A) General Information: -

1. **Name of the Institute:** DIET, Dilshad Garden
2. **Details of the Investigator(s):**

Name	Designation	Place of posting at the time of project completion	Present place of posting	Contact no	E-mail
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3. **Project/ Study Conducted Academic Session:** 2019-20
4. **Institute where Project/Study submitted:** DIET, DILSHAD GARDEN
5. **Theme of the Project/Study:** Teacher and Teaching

6. **Level of the study:** School

B) Summary of the Conducted Research work/Project/Study: -

1. **Title:** A Study of Role of Open Ended Tasks in Mathematics Achievement at Primary Level

2. **Introduction:** Mathematics is a coherent, consistent and growing body of concepts which makes use of specific language and skills to model, analyse and interpret the world. Mathematics education is the development of an ability to apply certain of essential skills like communication skills, numeracy skills, information skills, problem-solving skills, socio and co-operative skills .We need approaches to teaching-learning and assessment which will give students the maximum possible opportunities to develop the essential skills. Mathematics education provides opportunity to the students to develop these skills and encourages them to become innovative and flexible problem solvers. In order to get better thinking out of our students, we need to ask better questions. Questions can be either closed or open ended .Open ended questions involve thoughtful and investigative responses. There are no fixed answers of the question, students may have one or many possible answers and it depends on students' abilities and the way they answer at different levels. Questioning enhances students' creativity and imagination when it relates to their real life context .It develops students' self-confidence for higher achievement, every student, even the low performers can provide at least one correct response and the better performing students can give several responses. All categories of students can aspire to perform better in the subsequent occasions. Open ended Questions help to develop students' reasoning and communication skills when those are discussed in the classroom. This research has been done keeping in mind the steady role of open-ended tasks in mathematics achievement at the primary level.

3. **Research Objectives: :**(i)The purpose of this study was to determine the level of conceptual understanding of mathematics at primary level.(ii)To compare the level

(before intervention and after intervention) of conceptual understanding of mathematics at primary level.(iii)To compare the level of conceptual understanding of mathematics at primary level on the basis of different interventions.(iv)To suggest measures for enhancing level of conceptual understanding of mathematics at primary level.

4. **Research Design:**

- **Research method(s):** Pre-test and Post-test control group experimental design under experimental research was used in the present study.
- **Tools and techniques used:**-Researchers developed pre-test and post-test based on concepts of mathematics keeping in view the concepts already taught in class.
- **Statistical techniques:** Percentage test and t-test were used to analyse the data

5. **Research findings:** There were two group one is experimental group and the second one is control group. Students in the experimental group had higher performance in scores than the student in the control group. Girls in the experimental group had higher performance in scores as compared to boys in the control group. The result showed a difference between the experimental and control groups with respect to students' knowledge. The students in the experimental group, who were taught through open ended discussions, demonstrated better performance in mathematical concepts than the control group students, who received traditional instructions .Result revealed significant difference in the level of conceptual understanding of the mathematics at primary level and conceptual understanding on the basis of different interventions.
6. **Educational implications:** The present research tells teachers what areas they should focus on while teaching and what areas they should work on to expand their ways of interaction with students. Mathematics content areas should be presented in an appropriate and interesting way. Another teaching strategy proposed was encouraging students to find many ways to solve problems. Possibly, teachers did not mention the value of non-traditional ways to solve problems for practical reason such as time or classroom organization. Teachers' lack of self-confidence or content knowledge may be a reason. If teachers do not have confidence in their ability to really understand concepts deeply, then they are likely to be less confident in other areas too. Diverse ideas related to teaching strategies provide teachers with more strategies in their teaching learning

process. Teachers may emphasize upon on -1.Assesment as a part of teaching 2.Thinking processes and making connections 3.Encouraging collaborative learning among student and 4.Intergrating math with other subject areas. Finally, they would be able to see the goal of mathematics education a developmental process in which competent people would be able to reason mathematically, can use multiple representations to understand things in different ways & would make connections between different topics.

7. **Scope of the study:** The goal of this study is to improve math teaching learning process as well as learners' mathematical thinking skills .Similar research can be conducted with upper primary, secondary and senior secondary levels so that we can find out challenges related to mathematics among students and try out to solve it with the help of teachers. Future researches may have more representative numbers of participants and various other teaching methods which can help in mathematization of the child's mind as small number of participants delimit the research making it difficult to generalize the findings.