeper cognitive processes.

Leading questions suggest a particular answer or typically contain the information the teacher is looking to have confirmed. The frequent use of leading questions can undermine students' confidence in their own ideas and contributions. When students are constantly guided towards specific answers, they may become reliant on teacher cues and less inclined to take intellectual risks. This dependence can hinder the development of autonomous thinking and problem-solving skills.

On the other hand, open-ended, probing, critical, and reflective questions significantly enhance classroom dialogue by fostering deeper engagement and critical thinking. These types of questions encourage students to elaborate on their ideas, explore diverse perspectives, and engage in meaningful discussions.



Focus of the data: Research observed a prevalence of closed-ended, recall and leading questions in 2.08%, 29.17% and 4.17% foundational classrooms respectively. These figures increase in the middle stage to 16.07%, 28.57% and 8.93% and in the secondary stage to 15.29%, 21.18% and 10.59% respectively.

In contrast, open-ended, probing, critical and reflective questions found their place in 22.92%, 20.83%, 4.17% and 10.42% respective foundational classrooms. In middle stages,

these percentages drop to 7.14%, 21.43%, 3.57% and 8.93%. In secondary classes, the figures stand at 14.12%, 18.82%, 8.24% and 8.24% respectively.

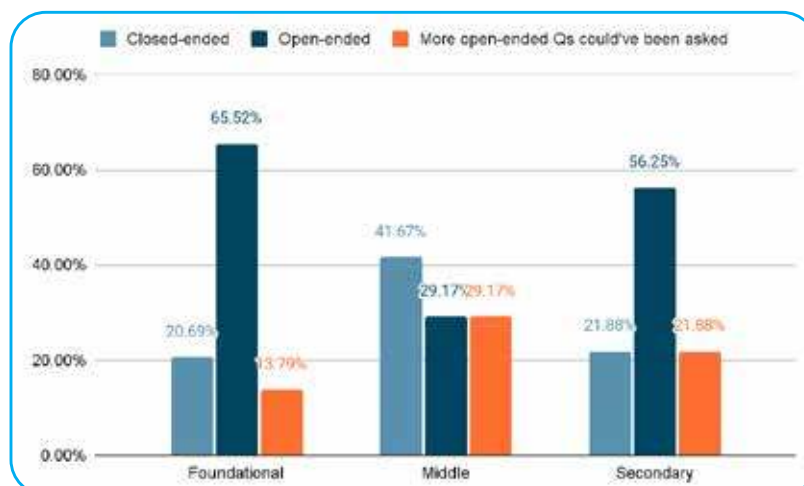
Interpretation & Discussion:

As educational stages advance, there is a notable decrease in the use of open-ended questions, which can be attributed to several factors. One plausible reason could be the increasing complexity and specificity of subject matter. As students progress to higher grades, the curriculum focuses on specialized knowledge, leading teachers to rely more on closed-ended questions that check for factual understanding and mastery of key concepts. The pressure of assessment-driven instruction in higher educational stages can also contribute to the decline in open-ended questions. Teachers may prioritize recall and accuracy since examinations typically test these attributes. Additionally, adolescent psychology may play a significant role in middle and secondary classrooms. Adolescents are at a developmental stage where peer influence and social dynamics become more pronounced, impacting their behaviour and its impact on classroom management. Teachers, recognizing these dynamics, may opt for more structured questioning techniques to maintain classroom order and ensure that material is comprehended.

Theme 3. Nature of Interaction

Q3.1 What was the nature of the interaction in the classroom?

The nature of interaction has direct implications on classroom dialogue, significantly shaping the learning environment and the depth of student engagement. Closed-ended interactions, characterized by questions that require specific, brief responses, are useful for assessing factual knowledge and ensuring comprehension of basic concepts, but they often lead to a more passive learning experience. Open-ended interactions, on the other hand, encourage extended thinking and detailed responses. This approach supports the development of higher-order thinking skills, promotes collaborative learning, and creates a more inclusive and engaging educational environment.



Focus of the data: In foundational classrooms, 20.69% of classrooms predominantly featured closed-ended interactions, while 65.52% engaged in open-ended interactions. Notably, 13.79% of classrooms could have incorporated more open-ended questions.

In the middle stage, the prevalence of closed-ended interactions increased to 41.67%, with only 29.17% of classrooms engaging in open-ended interactions. Additionally, another 29.17% of classrooms showed the need for more open-ended discussion.

In secondary classrooms, 21.88% featured closed-ended interactions, whereas 56.25% engaged in open-ended interactions, and 21.88% could have more open-ended questions.

Interpretation & Discussion:

These findings suggest that while open-ended interactions are more prevalent in foundational and secondary stages, there is still considerable room for improvement, particularly in middle stage classrooms, to foster richer and more engaging classroom dialogue through using more open-ended interaction techniques.

It is indeed plausible that **classroom dialogue becomes more closed-ended as students progress to higher classes**, primarily due to the evolving nature of **curriculum demands, learner needs, and developmental stages**. Below are the key factors and reasons that contribute to this phenomenon, particularly emphasizing the **middle stage**:

Plausible Reasons for Closed-Ended Dialogue

1. Curriculum Demands and Content Focus:

- As the curriculum becomes more advanced in higher grades, there is often a greater emphasis on **content-specific knowledge** and preparation for **standardized exams**.
- Teachers may feel pressured to cover the syllabus within limited timeframes, leading to a preference for **closed-ended questioning** that checks for factual recall and correctness rather than open-ended exploration.
- Subjects like science and mathematics in secondary classes often require precise answers, which can restrict opportunities for broad, exploratory discussions.

2. Learner Needs and Demands:

- In the middle stage, students are at a transitional phase where they are **developing critical thinking** but are still dependent on teacher guidance for structure.

- Adolescents may feel **self-conscious** or **hesitant** to share opinions publicly, especially in front of peers, unless explicitly encouraged by the teacher.
- This developmental phase also brings a mix of curiosity and reluctance, with students often requiring **structured encouragement** to engage in meaningful dialogue.

3. Age Group and Social Nature:

- During the **middle stage**, a student's nature or **behavioral tendencies** may dominate classroom dynamics. Adolescents are more prone to being influenced by peer perceptions, leading to:
 - Fear of being wrong or ridiculed.
 - Preference for passive participation unless they feel safe to express themselves.
- As students mature further into secondary classes, they may become more confident and open to discussions, provided the classroom environment supports it.

4. Teacher's Role and Instructional Strategies:

- In the middle stage, teachers might lean more towards **teacher-led discourse** to manage classroom behavior, ensure content delivery, and maintain focus.
- As students progress and mature, teachers may feel more confident in opening discussions, trusting students to engage constructively in **dialogic learning**.

Middle Stage: Dominance of Student Nature

In middle stage classrooms, the student's **social and emotional development** plays a pivotal role in shaping the dialogue:

- **Reluctance to Volunteer Opinions:** Adolescents may hesitate to express their thoughts due to peer pressure, fear of judgment, or lack of confidence.
- **Teacher-Driven Interactions:** Teachers may adopt closed-ended questioning strategies to maintain control and meet curriculum targets, in advertently limiting opportunities for student-led dialogue.

Shift in Secondary Classrooms: Matured Dialogue Opportunities

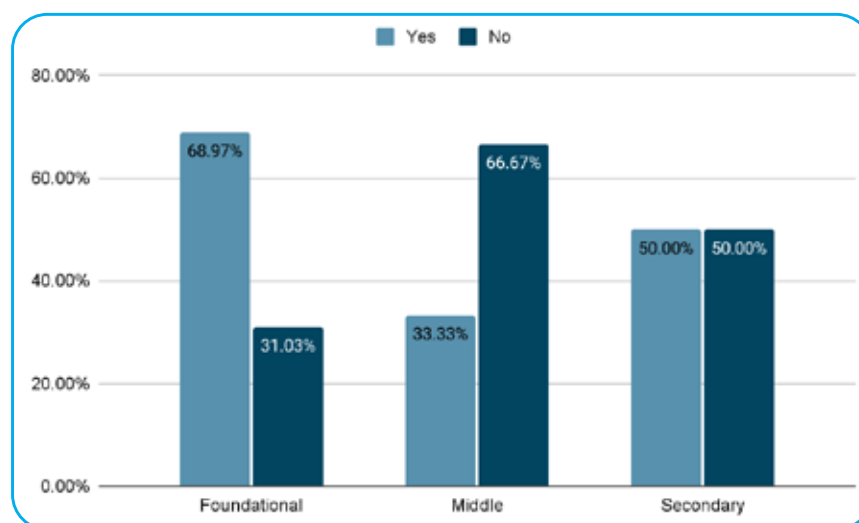
As students mature into secondary classes:

- Their **cognitive and social maturity** allows them to engage in more meaningful discussions and handle abstract or complex ideas.
- Teachers may **deliberately incorporate dialogic strategies**, such as debates, discussions, and peer collaborations, to encourage critical thinking and opinion formation.

