

Practice of Creativity Through Teaching Learning Approach in
Science Class of Grade Four in Government Primary Schools: A
Study on Current Practice and Opportunity in Gazipur Urban Area

By

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A thesis submitted to the BRAC Institute of Educational Development in partial
fulfillment of the requirements for the degree of
Master of Education in Educational Leadership & School Improvement

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Declaration

It is hereby declared that

1. The thesis submitted is my/our own original work while completing degree at Brac University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

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Ethics Statement

The study was conducted with one headteacher, nine assistant teachers of three government primary schools under Gazipur Sadar urban area in Gazipur district. Headteachers and assistant teachers were interviewed and focus group discussions were held with Assistant Teachers. I also observed three classrooms twice each of these three schools.

The names of the schools involved in this study and the names of the participants are not mentioned anywhere in this research. Nothing was said or mentioned that could reveal the identity of the school or any of the participants.

Consent was taken in advance with all of the nine people interviewed in this study. Consent was taken from everyone before the classroom observation. Participants in the Focus Group Discussion, which was primarily voluntary participation.

All data in this study are stored in both softcopy and hard copy. Except for reasonable cause and/or formal procedure, will not be shared with anyone in any way.

Abstract

The study intends to find the current practice and creativity opportunities through teaching-learning methods in science class. Creativity is a fundamental phenomenon in the twenty-first century. The study's main objective is to understand the current practices in primary schools and whether the teaching-learning method supports the students to develop creativity. The study method was qualitative and conducted in three schools in the Gazipur City area. The creativity was evaluated based on the five attributes given by Craft (2005) that can foster creativity in the classroom. After analyzing the data, it is found that there is still a significant gap in practicing creativity in the classroom. There is less scope of imagination, curiosity, asking thoughtful questions, doing exciting activities, and problem-solving opportunities in the classroom. There are still gaps between the curriculum and teachers' creativity development knowledge. The study also found significant challenges such as classroom time, the gap in the curriculum, lack of resources, and poor literacy skills that hinder the school's creativity development.

Keywords: Creativity, Attributes of creativity, Gazipur Urban Area, Teaching learning method, Science Class.

Dedication

This Thesis is dedicated to my beloved father and mother for their love and support. Without their support it was impossible for me to reach here.

Acknowledgement

This project would not have been possible without the support of many people. Many thanks to my thesis supervisor, Muhammed Mamunur Rashid, Lecturer, BRAC Institute of Educational Development, for his valuable suggestions and feedback. Also, thanks to my committee members, who offered me guidance and support. I would like to show my gratitude to Teach for Bangladesh for the opportunity and support. Finally, would like to thanks my parents, friends for all the cooperation and support to complete my research.

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List of Acronyms

ATEO	Assistant Thana Education Officer
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
FGD	Focused Group Discussion
JSC	Junior School Certificate
MCQ	Multiple Choice Questions
MoE	Ministry of Education
PTI	Primary Teachers Training Institute
TLM	Teaching Learning Method
WIPO	World Intellectual Property Organization

Chapter 1

Introduction and Background

1.1 Introduction

Creativity is an essential component of human development. The trend toward globalization, combined with technological advancements, necessitates energy products that are productive and innovative for people from all walks of life. Acculturation creativity is required in the early development of an individual's mind. The most important place to nurture creative talents is an educational institution. Science classes being taught in educational institutions is viewed as a subject that can help students improve their creative thinking skills.

In today's challenging world of learning in the global economic climate, innovation and creativity are more important. Creativity is no longer something distinct or unique. It has now become a necessary and fundamental component of a person's, organization's, or country's success. Creativity is not limited to the invention but encompasses all acts and thoughts. In essence, creativity should coexist with critical thinking to propel it toward a more productive and accountable future.

As the country progresses toward developing nation from least developed status, the current generation must be equipped with a wide range of knowledge and skills. Bangladeshi need to be highly innovative, progressive, and contributors to the scientific and technological civilization of the future, in line with technological advancements and globalization. To accomplish this, we must cultivate citizens who are critical, creative, and capable of competently practicing science and technology in the twenty-first century.

According to the Global Innovation index (2018), Bangladesh is the least innovative nation in Asia. To create a creative and innovative generation it is important to start the process from the early student life. As there is no significant research on creativity for primary school students in Bangladesh, this study will help to find out the current practice and will create a base for the academic, researchers and other relevant stakeholders.

1.2 Research Topic

The study will try to explore the current opportunities and practices of fostering creativity in the primary education system specifically in government primary schools. The study will focus on current activities, perceptions and curricula that enhance the creativity of students. The research will evaluate the current practices based on some specific attributes that foster creativity in the classroom. My research topic will be **“Practice of Creativity through teaching-learning approach in Science Class of Grade Four in Government Primary School: A Study on Current Practice and Opportunities in Gazipur Urban Area”**

1.3 Statement of the Problem

Creativity is one of the most important words in this growing world. The world economy is rapidly changing. And Innovation and creativity are required to cope with the rapidly changing world. Piirto (2011) said that creativity is one of the most important 21st-century skills. Taan (2016) mentioned that creativity is really important for fast-changing world and it should be incorporated into the curriculum. National Education Policy (2010) mentioned that one of the major objectives of education is fostering creativity and the education process should be oriented to creativity. The policy also introduced a creative question method and a new curriculum that will enable higher-order thinking as well as creativity. Shawkat (2014) conducted research on JSC graduates and measured creativity among them. She found a poor creativity result from them despite a good grades in the JSC exam. Also according to Global Innovation Index (2018) Bangladesh became the least innovative country in Asia (WIPO, 2018).