Theme 4. Student Participation

Q4.1 Did the students proactively engage even without the teacher inviting them to speak? (Asking questions, offering thoughts, elaboration, sharing examples or personal stories, etc)

Proactive student engagement signifies student ownership and investment in the learning process. When students feel comfortable and motivated to contribute independently, it reflects a classroom culture that values and supports student voices. Along with creating a more comprehensive personal exploration of the subject matter, it can stimulate peer learning and collaboration. When students ask questions or offer insights, it often prompts their classmates to think more deeply and engage in dialogue, creating a more interactive learning environment. This allows teachers to act more as facilitators rather than directors of learning, providing guidance and support as needed while allowing student dialogue to drive the learning process.



Focus of the data: The study observes proactive student engagement in 68.97% of foundational classrooms, with 31.03% showing a lack of such engagement.

In the middle stage, the rate of proactive student engagement drops significantly, with only 33.33% of classrooms exhibiting such participation, and 66.67% lacking it.

In secondary classrooms, proactive student engagement was observed in 50% of the classrooms, while the other 50% did not demonstrate it.

Interpretation & Discussion:

Foundational classrooms exhibit a strong presence of proactive student engagement, showcasing young children's natural curiosity and desire to explore, leading them to ask questions and share ideas more freely. The smaller class sizes and closer teacher-student relationships in elementary classrooms contribute to higher levels of proactive student involvement.

However, the notable decline of such involvement in the middle stage, and a balanced presence in secondary classrooms may suggest differing classroom dynamics and possibly differing teaching strategies and student readiness at each educational stage. Students in middle stages may often experience increased self-consciousness and peer pressure, which can inhibit their willingness to actively participate and share ideas in a classroom setting. The transition may also bring a shift towards more structured and content-focused instruction by the teachers. There is a need to adopt such measures for middle and secondary stage students to unleash their natural creativity. As students mature in secondary stages, they may opt more to contribute in a classroom.

Q4.2 How many students participated in the interaction?

Participation in the classroom refers to the **active involvement of students in the teaching-learning process**. It encompasses verbal and non-verbal interactions between students and teachers or among peers. Participation reflects the level of **engagement, inclusivity, and equity** in the classroom environment and can include behaviors such as asking questions, responding to teacher prompts, engaging in discussions, and collaborating in group activities.

Types of Participation:

1. Teacher-Student Interaction:

- Students directly engage with the teacher by asking questions, answering prompts, or contributing ideas during class.

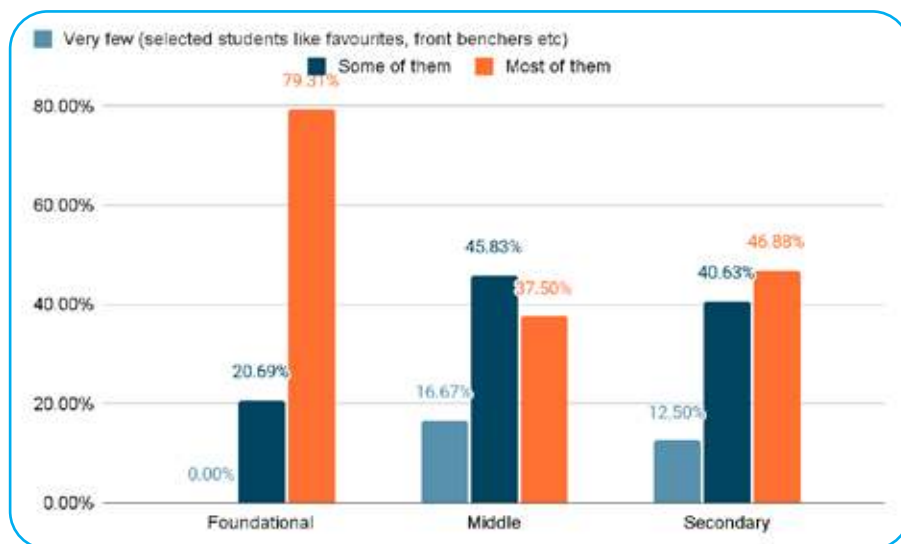
2. Student-Student Interaction:

- Peer-to-peer discussions, collaborative group work, or informal exchanges during activities.

3. Non-Verbal Participation:

- Active listening, nodding, taking notes, or other forms of engagement that do not involve speaking.

Participation is a key indicator of classroom engagement and inclusivity. While foundational stage students depend more on teacher guidance, middle stage students demonstrate higher levels of peer interaction, reflecting their growing social and cognitive skills. Teachers play a critical role in fostering a positive classroom climate where all students feel empowered to contribute, ensuring a balanced and equitable learning experience. The number of students participating in classroom interactions can showcase the breadth of dialogue with a higher level of participation typically indicating a more inclusive, equitable and engaging classroom. Widespread participation can foster a positive classroom climate, where students feel valued and connected, and provide teachers with crucial insights into student understanding, enabling more responsive and effective instruction. Conversely, low participation may signal issues with equity and engagement, suggesting that some students may not have adequate opportunities to contribute, potentially hindering a balanced learning experience



Focus of the data: In the foundational stage, 79.31% of classrooms saw most students participating, with 20.69% involving participation of some of them and no classroom observed participation of only a few students.

In contrast, the middle stage showed a more varied pattern where 37.5% of classrooms had most students involved, 45.83% had some students participating and 16.67% had very few and selected students participating.

In the secondary stage, participation was relatively balanced, with 46.88% of classrooms having most students engage, 40.63% involving some students, and 12.5% reporting very few students participating.

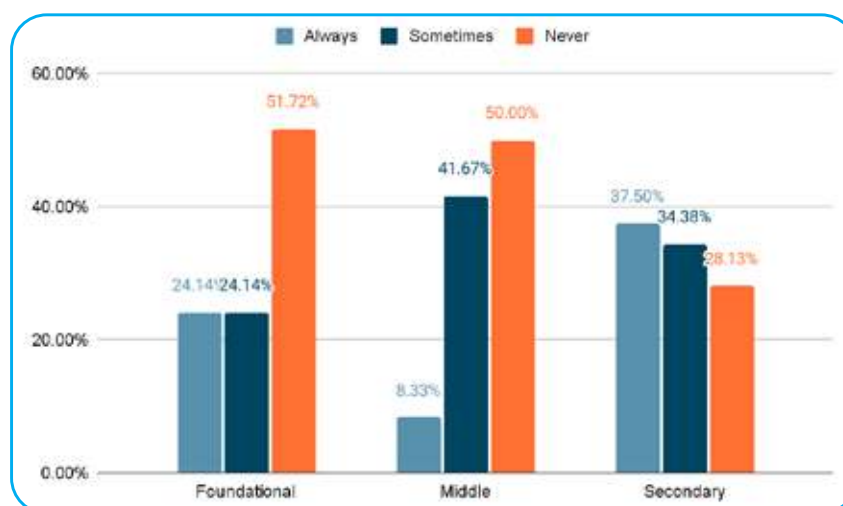
Interpretation & Discussion: The higher number of students involved in classroom dialogue in foundational stages compared to middle and secondary stages can be attributed to several

factors. Young children in foundational stages exhibit natural curiosity and enthusiasm, leading to greater engagement in classroom activities. Instructional strategies in these early years often involve interactive and hands-on methods that encourage broad participation.

In contrast, as students progress to middle and secondary stages, increased self-consciousness and peer pressure may inhibit their willingness to participate actively. Additionally, as mentioned earlier in the study, the focus in higher stages often shifts towards content-heavy instruction and standardised assessments, which may limit opportunities for interactive dialogue. Teachers can implement strategies to enhance student engagement by fostering an inclusive classroom environment that encourages all students to contribute. Utilizing interactive methods, such as group activities and open-ended questioning, can help ensure that a greater number of students actively participate in classroom interactions.

Q.4.3 Did the teacher request the students to build on the responses of other students?

When teachers request students to build on each other's responses, it has several positive implications for classroom interactions. It can encourage deeper understanding and exploration of concepts as students integrate multiple perspectives and expand upon their peers' contributions. This can also enhance communication skills and promote a sense of community within the classroom, as students learn to value and constructively critique each other's viewpoints.



Focus of the data: In foundational classrooms, teachers always asked students to build on each other's responses in 24.14% of classrooms, with another 24.14% classes sometimes incorporating this practice, and 51.72% never doing so.

In middle stage classrooms, only 8.33% of classrooms always encouraged this practice, 41.67% did so sometimes, and 50% never asked students to build on each other's responses.

In secondary classrooms, 37.5% frequently asked students to build on responses, 34.38% sometimes did, and 28.13% never engaged in this practice.

Interpretation & Discussion: There is a significant variation in the extent to which teachers promote collaborative dialogue across educational stages, with a generally higher frequency of such requests in secondary classrooms compared to earlier stages.

Interpretation & Discussion

The data reveals significant variations in the extent to which teachers encourage students to build on each other's responses across educational stages. This practice, which involves students actively engaging with and expanding on their peers' ideas, is notably more frequent in **secondary classrooms** compared to the foundational and middle stages:

1. Foundational Classrooms:

- Only **24.14%** of classrooms always incorporate this practice, while **51.72%** never do.
- Teachers at this stage may focus more on **teacher-student interaction** due to the younger students' developmental stage, where they are still building foundational social, cognitive, and communication skills.
- The practice of asking students to build on others' responses may be seen as too advanced for young learners.

2. Middle Stage Classrooms:

- Only **8.33%** always encourage building on responses, while **50%** never do so, showing a marginal improvement over the foundational stage.
- Teachers might not understand middle-stage students mature enough to effectively engage in collaborative dialogue or feel the need to maintain tighter control over classroom discussions.
- This is a **missed opportunity** to start fostering critical thinking and collaborative skills, as middle-stage students are at a point where they can begin to explore ideas with guidance.

3. Secondary Classrooms:

- **37.5%** frequently incorporate this practice, and **34.38%** do so sometimes, reflecting a significant increase compared to earlier stages.
- Teachers at this stage likely have greater confidence in students' abilities to engage in meaningful, structured discussions and build on others' ideas, as secondary students are generally more cognitively and socially mature.

Why is this practice more common in secondary classrooms?

1. Teacher Perception of Student Capability:

- Teachers may perceive secondary students as having the **confidence, maturity, and cognitive skills** required to engage in collaborative dialogue effectively.
- In contrast, middle-stage students may be seen as less capable of managing the complexity of building on peers' responses, though this perception may not align with their actual abilities.

2. Classroom Dynamics and Goals:

- Secondary classrooms often emphasize **critical thinking, deeper understanding, and collaborative problem-solving**, making peer-to-peer interaction more relevant.
- Curriculum goals at earlier stages may prioritize individual comprehension or basic skill-building, reducing the emphasis on collaborative dialogue.

3. Confidence in Older Students:

- Secondary students are typically more confident in expressing and defending their ideas, which facilitates building on others' contributions.
- Adolescents in the middle stage may struggle with **peer pressure and self-consciousness**, leading teachers to shy away from practices that demand public articulation and critique.

Why is it important to introduce this practice earlier?

1. Missed Opportunities for Collaborative Learning:

- When teachers do not encourage students to build on each other's responses, it limits the **depth and breadth of classroom dialogue**.
- Students may only engage with their own ideas or the teacher's prompts, creating isolated and less interactive discussions.
- Encouraging this practice fosters a **collaborative classroom culture**, where students learn to listen actively, think critically, and expand on diverse perspectives.

2. Benefits of Collaborative Dialogue:

- **Cognitive Development:** By building on peers' responses, students develop **higher-order thinking skills**, such as analysis, synthesis, and evaluation.

- **Social and Emotional Skills:** Collaborative dialogue helps students build **communication, empathy, and teamwork** skills.
- **Engagement and Inclusion:** This practice makes discussions more dynamic and ensures that all students feel involved and valued.

3. Starting Early Builds Habits:

- Introducing this practice in the **middle stage** can create a strong foundation for collaborative skills, preparing students for the more complex discussions expected in secondary classrooms.
- Structured activities like **think-pair-share** or **guided peer feedback** can scaffold these skills, gradually increasing students' confidence.

Promoting the practice of building on others' responses is critical for fostering **collaborative dialogue, critical thinking, and inclusive classroom culture**. While secondary classrooms show a higher frequency of this practice, earlier stages, particularly the middle stage, present valuable opportunities to introduce and scaffold these skills. By addressing teacher perceptions and providing support, Teachers can ensure that students across all stages benefit from enriched, interactive learning experiences.

Theme 5. Depth of Student Engagement

Q5.1 How did the students respond to each other? (patiently, respectfully, negatively, angrily, violently, discouragingly, with any particular gesture ...)

The way students interact in a classroom plays a pivotal role in shaping the quality and depth of the discussions that occur. When students communicate with one another in a manner that is respectful and patient, they create a safe space where diverse opinions can be expressed without fear of judgement. This openness allows for the exploration of different viewpoints, fostering a richer and more nuanced understanding of the subject matter.

On the other hand, when students respond negatively, with anger, or with dismissiveness, it can have a hampering effect on dialogue. Such behaviour can discourage others from participating, as they may fear criticism or rejection. This not only limits the exchange of ideas but also diminishes the overall learning experience, as the classroom becomes a space where only certain voices are heard. Therefore, the tone and attitude of student interactions are crucial in shaping the dynamics of classroom dialogue.

The way students interact with one another significantly impacts the **quality, inclusivity, and depth** of classroom discussions. The observed spectrum of responses – ranging from patient and respectful to negative and discouraging – plays a pivotal role in shaping the dynamics of classroom dialogue and the learning environment.

Positive Interactions (Patiently, Respectfully)

1. Fostering a Safe Learning Environment:

- Respectful and patient interactions create a classroom culture where students feel **safe to express diverse opinions** without the fear of judgment.
- This encourages **active participation** and facilitates the exploration of multiple perspectives, leading to a more nuanced understanding of the subject matter.

2. Encouraging Peer Collaboration:

- When students respond respectfully, they are more likely to build on each other's ideas, promoting **collaborative learning** and deep engagement.
- Such interactions foster a sense of community and belonging, which is essential for sustained participation.

3. Enhancing Cognitive and Social Development:

- Positive peer interactions enhance **critical thinking and problem-solving** by allowing students to analyze, critique, and refine ideas together.
- Respectful communication helps develop **social skills**, such as active listening, empathy, and constructive feedback.

Negative Interactions (Negatively, Angrily, Discouragingly)

1. Limiting Engagement:

- When students respond negatively or discouragingly, it creates a **chilling effect** on dialogue, as peers may hesitate to participate for fear of criticism or rejection.
- This limits the exchange of ideas and reduces the overall depth of classroom discussions.

2. Undermining Inclusivity:

- Negative responses can make certain students feel excluded or undervalued, leading to a lack of **representation of diverse voices** in the classroom.

- It may also complicate existing inequities, as quieter or marginalized students may withdraw entirely from discussions.

3. Disrupting Classroom Dynamics:

- Anger, dismissiveness, or violence (verbal or physical) disrupts the flow of dialogue and may result in **conflict** or **tension**, hindering the learning process for all.

4. Impact on Teacher Intervention:

- Teachers may need to spend additional time **managing behavior** instead of focusing on fostering meaningful dialogue, reducing the overall effectiveness of the class.

Gestures and Non-Verbal Cues

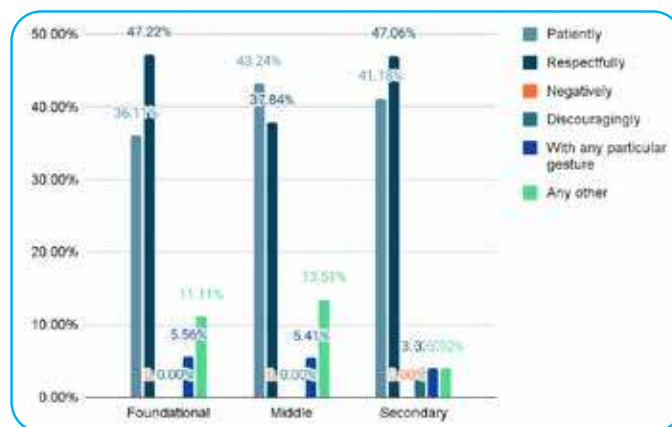
Non-verbal communication, such as nodding, facial expressions, or body language, also contributes to classroom interactions.

1. Positive Gestures:

- Nods or smiles can **encourage peers** to continue speaking, reinforcing confidence and inclusivity.

2. Negative Gestures:

- Rolling eyes, crossing arms, or dismissive gestures can communicate disapproval or disengagement, discouraging participation.



Focus of the data: In foundational classrooms, the study found that in 36.11% of the classrooms observed, students responded to one another with patience. In 47.22% of the classrooms, students exhibited responses characterized by mutual respect. Additionally, in 5.56% of the classrooms, students employed various other forms of gestures. The responses in 11.11% of classrooms were categorized under ‘any other’ type of interactions.

In the middle stage, students responded patiently to one another in 43.24% classrooms. In 37.84% of classrooms, responses were marked by mutual respect. In 5.41% classes, particular gestures were used amongst students and the remaining 13.51% classrooms saw students responding in other ways.

Secondary stage followed a similar pattern with students in 41.18% and 47.06% classrooms responding to each other with patience and respect, respectively. There were also instances in 3.92% classes where the students discouraged each other. In the same percentage of classrooms, students responded to each other using particular gestures and in other ways.