If we do not focus on creativity, we will not be able to prepare our students for future. They will not be able to cope up with rapid growing world. It would be impact on our economy, development and growth. So, it is essential to practice and foster creativity from the very beginning that is from primary education system. As the objective of policy is to foster creativity and new curriculum is focusing on creativity development, it needs to be investigated that the current practice of creativity in primary education system.

1.4 Research Questions

Research question 1:

What are the opportunities to practice creativity through teaching learning approach in science class of grade four in government primary schools?

Sub questions:

- a. How the teacher's guide is helping to foster creativity in the classroom?
- b. What are the training opportunities for the teachers that develop the capacity of teachers to foster creativity in the classroom?

Research question 2:

What teaching learning strategies are being used in the Science class of grade four to enhance creativity of students?

Sub questions:

- a. How teachers are creating the opportunity of imagination and crafting curiosity of students in the classroom by asking thoughtful questions?
- b. What strategies are taken by the teachers to generate learning by doing (providing activity/experiments) opportunities and creating imaginative and problem-solving opportunities?

1.5 Purpose of the Study

The main purpose of the study is to find current practices of creativity in the government primary school of Bangladesh, what are the factors create the opportunities of enhancing creativity and how the school is working to foster the creativity of students. The government of Bangladesh has already introduced creative assessment system. But to organize creative thoughts it is highly important that the students develop innovation skills from the early age. The creativity should be practiced in the primary section. The study wants to find the actual scenario of the current practice and go deeper to find the reason behind each activity. The study is also intended to find out the challenges that are obstructing the practice of creativity. Creativity is a very important phenomenon in twenty-first century. And without an

innovation generation, it will be very difficult to cope with the future. In Bangladesh, there is no significant research on the practice of creativity in government primary schools. So it is expected to be helpful in gaining understanding of the current practices of creativity in government primary schools in Bangladesh. The research intends to help policymakers, curriculum developer and relevant stakeholders to use this paper as a resource for basic understanding of the current practice and would create opportunities for further steps and studies to go deeper for detailed understanding about creativity development in government primary schools in Bangladesh. The study intends to take contribution in developing a creative generation and change the traditional educational practices for a better future.

1.6 Significance of the Study

One of the objectives of education is fostering creativity. And with creativity, an innovative generation is developed. To cope up with the future, it is highly important to incorporate and practice creativity in the education system from an early age. The government introduced creative assessment methods in high schools and update their curriculums in primary sections. But it is highly important to see if the schools and current practices are guiding students to foster creativity or not. By exploring different pieces of literature and existing contents, it is found that there is not enough significant research on creativity development in the Bangladesh education system specially for the primary section. To understand the existing practices and situation it is highly important to study on this topic. The study will find out the actual scenario of practicing creativity in the schools and will help policy makers, government officials to plan curriculum, teachers guide and implementation of the curriculum. Also, the study will find the opportunities and challenges of practicing creativity that will help educators, teachers and researchers to develop curriculum. The study will also help future researchers to continue further studies on this topic and found out more important insights to support relevant stakeholders and actively take part to build a creative generation for making changes.

Chapter 2

Literature Review and Conceptual Framework

2.1 Definition of the Creativity

Creativity is the most crucial phenomenon in the first growing world. Craft (2005, p.15) points out that our understanding of innovation and creativity has progressed and broadened over time. In the early 20th century, creativity was considered an innate, elusive quality that individuals were born with. Creativity was most closely associated with the arts but included science, technology, and other disciplines. Starko (2014) defined creativity as possibility thinking and being imaginative. He mentioned that making students imaginative and possibly thinkers in school is essential. The theorist Vygotsky (1978) also thought extensively about imagination and creativity. So, to create an innovative generation, creativity should be incorporated with learning.

Creativity is an active process and involved in innovation. It is a learning habit that requires skill and understanding of the context. Sir Ken Robinson has defined creativity as original ideas with value (Robinson, 2011). Kleiman (2008) similarly suggested creativity involves originality and novelty combined with utility or value. Jackson offers creativity as the ability to ‘move an idea from one state to another (Jackson, 2006, p.8).

According to Kampaylis and Berki (2014, p 6) "Creative thinking is defined as the thinking that enables students to apply their imagination to generating ideas, questions, and hypothesis, experimenting with alternatives and to evaluating their own and their peers' ideas, final product and processes."

2.2 Traits of Creativity

Creativity is a broader context. There are a lot of smaller attributes that promote creativity. Craft (2005) mentions a few important attributes about creativity and for the study following attributes will be evaluated:

1. Creating opportunities for imagination
2. Crating curiosity
3. Creating opportunity of asking questions
4. Learning by doing (providing activity/experiments)

5. Problem Solving Opportunity

Litman (2005) mentioned that curiosity is a key driver of creativity. Imagination is an important part of creativity. Creating opportunities for imagination is positively correlated with creativity. (Gaut, 2003). The questioning, especially open-ended question creates a thinking process in mind that helps to improve creativity (Kazemi, 1998).