Interpretation & Discussion: When students respond to each other with patience and respect, the implications for classroom dialogue are positive. This can create an environment where students feel valued and heard, encouraging active participation and the sharing of diverse perspectives. Patience allows students to listen fully before reacting, fostering thoughtful and reflective responses. Respect ensures that differing opinions are acknowledged without judgement, promoting a culture of inclusivity and collaboration. This can enhance the quality of dialogue, as students are more likely to engage deeply with the material and with one another. It also supports the development of critical thinking skills, as students feel safe to challenge ideas and explore complex issues without fear of ridicule or dismissal.

In essence, when students respond to each other with patience and respect, it sets the stage for meaningful, constructive dialogue that benefits both individual learning and the overall classroom dynamic.

Q5.2 Were there instances when the students did not take content at face value and engaged in an analysis/criticism? (questioning, criticism, offering alternative explanations or points of view...)

When students do not take content at face value and engage in analysis and criticism – such as questioning, offering alternative explanations, or presenting different points of view – the implications for classroom dialogue are significant. Firstly, this approach fosters a deeper understanding of the material. By questioning and critically evaluating content, students are encouraged to move beyond surface-level learning and engage with the underlying concepts. This critical engagement promotes higher-order thinking skills, such as analysis, synthesis, and evaluation, which are essential for academic growth.

Moreover, when students offer alternative explanations or viewpoints, it enriches the classroom dialogue by introducing multiple perspectives. This diversity of thought can lead to more comprehensive discussions, where ideas are challenged and refined through collective inquiry. It also encourages students to consider and respect differing opinions, thereby enhancing their ability to think critically and empathize with others.

Engaging in such dialogue also empowers students to take ownership of their learning. When students feel confident to question and critique, they become active participants in the learning process rather than passive recipients of information. This active engagement can increase motivation and interest in the subject matter, leading to a more dynamic and interactive classroom environment.



Focus of the data: In foundational stage classrooms, the study observed that students questioned the course content in 10.34% of the classrooms, while 31.03% of classrooms saw students offering alternative explanations. The remaining 58.62% of responses were categorized as ‘any other’.

In the middle stage, students questioned the course content in 16.67% classrooms, and 8.33% of classrooms featured students offering alternative explanations. The remaining 75% of responses fell into the ‘any other’ category.

In 15.63% secondary classrooms each, students questioned the content, and offered alternative explanations. The remaining 68.75% of classroom responses were classified as ‘any other’.

Interpretation & Discussion:

Encouraging questioning is essential for a more interactive and insightful learning environment. When students do not question what is being taught in a classroom, it limits the depth and quality of classroom dialogue. The lack of inquiry can result in a superficial understanding of the material, as students miss opportunities to critically assess and engage with the content. This also reduces critical thinking skills and limits discussion depth, leading to less dynamic and rigorous conversations. Additionally, without questions, students may show lower engagement and reduced motivation, while diverse perspectives remain unexplored. Moreover, teachers receive less feedback on their instructional effectiveness. While more classrooms show students questioning the content as the educational stage evolves, however the overall percentages remain inadequate.

The relative dearth of students offering alternative explanations in middle-level classrooms can be attributed to several factors. At this stage, students may still be building elementary knowledge and may lack the confidence to challenge established ideas. The curriculum often focuses on mastering basic concepts rather than fostering critical analysis, and classroom dynamics may not always support open dialogue. Teacher expectations might emphasize standardized responses over exploratory thinking. Additionally, students may not yet have the confidence to present alternative explanations due to fear of judgement. Creating a supportive environment that values critical engagement can help address these issues.

When a school's atmosphere discourages questioning, critical evaluation of course content, or challenging authority, it creates a **restrictive learning environment** that limits intellectual growth, creativity, and independent thought among students. Such an atmosphere can stem from rigid hierarchical structures, a strong emphasis on rote learning, or a fear of dissent, which stifles the ability of students to develop essential skills for lifelong learning and citizenship.

Implications of a Non-Engaging Atmosphere

1. Hindered Critical Thinking:

- A lack of opportunities to question or critique course content prevents students from developing **higher-order cognitive skills**, such as analysis, evaluation, and synthesis.
- This fosters a culture of **passive learning**, where students accept information without examining its validity, relevance, or implications.

2. Suppressed Curiosity:

- Students in such environments may become disengaged, as their natural curiosity and desire to explore are discouraged.
- This can lead to **surface-level learning**, where students focus only on memorizing facts for assessments rather than seeking deeper understanding.

3. Limited Problem-Solving Skills:

- The inability to challenge authority or critically evaluate course content denies students the chance to explore alternative viewpoints or propose innovative solutions.

4. Restricted Development of Democratic Values:

- Schools play a pivotal role in preparing students to be active, informed citizens. An authoritarian or unquestioning atmosphere undermines the cultivation of **dialogue, debate, and democratic principles**.

5. Teacher-Centered Classrooms:

- A school environment that discourages questioning often reflects **teacher-centered approaches**, where the teacher is viewed as the sole authority, and students are passive recipients of knowledge.
- This can diminish student agency and autonomy, reducing engagement and motivation.

Why Questioning and Critical Evaluation Are Crucial

1. Fostering Lifelong Learning:

- Encouraging questioning helps students become **inquisitive learners** who are equipped to analyze and solve real-world problems.

2. Building Confidence:

- When students feel safe to challenge authority or content, they develop **self-confidence** and learn to articulate their ideas effectively.

3. Promoting Equity:

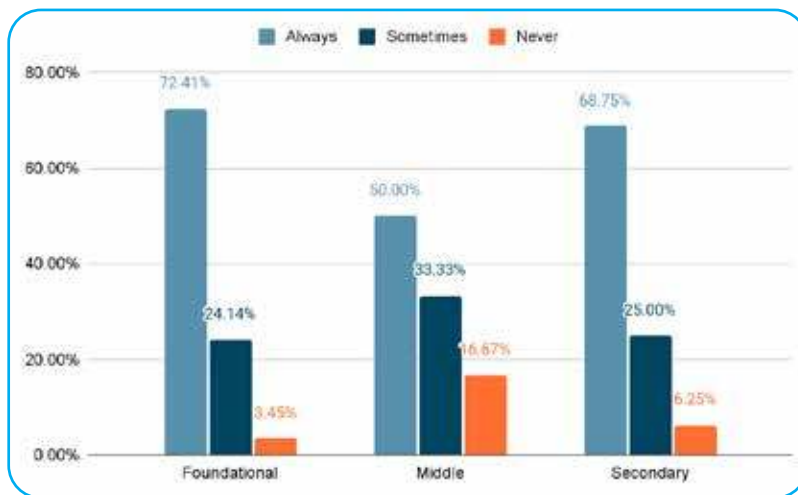
- A culture that values diverse perspectives ensures that all students, regardless of background or ability, feel heard and respected.

An atmosphere that discourages questioning and critical evaluation undermines the fundamental purpose of education: to empower students with the ability to think independently, challenge norms, and contribute meaningfully to society. Schools must prioritize fostering an **inquiry-driven culture**, where students are encouraged to question, evaluate, and engage in meaningful dialogue. This not only enhances learning outcomes but also prepares students to navigate complex global challenges with confidence and critical insight.

Theme 6. Relevance

Q.6.1 Were the student questions/responses in alignment with the course content?

When student questions align with the course content, it can have both positive and negative impacts on classroom dialogue. Positively, such alignment ensures that questions are relevant and directly contribute to a deeper understanding of the material, facilitating focused and productive discussions. It helps maintain the coherence of the dialogue, allowing for more structured and meaningful exchanges. However, if questions are overly aligned and do not challenge the content or explore broader implications, they may limit the scope of discussion and stifle critical thinking. This can result in a less dynamic dialogue, where opportunities for exploring diverse perspectives and fostering deeper inquiry are missed. Balancing alignment with opportunities for critical engagement is key to enriching classroom discussions.



Focus of the data: At the foundational stage, in 72.41% classrooms, student questions were always in alignment with the course content. In contrast, 24.14% classrooms witnessed this alignment sometimes and 3.45% had student questions that were never in alignment with the course.

In middle level classrooms, the trend shifts and becomes more balanced where in 50% classrooms, student questions were always aligned with the course. In 33.33% classes, student questions were sometimes aligned and in 16.67% they were never aligned.

Secondary classrooms revert to the patterns of foundational classrooms where student questions find alignment with course content always, sometimes and never in 68.75%, 25% and 6.25% classrooms.

Interpretation & Discussion:

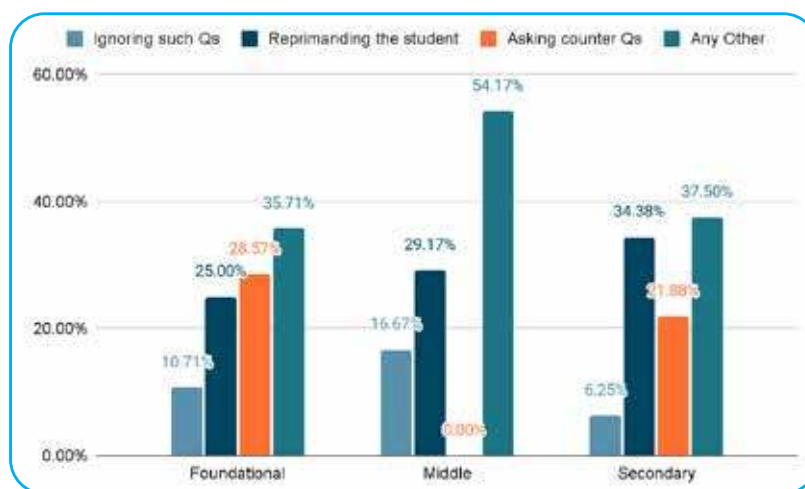
The data reveals interesting shifts in how students' questions align with course content across foundational, middle, and secondary classrooms. At the foundational level, a high percentage of classrooms (72.41%) consistently demonstrate alignment, suggesting that students at this stage typically remain within the boundaries of what is being taught. While this coherence helps maintain a clear focus on course objectives, it may also indicate that younger students are more dependent on teacher cues and less likely to stray into exploratory or critical questioning.

In middle-level classrooms, the balance is more evenly distributed: half of the classrooms report consistent alignment, one-third report partial alignment, and a notable 16.67% indicate little to no alignment. This variability could reflect a transitional stage where students begin exercising more autonomy and curiosity, occasionally venturing beyond the immediate scope of the curriculum. Although this can enrich dialogue through broader inquiry, it might also challenge teachers to manage a wider range of student interests and tangential discussions.

Secondary classrooms show a pattern similar to the foundational level, with the majority (68.75%) of questions always aligned and smaller proportions sometimes (25%) or never (6.25%) aligning with the content. This could suggest that older students, while capable of posing broader questions, often prioritize curriculum alignment due to academic pressures (e.g., exams, college preparation), thus limiting spontaneous exploration beyond the prescribed material.

Overall, although alignment ensures relevance and clarity in discussions, it can restrict deeper, critical engagement if the questioning rarely ventures beyond course boundaries. These findings highlight the importance of *balance*: while teachers benefit from questions that reinforce core concepts, they also need to create opportunities for students to push the conversation further. Encouraging more open-ended, thought-provoking questions – without losing sight of curricular goals – could foster richer dialogue, greater intellectual curiosity, and stronger critical thinking skills at all stages of schooling.

Q.6.2 How did the teacher respond to questions or responses not related to course content/ongoing discussion? (ignoring such questions, reprimanding the student, asking counter questions, any other ...)



Focus of the data:

The chart represents how teachers responded to student questions or responses unrelated to the course content or ongoing discussion across three stages of schooling: Foundational, Middle, and Secondary. The categories of responses include:

- Ignoring such questions
- Reprimanding the student
- Asking counter questions
- Any other

Interpretation:

1. Ignoring such questions:

- **Foundational:** Only 10.71% of teachers ignored unrelated questions at this stage, indicating a tendency to engage with or redirect students rather than dismiss their queries.
- **Middle:** This response increased to 16.67%, possibly showing a higher tendency to manage classroom discussions more rigidly.
- **Secondary:** The percentage dropped sharply to 6.25%, suggesting a focus on directly addressing or redirecting such questions.

2. Reprimanding the student:

- **Foundational:** 25% of teachers reprimanded students, reflecting a somewhat rigid approach to classroom management at this stage.
- **Middle:** This response decreased significantly to 0%, highlighting a shift toward more constructive handling of unrelated questions.
- **Secondary:** Reprimanding increased again to 21.88%, possibly reflecting stricter classroom discipline at higher stages.

3. Asking counter questions:

- **Foundational:** 28.57% of teachers asked counter questions, showing an effort to engage students constructively even when their questions are unrelated.
- **Middle:** This approach peaked at 54.17%, suggesting that teachers encouraged critical thinking and reflection during this stage.
- **Secondary:** It dropped to 34.38%, which may indicate a focus on curriculum-driven teaching at this level.

4. Any other:

- **Foundational:** 35.71% of teachers fell into this category, suggesting a variety of other responses, such as redirection or humor.
- **Middle:** This response dropped to 29.17%, indicating fewer variations in how teachers handled these scenarios.
- **Secondary:** It rose to 37.50%, potentially showing a flexible and creative approach in addressing student inquiries.

Interpretation & Discussion:

- **Foundational Stage:** Responses are fairly evenly distributed, but the high percentage of “reprimanding the student” suggests a need for teacher training in nurturing curiosity and guiding students positively.

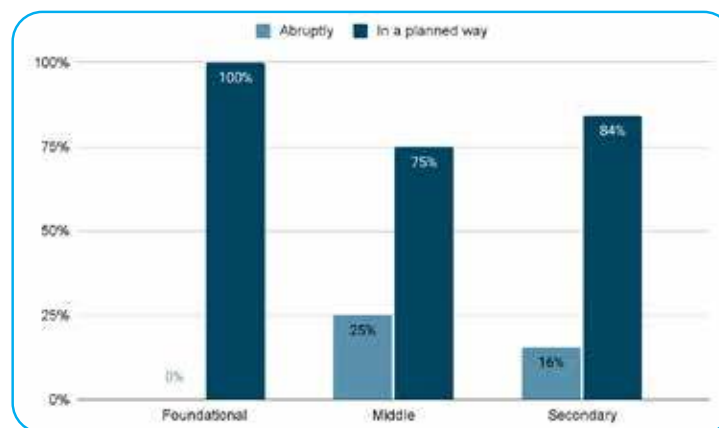
- **Middle Stage:** The dominant use of “asking counter questions” reflects a focus on critical thinking and discussion-based learning. This stage appears to be the most progressive in handling unrelated questions.
- **Secondary Stage:** There is a more significant emphasis on discipline (“reprimanding”) and addressing questions creatively (“any other”), possibly due to curriculum pressures and the maturity of students.

Recommendations:

- Encourage strategies to reduce reprimanding students across all stages by fostering an open, inquiry-driven environment.
- Promote the effective use of “asking counter questions” at the foundational and secondary stages to sustain curiosity and engagement.
- Provide teacher training to diversify “any other” responses, ensuring they are constructive and inclusive across all stages.

Theme 7. Summarizing

Q.7.1 How did the class conclude?



Focus of the data:

The chart highlights how classes concluded across three schooling stages – Foundational, Middle, and Secondary – categorized into two modes: **Abruptly** or **In a planned way**.

Interpretation:

1. Foundational Stage:

- **Planned Conclusion:** 100% of classes were concluded in a planned way at this stage. This suggests that foundational teachers prioritize structured

closure, likely to instill routines and help young learners transition smoothly to subsequent activities.

- **Abrupt Conclusion:** 0% indicating no abrupt endings at this level.

2. Middle Stage:

- **Planned Conclusion:** 75% of classes were concluded in a planned way, reflecting significant adherence to structured practices while leaving some room for abrupt endings.
- **Abrupt Conclusion:** 25%, a noticeable rise compared to the foundational stage. This may occur due to time management challenges or dynamic class discussions at this stage.

3. Secondary Stage:

- **Planned Conclusion:** 84% of classes were concluded in a planned way, showing a high level of emphasis on structured endings despite the complexity of the curriculum.
- **Abrupt Conclusion:** 16%, a slight improvement over the middle stage but still notable. Time constraints or the intensity of subject discussions might contribute to this.

Interpretation & Discussion:

- **Planned Conclusions** dominate all stages, reflecting good teaching practices aimed at reinforcing key learning points and ensuring clarity for students. However, the slight drop in planned conclusions from the foundational to the middle stage suggests a need for better time management and pedagogical strategies in the middle school years.
- **Abrupt Conclusions** are more prevalent in the middle and secondary stages, potentially due to:
 - Complex and unpredictable class dynamics.
 - Insufficient planning or time management.
 - Pressure to cover extensive syllabi within limited time frames.

Recommendations:

1. Training on Class Closure Techniques:

- Provide teacher training on effective summarization strategies that work within time constraints. For instance, quick recaps or exit tickets could help structure class endings.

2. Time Management Skills:

- Focus on strategies to allocate time effectively for summarizing, particularly for middle and secondary school teachers.

3. Monitoring and Feedback:

- Encourage peer observation and feedback mechanisms to identify gaps in planned class closures.

4. Student Engagement:

- Involve students in summarizing the lesson (e.g., by sharing key takeaways), ensuring more consistent and collaborative closures.

By fostering these practices, abrupt conclusions could be minimized, maintaining clarity and reinforcing learning objectives across all stages.

The study highlights the existing state of dialogic teaching in classrooms and identifies key strengths and areas for improvement. While teacher-student interactions dominate classroom discourse, there is considerable untapped potential in fostering student-student interactions and promoting exploratory dialogue. The findings emphasize the importance of adopting dialogic teaching strategies to enhance critical thinking, collaborative learning, and inclusivity across all educational stages. Addressing these gaps will require targeted interventions, including professional development for teachers, revised pedagogical frameworks, and content that supports open-ended inquiry and discussion.