Being creative is dependent on different attributes. Craft (2005) mentioned creativity should be incorporated with the education system to build a creative generation. And to build such a creative person some important attributes are needed like inquisitiveness means asking questions, investigations, interaction, imagination, intuition, intellect and imitation (Jesson, 2012). Interaction with others, problem-solving, and new ways of thinking are other important practice that fostered creativity of students (Corepley, 2008).

2.3 Creativity in teaching-learning approach

On average, teachers ask their students between 300 and 400 questions per day (Leven & Long, 1981, p.29). Research shows that asking questions with careful planning, proper wording, and delivery improves the student's thinking and responses. (Budd Rowe, 1986, pp.43–50). Questions that stimulate responses that require complex mental processing can encourage creativity. What if...? and why...? questions stimulate creative and critical thinking, especially if followed by more questions that probe and encourage the learner to go further (Kazemi, 1998, pp.410–414).

Kampaylis and Berki (2014) claim that creativity can be taught and developed in any classroom environment by any teacher. They also mentioned some factors that enhance students' creativity, like increased creativity through well-designed learning spaces, increased the use of open-ended questions, engaged learners in meaningful and authentic activities, and collaboration enhances creativity.

Starko (2013) mentioned about 13 thinking models that help grow creativity like observing, imaging, analogizing, abstracting, patterning, etc. Those models can be incorporated through a pre-planned and practical teaching-learning approach. At the same time, teachers' behaviour and approach directly reflect students' creativity. Creating a safe space to grow for the students is very important in the classroom (Furman, 1998).

Researchers emphasize the modern teaching approach rather than the traditional one to foster creativity in the classroom. For example, student-oriented teaching fosters more creativity

than teacher-oriented teaching. (Melear, 1993) Group/Teamwork over individual work. (Marazzi, 1999) Cooperative learning is more valuable than individual learning to foster creativity. (Anderson, 2001) Explorative tasks over Close end tasks (Saxon et al., 2003). Providing open-ended problems rather than close end problems. (Schamel & Ayers, 1992) Outdoor activities are part of creative teaching rather than only classroom activities. (Boss, 2001). Moreover, Mackin (1996) mentioned project work as a part of creative teaching rather than lectures.

Pitcher (2014) said that creativity makes students better learners. He mentioned that having a stimulating classroom environment is essential to having a creative child. He emphasizes different resources and materials in the classroom that create a more visual impression. He also mentioned that all the requirements should attract and keep the interest and promote asking questions, curiosity, and discussion.

2.4 Importance of Creativity

There is no doubt that creativity is the most important human resource of all. Without creativity, there would be no progress, and we would be forever repeating the same patterns (de Bono, 1993).

Moran (2010) said that creativity is important in the 21st century. She emphasized using creativity with learning. She mentioned that to adapt with the fast-paced, more global, more competitive economy and the unpredictable future, incorporating creativity is important.

About the importance of imagination in education Starko (2014) mentioned:

Without imagination and investigation of ideas our collective fund of knowledge would languish. We do need assessments to determine what students learn and understand but we can incorporate imagination in the creation of those assessments to ensure that students' creative thoughts and higher executive functions are incorporated into their assessment experiences.

Creativity and innovation played an important role in their education policy. For sustainable economic development and innovation, they incorporated creative strategies to develop students' creativity. For this, the curriculum, instruction method and different components are redesigned (Cachia et al, 2010).

Many people have the misperception that creativity is gifted. Creativity is not gifted and every child can be creative. It could be developed (Runco, 2008). But to develop creativity

different factors are important. Lin (2011) mentioned some important factors for fostering creativity. He said for fostering creativity there are three important factors. These are creative curriculum, creative teaching and creative learning environment. There are different methods to cultivate new ideas in school. Communication and interaction are important to develop creativity. Different tasks like problem solving, games and ideas and different type of assessment and task help to develop creativity of students (Secchaliao, 2017).

In school teacher has also different perspectives on creativity. Alijughaiman (2005) mentioned teachers supported and agreed to incorporate creativity but they had different concepts of creativity and creative students. Many teachers did not have the idea how creativity should incorporate with learning. Some thought there were different obstacles and time boundaries to practice of creativity. And a few numbers of teachers thought that creativity is a gift. No one can achieve it by practicing.

2.5 Develop Creativity through Science

Creativity can be developed through any subject in the classroom. (Kampaylis and Berki, 2014) They also mentioned students can be encouraged to experience science not as a set of facts but as a creative endeavour for understanding nature. Starko, (2013) said that science can be an effective subject to fostering creativity because it could be meaningful and experimental. Practical examples are available around the students and they can brainstorm and use their creative thinking modeling by experiencing it. But at the same time the teaching strategies are important and also using resources, engaging students in playful experiments is important (Kampaylis and Berki, 2014) and teachers' motivation to involve students in different experiments is also important. (Furman, 1998)

Daud (2012) mentioned about five types of creative learning nurturing activities in the classroom which involved discovery, understanding, presentation, application, and transformation of scientific knowledge. For example, to get creativity through discovery activities, teachers can provide their students independent research assignments, or involve in divergent thinking training of students in science process skills. Students are encouraged to develop science is an interesting and diverse range of scientific observations, to do classification, ask questions of scientific research, form hypotheses, plan trials and methods of measurement, using equipment or appliances, and make conclusions from empirical data (Cheng, 2011). Piaget (1976) stated that "to understand is to create". Therefore, to understand knowledge in a creative way, teachers can encourage students to seek new alternative

examples, analogies, descriptions, and explanation of a scientific theory or concept in the subject. Furthermore, teachers can encourage students to construct existing concepts to students through exposure to ideas that conflict, engaging them in debate, they have confidence in the evidence of the opponent (Driver, 1994).