This chapter underscores the transformative potential of dialogic teaching and serves as a foundation for recommending practical strategies to make classrooms more interactive, inclusive, and student-centered.

Foundational Stage: Major Findings (Elaborated)

1. Teacher-Centric Interactions

Classroom discussions in the foundational stage were observed to be overwhelmingly teacher-driven. Teachers served as the primary source of information, initiating and controlling most of the dialogue. While this approach is consistent with the developmental needs of younger learners, it resulted in:

- **Minimal Opportunities for Student-Initiated Dialogue:** Students rarely had the chance to ask questions, share opinions, or steer the direction of discussions. This restricted their ability to develop critical thinking and independent communication skills at an early stage.

- **Focus on Direct Instruction:** Teachers primarily delivered lessons through lectures, demonstrations, or guided questioning, leaving little room for interactive or dialogic teaching. The objective was often to ensure basic comprehension and skill acquisition, rather than fostering exploration or inquiry.

2. Limited Peer Interactions

The frequency of student-student interaction in foundational classrooms was notably low, which can be attributed to both developmental factors and instructional practices:

- **Reliance on Teacher Guidance:** At this stage, young learners depend heavily on the teacher for direction, validation, and reinforcement, which can limit opportunities for peer-to-peer dialogue.
- **Unstructured Peer Engagement:** Even when students interacted, these exchanges were informal and lacked clear pedagogical intent. Teachers seldom facilitated structured peer discussions or activities that required students to collaborate meaningfully.
- **Missed Opportunities for Social Development:** Limited peer interactions meant that students had fewer chances to develop essential social skills, such as listening, negotiating, and cooperating.

3. Focus on Structure and Routine

The foundational stage heavily emphasized structured activities aimed at establishing classroom routines and reinforcing foundational knowledge:

- **Predictability in Activities:** Teachers followed predictable patterns of instruction to provide stability and clarity for young learners. While this approach supports classroom management, it often leaves little room for flexibility or spontaneous exploration.
- **Repetition and Skill Reinforcement:** Activities were designed to help students master basic skills, such as reading, writing, and numeracy. The focus was on achieving specific learning outcomes rather than engaging in exploratory or dialogic dialogue.
- **Limited Open-Ended Exploration:** Teachers often avoided open-ended questions or discussions, as these might deviate from the planned curriculum or challenge the structured environment. This reduced opportunities for students to think critically or engage in creative problem-solving.

4. Dialogic Practices

While dialogic teaching practices—such as encouraging students to build on each other’s responses—are essential for fostering collaborative learning, these were largely absent in foundational classrooms:

- **Low Frequency of Collaborative Dialogue:** Only **24.14%** of classrooms consistently encouraged students to build on peers' responses. This indicates that the majority of foundational classrooms lacked structured practices that promote peer interaction and idea sharing.
- **Emphasis on Individual Learning:** Teachers often prioritized individual responses over collaborative discussions, reinforcing a one-to-one dynamic rather than fostering group participation.
- **Barriers to Dialogic Teaching:**
 - **Developmental Limitations:** Teachers might perceive young students as lacking the cognitive or social maturity needed for collaborative dialogue.
 - **Instructional Constraints:** The structured nature of foundational-stage teaching often leaves little time or flexibility for open-ended, student-driven exchanges.

Implications for Foundational Education

The limited integration of peer interactions and dialogic practices in foundational classrooms reflects a missed opportunity to develop critical early skills:

1. **Cognitive Development:** Collaborative dialogue can help young learners articulate their thoughts, understand diverse perspectives, and enhance comprehension.
2. **Social Skills:** Peer interactions foster listening, empathy, and teamwork – skills that are crucial for personal and academic growth.
3. **Engagement and Curiosity:** Encouraging students to build on each other's responses can make learning more interactive and enjoyable, sustaining their natural curiosity.

Recommendations

1. **Introduce Structured Peer Activities:**
 - Use simple, scaffolded tasks like “turn and talk” or small group discussions to encourage peer interaction.
2. **Model Dialogic Practices:**
 - Teachers can model how to build on a peer's response by paraphrasing, asking clarifying questions, or adding ideas.

3. Balance Structure and Flexibility:

- While maintaining routines, integrate moments for open-ended exploration and collaborative problem-solving.

4. Professional Development for Teachers:

- Equip teachers with strategies to incorporate dialogic teaching in age-appropriate ways, even in structured environments.

By fostering peer interactions and dialogic practices at the foundational stage, Teachers can lay the groundwork for critical thinking, collaboration, and meaningful engagement in later stages of education.

Middle Stage: Major Findings (Elaborated)

1. Increased Participation but Limited Depth

Student participation improved during the middle stage compared to the foundational stage, as students exhibited a greater ability to engage with the learning process. However, the depth of these interactions remained limited due to several factors:

- **Emphasis on Factual Recall and Task Completion:**
 - Classroom discussions were often centered on retrieving information and completing assignments rather than fostering critical thinking or open-ended exploration.
 - Teachers frequently prioritized correct answers and curriculum coverage, leaving little room for nuanced discussions or debate.
- **Hesitancy in Encouraging Peer-to-Peer Collaboration:**
 - Only 50% of classrooms allowed students to build on peers' responses **occasionally**, while the other half never incorporated this practice.
 - Teachers expressed **low confidence** in letting students engage in extended dialogues, potentially due to concerns about classroom management or the developmental readiness of students.
- **Missed Opportunities for Deeper Engagement:**
 - The absence of dialogic practices limited students' ability to co-construct knowledge, analyze concepts collaboratively, or reflect critically on the subject matter.

2. Emerging Peer Interactions

While middle-stage students began to interact with their peers more frequently, the quality and structure of these interactions remained inconsistent:

- **Unstructured Peer Engagement:**
 - Students were often left to engage informally during group tasks, with limited guidance or facilitation from the teacher. This reduced the effectiveness of peer interactions in achieving meaningful learning outcomes.
- **Potential for Collaborative Learning:**
 - Observations revealed that students had the **cognitive and social potential** to collaborate effectively, but these skills needed nurturing through structured activities.
 - In classrooms where peer interactions were facilitated, students demonstrated a higher level of understanding, creativity, and engagement.
- **Varied Implementation:**
 - Teachers varied in their approach to fostering peer interactions, with some creating opportunities for collaboration while others relied solely on traditional, teacher-led methods.

3. Challenges with Confidence and Engagement

Middle-stage students showed hesitation in expressing opinions or engaging in discussions that required critical thinking or challenging ideas:

- **Social Dynamics:**
 - Adolescents at this stage are highly sensitive to peer perceptions, which can lead to **fear of judgment or criticism**. This social pressure often inhibited students from participating actively in open-ended discussions.
- **Reluctance to Express Opinions:**
 - Students were often reluctant to voice differing views or question established ideas, reducing the diversity and richness of classroom dialogue.
- **Need for Teacher Encouragement:**
 - Teachers needed to play a more active role in **encouraging participation** and creating a safe environment for students to share their thoughts without fear.

Implications for Middle Stage Education

The middle stage represents a **transitional phase** in which students begin to develop the cognitive and social skills necessary for meaningful dialogue. However, the lack of depth and structure in classroom discussions presents challenges:

1. Cognitive Growth:

- While middle-stage students are capable of engaging in collaborative learning, the absence of structured peer interactions can hinder the development of **critical thinking and problem-solving skills**.

2. Social Development:

- Limited opportunities for peer collaboration restrict the development of **communication and teamwork abilities** that are essential for future academic and personal success.

3. Engagement and Equity:

- Hesitancy to participate may lead to unequal engagement, with more confident students dominating discussions while others remain passive.

Recommendations

1. Facilitate Structured Peer Activities:

- Teachers should design **scaffolded tasks** that encourage students to engage meaningfully with peers. For example:
 - Pair discussions with specific prompts.
 - Small group projects with defined roles and outcomes.

2. Build Confidence Through Safe Spaces:

- Create a classroom culture where students feel **safe to express opinions**, even if they differ from peers or the teacher.
- Use positive reinforcement to reward thoughtful contributions and respectful dialogue.

3. Model Collaborative Practices:

- Teachers can demonstrate how to build on peers' responses by paraphrasing, asking clarifying questions, or adding ideas.
- Provide students with sentence starters, such as:

- “I agree with what X said, and I think...”
- “I see your point, but I wonder...”

4. Encourage Critical Thinking:

- Incorporate open-ended questions and group tasks that require analysis, debate, or creative problem-solving.
- For example, present scenarios or dilemmas that require students to collaborate and arrive at a consensus.

5. Professional Development for Teachers:

- Equip teachers with strategies to facilitate **dialogic teaching** and manage collaborative discussions effectively.
- Provide training on how to address social dynamics that inhibit participation.