According to Cheng (2011), There are various form of expression that can generate creativity in the classroom by using scientific knowledge. For example, knowledge, concepts, and principles can be presented in the form of role-playing, drama, music, pictures, poems and stories. To foster a creative knowledge, students were given a situation, where they are given the opportunity to find new ways to explain the phenomena of science, to make predictions, to solve problems, to state or imply that what is not known (Daud et al, 2012).

So, as creativity is important to develop, and our goal of education is to develop creativity of students, it is important to see the practice of creativity in the school. The research will find the practice based on five major attributes that enhances the creativity of students and most efficient way of developing creativity. These are based on inquisitiveness, investigation, interaction, imagination and intuition (Jesson, 2012).

2.5 Creativity Context in Bangladesh

In Bangladesh, the government emphasizes on creativity in National Education Policy 2010 and introduces a new curriculum incorporating creative learning (Ministry of Education [MoE], 2010). But it is questionable how students are developing creativity and how it is practicing on school. Shawkat (2014) conducted research on JSC graduates and measured creativity among them. She founded a poor creativity result from them despite good grades in the JSC exam. As Lin (2011) said that the learning environment is important for developing creativity. But in Bangladesh the teacher-student ratio in primary education is close to 1:39 (Bangladesh Bureau of Educational Information and Statistics [BANBEIS], 2017). Also, innovation in Bangladesh is less. According to Global Innovation Index 2018, Bangladesh is least innovative country in Asia (World Intellectual Property Organization [WIPO], 2018).

In Bangladesh there is no significant research that investigated practice of creativity in education. The review will help to develop the conceptual framework of research and I will try to find out the current practice, opportunities and challenges of practicing creativity in government primary school of Bangladesh through my research.

2.5 Conceptual Framework

By studying the detail literatures and finding out the theories, I have developed a conceptual framework based on which the study will be conducted. The conceptual framework has been prepared based on the creativity traits of Craft (2005) and show the relation between the traits and creativity development. The following framework has been prepared based on the existing literature

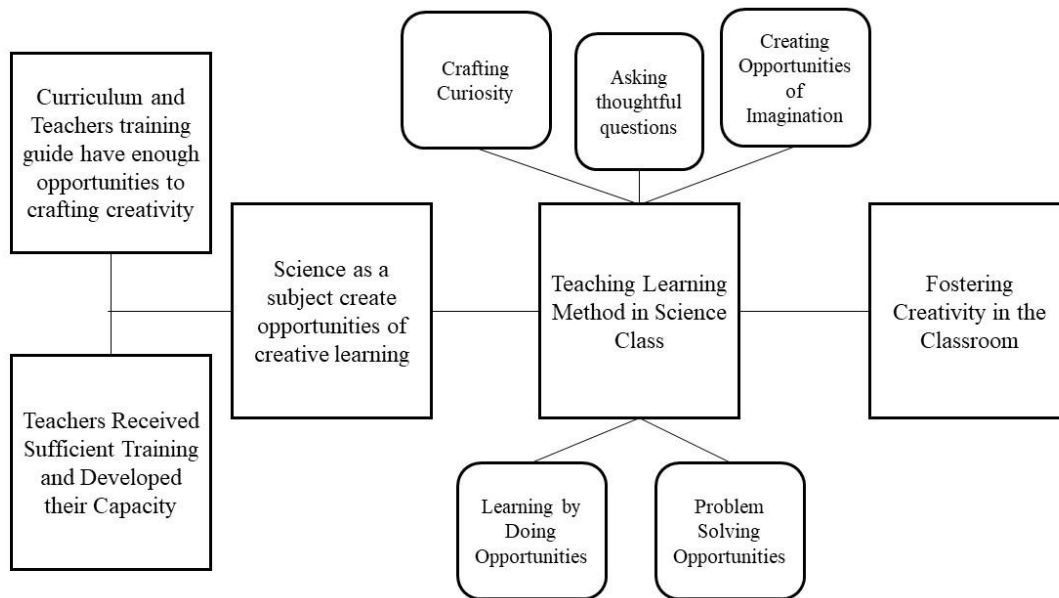


Figure 1 Conceptual Framework for Creativity Development

Chapter 3

Methodology

This chapter gives an overview of the design for the study, methodology, tool, and approaches that have been used to conduct the study. This chapter also describes the sampling methodology, types of data, and data collection methods to achieve the objectives of the study.

3.1 Research Approach

The research approach will be qualitative. It is intended to be a qualitative descriptive study of what are the current practices of creativity and the opportunities and challenges. I want to use this method because this method creates exploratory and highly descriptive knowledge. (Hesse-Biber, Leavy, 2006) This research attempts to explore the current practices and will explore the opportunities and challenges for fostering creativity in government primary schools. As the research method is qualitative, the research will not only find out the ‘what’ questions but also the ‘why’ and ‘how’ to find out the detailed scenario of practicing creativity in schools. As creativity is a broad term and people has different perception about creativity, it is important to go through detail explanation to understand the actual context of creativity development in government primary schools in Bangladesh.