Conclusion

The middle stage presents a critical opportunity to develop students’ ability to engage in meaningful dialogue and collaborative learning. While peer interactions and participation improve compared to the foundational stage, the lack of depth and structure limits their potential. By addressing social dynamics, fostering confidence, and integrating structured dialogic practices, Teachers can help middle-stage students transition into confident, critical, and collaborative learners.

Secondary Stage: Major Findings (Elaborated)

1. Enhanced Dialogic Practices

Secondary classrooms demonstrated a notable shift towards dialogic teaching, reflecting an emphasis on fostering critical thinking and collaborative learning:

- **Increase in Collaborative Dialogue:**
 - **37.5% of classrooms frequently encouraged students to build on their peers’ responses**, showcasing a higher adoption of dialogic teaching strategies compared to foundational and middle stages.
 - Open-ended questions were more commonly used by teachers, prompting students to analyze, evaluate, and synthesize ideas collaboratively.
- **Critical Thinking and Engagement:**
 - Dialogic practices fostered deeper engagement, as students were encouraged to explore complex concepts and diverse viewpoints.

- These practices promoted the development of **higher-order thinking skills**, enabling students to connect ideas, question assumptions, and construct nuanced arguments.

2. Increased Student Autonomy

Secondary students displayed increased confidence and independence in classroom interactions, a result of their cognitive and social development:

- **Self-Assured Contributions:**
 - Students were more willing to express their ideas, challenge peers, and take intellectual risks, reflecting their enhanced ability to articulate thoughts clearly and confidently.
 - This shift from passive participation to active involvement enriched classroom discussions and made learning more interactive.
- **Ownership of Learning:**
 - Students demonstrated a greater sense of responsibility for their own learning, actively engaging with peers and teachers to deepen their understanding of course content.

3. Role as Facilitator

Teachers in secondary classrooms adopted a more facilitative approach, creating an environment conducive to exploration and critical dialogue:

- **Encouraging Exploration:**
 - Teachers guided discussions by posing thought-provoking questions, moderating debates, and steering conversations toward deeper insights.
 - They acted as **mediators** rather than sole authorities, enabling students to take the lead in discussions.
- **Promoting Multiple Perspectives:**
 - Teachers encouraged students to consider diverse viewpoints, fostering an inclusive and dynamic learning environment.
 - This approach helped students develop empathy, critical thinking, and the ability to evaluate arguments critically.

4. Peer Collaboration

Student-student interactions in secondary classrooms were more frequent, structured, and impactful, contributing to meaningful learning experiences:

- **Purposeful Interactions:**
 - Students engaged in discussions that extended beyond task completion, delving into collaborative problem-solving and knowledge construction.
 - Peer feedback became an integral part of classroom dynamics, with students refining their ideas through dialogue and critique.
- **Enhanced Learning Outcomes:**
 - Collaborative discussions enabled students to clarify misconceptions, challenge each other's thinking, and build a collective understanding of the subject matter.
 - These interactions not only enriched individual learning but also cultivated a sense of **community and shared ownership** of knowledge.

Implications for Secondary Education

The findings highlight the transformative potential of dialogic practices in secondary classrooms. By fostering autonomy, collaboration, and critical engagement, these practices prepare students for higher education and real-world challenges:

1. Cognitive Development:

- Dialogic teaching at this stage enhances students' ability to think independently, analyze complex issues, and construct well-reasoned arguments.

2. Social and Emotional Growth:

- Frequent peer interactions promote interpersonal skills, empathy, and confidence, equipping students with the tools to navigate diverse social contexts.

3. Inclusive Learning Environment:

- Teachers' facilitative roles ensure that all voices are heard, creating a classroom culture that values diversity and equity.

Recommendations

1. Sustain and Expand Dialogic Practices:

- Continue to prioritize open-ended questioning and collaborative discussions, ensuring these practices are integrated into all subject areas.

2. Foster Peer-to-Peer Learning:

- Use structured group activities, debates, and peer reviews to further enhance the quality of student-student interactions.

3. Support Teacher Development:

- Provide professional development programs to help teachers refine their skills as facilitators of dialogic learning.

4. Encourage Reflective Practices:

- Integrate activities that require students to reflect on their contributions and the impact of collaborative dialogue on their learning.

5. Prepare Students for Real-World Applications:

- Design classroom discussions and projects that connect academic content to real-world challenges, fostering transferable skills like teamwork, critical analysis, and problem-solving.

Conclusion

The secondary stage marks a significant shift toward dialogic teaching and student autonomy, with enriched peer collaboration and critical engagement characterizing classroom dynamics. By nurturing these practices, Teachers can create a robust foundation for lifelong learning, empowering students to become thoughtful, confident, and collaborative individuals.

Stage-Wise Comparison Explanation of Stage-Wise Differences

1. Foundational Stage

• Teacher-Centric Interactions:

- Classroom activities are heavily dominated by the teacher, with students relying on the teacher for guidance and validation.
- Interactions are primarily focused on skill-building and structured routines.

• Student-Student Interactions:

- Minimal peer interactions occur, as foundational learners are still developing social and collaborative skills.
- These interactions are mostly informal and unstructured.

• Dialogic Practices:

- Rarely observed, as the emphasis is on individual learning and teacher-student exchanges.
- Opportunities to build on peer responses are limited.

- **Critical Thinking:**

- Critical thinking is at a nascent stage, with activities focusing on foundational knowledge rather than exploration or inquiry.

2. Middle Stage

- **Teacher-Centric Interactions:**

- Teacher dominance begins to decrease, with moderate opportunities for students to participate in discussions.
- However, much of the dialogue remains focused on factual recall and task completion.

- **Student-Student Interactions:**

- Peer interactions emerge but are inconsistent and lack structure, requiring teacher facilitation for meaningful engagement.
- Social dynamics, such as fear of judgment, often influence participation.

- **Dialogic Practices:**

- Inconsistent implementation, with 50% of classrooms not engaging students in building on peers' responses.
- Opportunities for collaborative dialogue exist but are underutilized.

- **Critical Thinking:**

- Students begin to develop critical thinking skills, but hesitancy to express opinions or challenge ideas limits deeper exploration.

3. Secondary Stage

- **Teacher-Centric Interactions:**

- Significantly reduced as teachers adopt a more facilitative role, encouraging students to take ownership of discussions.
- The focus shifts to fostering collaboration and exploration.

- **Student-Student Interactions:**

- Peer interactions are frequent and purposeful, contributing to enriched discussions and collective knowledge-building.
- Students display greater confidence and autonomy in engaging with peers.

- **Dialogic Practices:**
 - More structured and frequent, with 37.5% of classrooms regularly encouraging students to build on each other's responses.
 - Open-ended questions and collaborative tasks are integral to classroom activities.
- **Critical Thinking:**
 - Enhanced significantly, with students engaging in analytical, evaluative, and creative thinking during discussions.
 - Dialogic teaching practices facilitate deeper understanding and intellectual growth.

Key Insights

1. Dialogic Practices in Secondary Classrooms:

- Dialogic teaching practices are **most prevalent in secondary classrooms**, reflecting the readiness of both students and teachers for collaborative and critical engagement.
- Secondary students, with their cognitive and social maturity, are better equipped to participate in open-ended discussions, build on peers' responses, and engage in analytical thinking.

2. Middle Stage as a Transitional Phase:

- The middle stage serves as a **critical transition** in developing dialogic skills. While students exhibit emerging potential for dialogue, their participation is often hindered by social dynamics, hesitancy, and inconsistent facilitation.
- Teachers must play an active role in providing **structured support** to enhance student confidence and foster meaningful peer interactions.

3. Routine-Focused Foundational Classrooms:

- Foundational classrooms prioritize **teacher-led instruction and structured routines** to establish stability and reinforce basic skills.
- However, the lack of opportunities for dialogic interactions limits the development of collaborative learning and critical thinking at this stage.

4. Need for Stage-Specific Interventions:

- These findings highlight the importance of **tailored interventions** to foster dialogic teaching practices at each educational stage:

- **Foundational Stage:** Introduce scaffolding techniques to gradually incorporate peer interactions and collaborative activities.
- **Middle Stage:** Provide structured opportunities for open dialogue, helping students overcome social barriers and develop confidence in expressing their ideas.
- **Secondary Stage:** Continue building on established dialogic practices, emphasizing autonomy and critical engagement to prepare students for real-world challenges.

These insights emphasize a progressive approach to dialogic teaching, ensuring that students are equipped with the skills to engage critically, collaborate effectively, and become active participants in their own learning journey.

Summary of Findings

The findings from this study provide a comprehensive analysis of dialogic teaching practices across various classroom settings, highlighting the interplay between teacher-student and student-student interactions. A predominantly teacher-centric approach was observed, with approximately 80% of classroom time being led by teachers. While this ensured content delivery and structured learning, it often limited opportunities for students to engage in deeper critical thinking or collaborative dialogue. Student-student interactions, though infrequent, revealed untapped potential for fostering a more dynamic and inclusive learning environment. The study's mixed-method analysis underscores the need for a balanced approach to teaching that integrates dialogic strategies, creating spaces where students can actively participate, collaborate, and co-construct knowledge.