3.2 Research Site

For this study, I have worked with three government primary schools in Gazipur City under Gazipur Sadar thana. One of the three schools has about 800 students and 09 teachers and is located in urban Gazipur Sadar area. Another school has around 600 students with 07 teachers and other one has around 700 students with 07 teachers.

As Gazipur City is out of the capital and resembles similarity with other major cities around the country, the research will help to identify the context in Urban and Semi-Urban regions in the country. The socio-background of the students of all three schools are similar and most of the students are mainly from lower-to-lower middle-income families.

3.3 Research Participants

According to the research methodology, human interaction is a part of data collection and for my research there were 11 participants. The participants include 01 Head teacher of GPS, 10 Assistant Teachers from three GPS in Gazipur city. For the head teacher selection, my basic criteria were to find experienced personnel who completed all major training program (PTI, Subject Based, Teaching Learning Methods etc.) and supervise teachers who teach grade four Science. There was 03 Assistant Teachers for in-depth interviews. The basic criteria for selecting teachers were to teach Science in Grade four and also who have received the major subjective training from the PTI. The teacher who teaches Science but did not receive training weren't selected for the interview. As my purpose of the study was to found out the current practice and scenario of creativity development, it is important to see how the capacity of the teachers are developed and how the teachers taught in the classroom and utilize the learning received from the training. There were 07 assistant teachers for the FGD. The basic criteria for selecting teachers for the FGD who taught Science in grade four and five. The PTI training was preferred but not mandatory for the FGD. There was a need of diversity in the FGD to understand different contexts and identify the exact gap of creativity development in the school.

3.4 Sampling Procedure

A purposive selective sampling method was selected for the study. Three government primary schools wasa selected from urban area of Gazipur City Corporation which has a minimum of 6 Assistant teachers. The school should have a basic socio-economic set up including the space such as large playground Infront of the school. Three teachers were selected for the in-depth interview who teaches Science in grade four and received PTI training. The selection of teachers is insensitive to any gender, race, and other criteria. One head teacher was selected for in depth interview who has at least 10 years of experiences and received all major trainings from government. 07 teachers were selected for the in-depth interview who teaches science in grade four and five. Classroom observations have been made in the classroom of teachers who participated in the in-depth interview. There was no biasness for selecting the participants. The participants who met the criteria and had consent were selected for the study.

3.5 Data Collection Methods

I want to use mainly four methods for data collection and those are document analysis, in depth interview, focus group discussion and observation.

3.5.1 Document Analysis

This is the primary step of data collection. Relevant documents were reviewed like curriculum, text books and teachers guide. In my research I have reviewed the General Science subject of Grade IV to identify available options and opportunities for creativity development in the classroom.

3.5.2 In Depth Interview:

I took individual interviews of assistant teachers and headteachers to understand the real scenario. I have chosen interview as a data collection tool because interview gives the opportunity of a detailed conversation with specific people. And there is an opportunity to ask a direct question to individuals and can know about individuals' opinions and mindsets. The interview allows us to enter into another person's perspective. Also, I think people feel safer during one-to-one conversations and there is a chance to get more authentic data. I will take 4 interviews, 3 assistant teachers, 1 headteacher.

3.5.3 Classroom Observation:

As my topic is practicing creativity in primary schools and I intend to find out current practice, challenges and opportunities so it's better to see what is going on the field. So, I chose observation, one of my data collection tools for my study. I am choosing observation because it will help me to get the actual data and will allow me to understand the current school practice. Observation is more authentic and at the same time I can measure the validity of the data that I would get from interviews and FGD. I will conduct 6 classroom observations of science class of Grade IV. There will be three observation data collection per classroom.

3.5.4 Focus Group Discussion (FGD):

I took an FGD of assistant teachers from different primary school in Gazipur city who teach and taught Grade four Science class in recent years. FGD helped me to bring different views and perspectives under the same platform. It allowed me to understand different types of perspectives of people. FGD is interactive so there is a possibility to get more information

and views for same questions. Through FGD I can gather different perspectives on creativity practice in schools I conducted one FGD with 07 assistant teachers from government primary school.

3.6 Role of the Researcher

I had teaching experience for two years in a government primary school of Dhaka. But in this study, I was mindful of it and tried to absorb the findings from a researcher's point of view. I had to conduct multiple visits in these schools for taking interview and observing the classroom. The findings from the interview and FGD were mainly participants' reflection-based and there wasn't any scope to manipulate these findings. As I had teaching experience in similar context, it helped me to build rapport with the teachers and also helped me to create a safe space for sharing the real context of the schools. As a researcher, I was conscious to avoid any kind of biasness during administering any tools.

3.7 Data Analysis

I have chosen the narrative analysis method to analyze my data and present the findings. After collecting the raw data from the field, I have organized all the data. As the language of collecting data was Bengali, I have transcribed the data in English for the analysis purpose. After cleaning and organizing the raw data, I took the following steps to analyze my data.

My first step was developing and applying codes from the cleaned data. I chose three-step coding strategies. The first one was the open coding. I found different important key points to make sense out of it. Secondly, I did the axial coding to connect different codes. Finally, I did selective coding for formulating a story by organizing the codes in different categories. The coding strategies were manual. I used different highlighter with different colors to do the coding.

Then my second step was to identifying themes, patterns and relationships. I have gone through the primary coding data and looked for specific categories and theme. This strategy helped me to find important themes and patterns and connection between different data to present my findings.

My final stage of analysis was to summarize the data based on the themes, patterns and relationships. I summarized the data and aligned with my research objectives and hypothesis.

3.8 Ethical Issues and Concerns

I obtained participants' permission before conducting the interview, focus group, and observation. The participants were informed in advance, and their permission was also obtained. They were informed about the purpose of the study, and the researcher was properly introduced. Furthermore, confidentiality was maintained by keeping all data records only among the participants and the researcher. When using and analyzing data, pseudonyms were used to keep the participants' names private. Furthermore, the recordings of the interviews were kept confidential by pre-commitment and not be shared with anyone other than the researcher and the participants. I conducted the entire study without bias for the research to be purely objective. Although I implemented various activities in the classroom as a teacher, I implemented different activities in the classroom for fostering creativity but I was completely objective based during the research and avoided any hints or probing. My questions tried to find out true data from the participants instead of guiding them towards the result that I might want to see. This is how I tried to keep this research bias-free and also respect the rights of the human subjects.

3.9 Credibility and Rigor

As part of my master's degree, I took several BRAC IED courses that are directly relevant to this study, particularly qualitative research. The educational theories and practices course helped me understand various education theories, such as the theory of cognitive development, which is relevant to this research. Aside from theories, another course titled Principles of Curriculum and Development of Learning Materials taught me about curriculum and how it works. The course Leaders as Learners: How Children and Adults Learn helped me understand the difference between andragogy and pedagogy, and it also piqued my interest in learning more about relevant subjects and teaching methods for children, which led me to work on the topic of this study. Research methods I and II were the most important courses that helped me understand the difference between qualitative and quantitative research. The course materials not only assisted me in understanding the different types of research, but also in developing a better understanding of the entire research process through applications. Overall, my master's studies helped me grow as a researcher and provided me with the proper direction for conducting this research.

Also, as I completed my fellowship from Teach for Bangladesh and taught in a government primary school for two years, I have gathered significant experience in activity-based classroom teaching in government primary school. The knowledge and experience helped me to relate with the context and understand the complex and contextual ideas during data collection. Also currently, I am working in an international development organization and leading monitoring and results measurement of a project. The professional experience is highly aligned with research and analysis and gave me the significant experience to analyze and summarize my data.

3.10 Limitations of the study

Creativity is an abstract term and the evaluation of this trait varies from person to person and contexts. The study does not ensure the exact evaluation of practicing creativity in the science classroom and only evaluated based on some specific traits. The research will just give an indication but will not represent the whole context of creativity.

The sample size is low compared to the number of government primary schools in Bangladesh. So, the findings do not represent the actual context of Bangladesh. The results may vary in different contexts.

The COVID-19 pandemic was another limitation of the study. The researcher collected most of the data before the pandemic and only three classroom observations were pending. The data collection process has been delayed due to the pandemic and the researchers had to wait longer time for classroom observations. After the long gap, the teacher had to re establish the classroom contents. So the findings may varied in actual context before the pandemic in terms of practice in the classroom.

Chapter 4

Results

4.1 Introduction

Based on the data and findings, I have divided my results in four different sections to illustrate the current practice and opportunity of creativity development of students

- Current opportunities for fostering creativity
- Teaching learning practices in classroom
- Teachers' idea about creativity development
- Challenges for fostering creativity in the classroom

4.2 Current Opportunities for Fostering Creativity

The teacher's guide was reviewed to see how the guide helped the teachers to foster creativity in the classroom. By detailed observation on six different chapters and reviewing the teacher's guide, I have found that the guide is helping teachers to improve some of the creativity attributes among students. Most of the chapters in teachers' guides mention asking open-ended questions to the students, developing the students' thinking processes. In all the chapters, questions are suggested at the beginning of the session. There were not many options of asking open-ended questions that required imagination. Some of the lessons create the opportunity for imagination, but the time mentioned in the lesson was about 6-7 seconds. There are group activities in the lessons. Furthermore, the group activity requires a thoughtful process, another attribute of creativity development. The headteacher mentioned that the textbook needs more information and more modern-day concepts to help students improve their creativity. He suggested making the textbook more colorful with more clean and dynamic images; students will be interested in learning more and enjoying studying.

The assessment section for each lesson is mainly based on the information given in the chapter. The assessments are fill-in-the-blanks, MCQ, short questions, descriptive questions, and matchings in all the chapters. There are some worksheets inside the chapters to engage

students in different activities. This engagement can foster imagination at a certain level if teachers execute those according to the teacher's guide instructions.

Teacher's training is a consideration to understand how it is helping the teachers for creativity development in the classroom. Teachers who received training from PTI have learned the interactive teaching-learning method. The training taught teachers to conduct group activities, ask students, etc. However, there was no specific detailed learning on creativity development, but many of the training content built the capacity of teachers to foster different creativity attributes. The training content does not directly focus on creativity development or discuss the attributes of creativity and what can be done to foster creativity. The assistant teachers and headteacher who received training for science subjects mentioned no specific lesson for creativity development. They could not specifically mention the creativity attributes they learned from the training. However, with the discussion, it is evident that the training on teaching-learning methods for science class has some strategy that introduces techniques that foster creativity in the classroom. The strategies include asking thoughtful questions, providing problem-oriented activities to the students, using real-life materials that generate curiosity, and provoking the students' thought processes.