The findings from the mixed-method analysis provide a comprehensive understanding of dialogic teaching in classrooms:

1. Dominance of Teacher-Led Interactions:

- The majority of classroom time is dominated by teacher-student interactions, emphasizing a need to balance instructional approaches to incorporate more peer collaboration and dialogic practices.

2. Missed Opportunities for Peer Interaction:

- Student-student interactions remain underutilized, with infrequent opportunities for collaborative learning. This highlights the need for structured activities and facilitation to maximize their potential.

3. Variations Across Stages:

- **Foundational classrooms** prioritize structure and routine, with limited dialogic opportunities.
- **Middle-stage classrooms** represent a transitional phase where dialogic practices are emerging but require significant scaffolding.
- **Secondary classrooms** demonstrate readiness for dialogic practices, with enhanced student autonomy and critical engagement.

4. Integrated Approach Needed:

- A balanced approach that combines teacher-led instruction with dialogic practices is crucial to fostering a collaborative, inclusive, and engaging classroom environment.

Implications

For Policy-Makers

- **Lower Teacher-Pupil Ratios:**

Smaller class sizes allow for more individualized attention, enabling teachers to foster meaningful interactions and engage students more effectively.

- **Incorporating Dialogic Practices in Training:**

Dialogic teaching methods should be embedded into teacher training programs, such as the **D.El.Ed syllabus**, to prepare Teachers for creating interactive and inclusive classrooms.

For Teacher-Teachers

- **Promoting Dialogic Techniques:**

- Train teachers to use open-ended questions, facilitate small group discussions, and encourage students to build on peers' responses.
- Emphasize strategies for fostering confidence and participation in hesitant students.

For Content Developers

- **Design for Interaction:**

- Content should be designed to encourage dialogue and collaboration, integrating activities such as group projects, debates, and inquiry-based tasks.

For Prospective Teachers

- **Mastering Dialogic Methods:**

- Prospective teachers should be trained in dialogic techniques to empower students as active participants and enhance their critical thinking, communication, and collaborative skills.

Suggestive Dialogue-Supportive Techniques

To enhance dialogic teaching, Teachers can employ the following strategies:

1. **Group Research Studies and Presentations:**

- Assign leadership roles to students for collaborative research and presentations, fostering responsibility and teamwork.

2. **Socratic Questioning:**

- Encourage students to ask thought-provoking questions that stimulate critical thinking and peer discussion.

3. **Peer Teaching:**

- Allow students to teach concepts to their peers, promoting active engagement and mutual learning.

4. **Collaborative Problem-Solving:**

- Engage students in real-world problem-solving tasks, encouraging teamwork and decision-making.

5. **Inquiry-Based Learning:**

- Promote student-led inquiries, enabling them to explore topics with teacher guidance.

6. **Active Listening and Feedback:**

- Demonstrate attentive listening and provide constructive feedback, validating student contributions.

Overall Suggestions

- Increase classroom time dedicated to **student-student interaction** by incorporating more **student-centered approaches** like group work, discussions, and inquiry-based activities.

- Empower students to take leadership roles in discussions, fostering a collaborative and inclusive learning environment.
- **Address Out-of-Syllabus Questions:** Utilize unrelated student questions as opportunities to connect with the syllabus, fostering curiosity and deeper understanding.
- Focus on equitable participation by designing activities that cater to diverse learning preferences and ensuring all voices are heard.

Conclusion

The study underscores the transformative potential of dialogic teaching. By incorporating structured dialogic practices across all stages, Teachers can create a classroom culture that values collaboration, critical thinking, and inclusivity. This approach will empower students and teachers as active participants in their learning journey, preparing them for academic success and lifelong learning.

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Annexure-1

Classroom Dialogue Observation Schedule

Name of the school:

Class during observation:

Subject during observation:

Observation Date:

Observation day:

Observer's Details:

Name:

Email Id:

Phone no.:

Instructions:

1. This is a classroom observation schedule intended to observe the status of dialogues in the classroom during the teaching-learning process.
2. Observers are suggested to fill this observation schedule as realistic as possible.
3. Please read the schedule carefully before observing the class.

Parameters	To be answered by the observer
Time spent on teacher-student / student-student interaction	How much time did the class spend on teacher-student / student-student interaction? Share your experience of the interaction:
Sharing the floor	Who led the classroom interaction? Teacher Students Both participated to explore and understand the content together Justify your statement basis perspectives, examples, socio-economic context of interaction, political instance, language spoken etc: How did the teacher invite or encourage participation from the students? Through:

	Questions Inviting thoughts, ideas, questions Through non-verbal gestures Through non-verbal gestures Provide additional comments: How frequently does the teacher nominate students while inviting participation? Always Never Sometimes What do you think was the reason for the teacher to do so? How often do teachers welcome and respect the questions and ideas shared by the students? Always Never Sometimes Give examples/share anecdotes: Which type of questions/responses were welcomed or encouraged by the teachers? (Questions can be: closed-ended, recall, open-ended, probing, leading, critical, reflective questions) Which type of questions/responses were discouraged by the teachers? (Questions can be: closed-ended, recall, open-ended, probing, leading, critical, reflective questions)
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Parameters	To be answered by the observer
Nature of interaction	What was the nature of the interaction in the classroom? • Open-ended • Closed-ended • More open-ended questions could have been asked Justify your statement:
Nature of pedagogical devices	What pedagogical devices were used? (Metaphors, presentations, reading and reflection of texts, Qs, examples, illustrations, citations, movie analysis, song analysis)

Parameters	To be answered by the observer
Student participation	Did the students proactively engage even without the teacher inviting them to speak? (asking questions, offering thoughts, elaboration, sharing examples or personal stories,) Yes No Please share the nature of students' initiatives: How many students participated in the discussion? (please share a rough estimate) What did the teacher do to maximize student participation? Did the teacher request the students to build on the responses of other students? Always Never Sometimes Explain with examples:
Depth of student engagement	What was the quality of student questions/responses? (thought-provoking, open-ended, reflective, enhancing, thought-channelising) Explain with examples: How did the students respond to each other? (patiently, respectfully, negatively, angrily, violently, discouragingly, with any particular gesture) Explain with specific student names: Were there instances when the students did not take content at face value and engaged in an analysis/criticism? (questioning, criticism, offering alternative explanations or points of view) Explain with examples:
Relevance	Were the student questions/responses in alignment with the course content? • Always • Never • Sometimes Share specific instances: How did the teacher respond to questions or responses not related to course content/ongoing discussion? (ignoring such questions, reprimanding the student, asking counter questions, any other)

Parameters	To be answered by the observer
Summarizing	How did the class conclude? Explain specifically:

Annexure-2

List of Schools where classrooms were observed:

SKV NO. 2, EAST OF KAILASH
GGSS 1925048
SBV, SADIQ NAGAR
GOVT COED SS DDA FLATS KALKAJI, 1925045
KAUTILYA S V, CHIRAG ENCLAVE
KAUTILYA SARVODAYA CO-ED VIDYALAYA CHIRAG ENCLAVE
SKV NO 2 MPK -1925449
SKV NO 2 EAST OF KAILASH
SKV JJ COLONY MPK EXTN-1925431
GSR SKV C BLOCK DEFENCE COLONY
SBV SHK LAJPAT NAGAR
SBV JJ COLONY MPK EXTN
GGSSS NO 3 BADARPUR
SPM, COED SSS, CR PARK
RJSKV RAILWAY COLONY TUGHLAKABAD
SKV MPK EXTENSION JJ COLONY -1925431
GGSSS BADARPUR NO. 1
GBSSS NO 2 RAILWAY COLONY TUGHLAKABAD
GBSSS MADANPUR KHADAR
GBSSS MPK 195403
GGSSS BADARPUR NUMBER 2
SCHOOL OF EXCELLENCE KALKAJI
GGSSS BADARPUR NUMBER 2
GBSSS NO 03 TKD EXT
SCHOOL OF EXCELLENCE KALKAJI

GGSSS NO 2 MOLARBAND
GBSSS NO 2 RAILWAY COLONY TUGHLAKABAD
GGSSS MADANPUR KHADAR 1925504
GSR SKV C BLOCK DEFENCE COLONY
GGSSS MADANPUR KHADAR 1925404
राजकीय उच्चतर माध्यमिक कन्या विद्यालय मदनपुर खादर
SN SKV A BLOCK DEFENCE COLONY
SN A BLOCK DEFENCE COLONY
SBV SHK LAJPAT NAGAR
SV COED MASJID MOTH
VEER SAVARKAR KALKAJI NO1
SV COED MASJID MOTH
सर्वोदय कन्या विद्यालय नंबर एक मदनपुर खादर
GBSSS (RK) MADANPUR KHADAR
SV MASJID MOTH
VEER SAVARKAR KALKAJI NO1
GSR SKV C BLOCK DEFENCE COLONY

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