4.3 Teaching learning practices in the classroom

The time duration of the science class is around 30 minutes. In all the schools, the science period is after the third period which is mainly after the tiffin break. Teachers use chalk, duster as material for learning and textbook is the main resource of the learning. During the class observations, no additional resources were not seen. The teaching-learning method was mostly lecture-based. In most of the cases, around 30%-35% of classroom time is spent on collecting the home work from students. After observing the home works of students, it was found that the homework did not contain any task that can foster any creativity attributes. The homework can be done by exactly copying the answers from the book or memorizing the answers. In in depth interview one teacher said, "Students do not do their homework properly, we are giving them basic homework, still they are missing those. So, we gave them something which they can do easily to make them motivated for the homework." Teachers asked questions to the students but the questions rarely give an opportunity for students to think or imagine something. I have taken the teacher's guide in the classroom observations but none of the classroom was aligned with the teacher's guide. Teachers received trainings. None of the classroom was aligned with teachers guide. There were no group activities were

shown in the classroom. One of the teachers said, “We don’t have much time and resources to do the activity. I tried group work but the student makes noises. They do not learn during the group work.” During the focused group discussion, most of the teachers said they tried group work but they do not do it on daily basis. One assistant teacher mentioned that the group work is useful when there is any resources. She said, “Group work became excellent when we give our students any materials. They become interested when they get something other than the text book. One day I gave my students large poster paper and marker pen to draw living and non-living things. They were very excited that time. But we cannot do this every day. We don’t have resources and also we don’t have much time to conduct this type of group work.” One of the Head teachers mentioned that she said all the teachers to use different technique in the classroom. But she also mentioned about the lack of resources and less time for this type of activity in the classroom. The assistant teachers still believe that explaining the chapters is the best possible way to help students to understand the lesson. Classroom size compared to students claimed as an important obstacle for the group work activity. One assistant teacher mentioned, “We explained the chapters to students. Though we learned to take group work form the PTI training we cannot conduct the group work in the classroom. The number of students is high so there is not enough space for the group work.” From the interview with the head teacher, she mentioned that there is a laptop and a projector in the school. But all the teachers are not trained on this yet. So teachers do not take this in the classroom. One assistant teacher said, “Using multimedia in the classroom can engage the students. We can show different pictures and videos to students to make their understanding better. But we don’t have the proper training for this. And for some teachers, it is one kind of hassle as well. Especially the older teachers.” In supporting the statement, during FGD teachers agreed the teacher who have more experience and are comparatively older, has minimum interest to do any interesting activity in the classroom and they promote traditional teaching-learning method. There are a projector and laptop in the school. But teachers generally do not use that in the classroom. The teacher who received training on multimedia, do not use this in the classroom. He took the laptop in the classroom twice or thrice and observed disturbance in the study. During the observation, it is seen that the class activity is also rote learning based. Teacher asked students to write any answers from previous days lesson and hardly the students need imagination or any creativity attributes to complete the task. When I asked about the probing questions the teachers mentioned that the students cannot think much. One teacher said, “Our students are not ready for providing answers for thoughtful questions. Many of them still cannot spell their classwork. (jeita bole bole poraya

dei shetai pare na, doshbar bolle ektu mone thake) So we do not ask much difficult questions to them.” One of the common classroom practice teachers use to make students engaged is to tell students for reading the chapters. Assistant teachers confirmed in the FGD that they use this method in many subjects including science. They believe if the students cannot read out loud properly how will they understand the concept. One of the assistant teachers mentioned, “They still lack of proper reading skills. We encourage them to read out loud in infront of the class to improve their reading skills. This is one of the instructions from the ATEO as well.”

About the problem-solving opportunities, there was no specific evidence of any activity. Not in curriculum guide and not in practice. One teacher thinks the students are not ready yet to make a logical discussion. The teacher emphasis that they are still trying to improve the literacy skills of the students and science class also conducted to improve the literacy skills.

4.4 Teachers’ idea about creativity development

As a part of the research, I have asked all the teachers what are the attributes of creativity development and how can it be developed in the classroom. No respondents can clearly mention about any specific attributes that aligned with the research questions and literature review. The assistant teachers believe that creativity is part of art and culture mostly and very limited chance to develop through the major subjects. One assistant teacher who is teaching Science for grade four from the last four years said, “Mainly Creativity is part of art and culture. In our school, we have minimum opportunities to practice those on regular basis.” After asking questions on creativity development on science class of grade four, two assistant teachers believe that it is possible in the classroom but no clear idea was received from their end. From the focused group discussion, one of the assistant teachers shared “creativity can be developed in the Science class, but different equipment needed. We don’t have resources and as we have many students in the classroom, we will not be able to give resources to every student. Adding to her, one of the teachers also mentioned, “The English medium school and high-income private schools have a separate science lab, they can engage their students in the lab for doing different experiments. So, they can develop the creativity but in government primary school this is not possible.” From all the data I have received, there is no clearly indication that teachers are well informed about fostering creativity in the classroom by changing or incorporating different teaching-learning method. One of the assistant teachers mentioned an organized science fair for students can help them to improve their creativity and innovation skill. But no one ever tried to implement something in the school.

4.2 Challenges for fostering creativity in the classroom

By observing all the data, I have found some of the challenges regarding fostering creativity in the classroom. The assistant teachers mentioned in the FGD that the duration of the science class is only 30 minutes and it is difficult to conduct any activities and engage students in different activity-based learning. One of the teachers added, “The time is less and most of the class is conducted after tiffin period. As a teacher we have to take four to five classes per day in different grades and different subjects. It is also tiring for us to plan and conduct something energetic during that time for every day.” The head teacher mentioned about the lack of sufficient knowledge and expertise about the creativity of the teachers. Though there are different training program but the training curriculum is not directly focusing on it. Most of the assistant teachers also mentioned about the resources. There are not enough resources in the school to conduct different activities.

Chapter 5

Discussion and Conclusion

5.1 Discussion

Referring to the result section of this study, the data are based on the four different sections, including current Opportunities for fostering creativity, teaching-learning practices in the classroom, teachers' ideas about creativity development, and the challenges for fostering creativity in the classroom. During data collection and throughout the study process, my observation is that the participants were engaged while providing data, and they seemed to be true to their words as much as possible. My other observation is that the schools are also very eager to learn a lot about creativity development to do something for the students. Though the practice is not common, teachers had a significant interest to learn this and implementing in the classroom. This makes me more enthusiastic about conducting this research and working on further research and studies, if necessary, in future.

However, the literature from Daud (2012) mentioned that creativity can be developed from the classroom through scientific studies by practising problem-oriented engaging education but the current practice shows that classrooms are primarily lecture-based. The engaging practices are not shown in the classroom. Most classroom practices are common and require less or no innovation strategy to conduct the class. Also, the class duration is not sufficient to engage students in different activity-based learning methods. If I divide the period into different sections, I can conclude that around 30%-35% of classroom time is spent on homework and 30%-35% on lectures, primarily explanation-based. There are no additional resources to explain the chapters other than textbooks and 20%- 25% time spent on the activity, which is written activities that can be memorized or illustrated from the book. In most of the classes, 05%-10% was spent on classroom management. Furthermore, the current practice is not helping students to foster creativity.

Craft (2005) mentioned the five attributes that can foster creativity. Unfortunately, these attributes are not practiced in the classroom. The common practice of these attributes is asking thoughtful questions to students that generate curiosity and imagination. The results show that most of the questions being asked in the classroom are mostly information-based.

Rarely do the questions create the opportunity for imagination and curiosity. There is no practice of group activity in the classroom, and those also add some attributes such as crafting curiosity, learning by doing opportunities and problem-solving opportunities. From all the findings, I can say that the current practice of the classroom is not helping to foster creativity in the classroom, and mainly the classrooms are using the traditional approach as a teaching-learning method. One of the core findings from the research is that the learning outcome of science class is to develop the scientific knowledge and expertise of the students; a common practice in the classroom is to develop the reading and literacy skills for the students even in grade four. All the respondents strongly mentioned poor literacy skills, and from the observation, I can also validate the information.

As the current practice do not foster creativity in the classroom, there are some reasons behind that. One of the core reasons is that the teachers are not well informed about creativity development. The existing training from PTI is helping teachers to promote some sort of creativity attributes, but teachers do not get a clear understanding on the creative development of students. The curriculum is also not sufficient that teacher can use for fostering creativity. Most of the assessments are information-based and the main focus of the teachers to make students capable of the assessments. As the assessment strategy does not focus on imagination, creativity, curiosity, and problem-solving ability development, the teachers are not focusing on developing the students' specific skills. Teachers do not follow the teacher's guide appropriately and conduct the class mostly based on their experiences.

The overall logistic issue is also a big constraint on creativity development. The class period for science is not enough for different engaging activities. Also, the teachers need to conduct many classes every day; teachers do not find enough energy to conduct the class with different activities. There are not enough resources for different teaching-learning materials development in the schools. Teachers need additional training for low-cost TLM development to introduce new exciting things aligned with the subjects in the classroom.

Though the practices are not seen for developing creativity in the classroom, there are ample opportunities to improve and introduce the techniques. According to Boss (2001), outdoor activities are part of creative teaching activities. Though the schools have fewer resources, all the schools have a large playground surrounded by natural resources such as trees, gardens, etc. Different real-life elements are available around the school premises, which are discussed in the science book. Nevertheless, teachers do not practice any outdoor activities for

conducting the science class. The curriculum and contents also have different elements that can be taught in different exciting ways that can develop the students' creativity.

5.2 Conclusion

Primary education is the essential learning stage for the learners as it creates the base of a student. Moreover, government primary school is an important educational institution as most learners belong to this. Creativity is a necessary skill for the future, and the research shows that the current practice is not helping much to develop students' creativity. If we cannot build a creative generation now, there will be a lack of innovations in future, and Bangladesh will be a significant labour market instead of a hub of innovation. The research portrays the current scenario and practice of creativity development in the classroom, identifies the gap, and shows improvement to relevant stakeholders. By considering the scenario, the capacity of the teachers should be developed, and practices should be improved in the classroom.

There is limited research regarding the creativity development of primary school students in Bangladesh. This research paper is one of its kind in terms of its topic and successfully investigates current practice, scenarios, and opportunities. More detailed level research is required to identify more gaps and opportunities. As it is crucial to create an innovative future generation, more focus should be on this topic.

5.3 Recommendations

Based on the results of the research the recommendations are as follows:

- The teachers should receive required training program for student's creativity development. This training program should be focused in subject-specific trainings. Appropriate knowledge of teachers can help them to plan for the lesson to foster creativity
- The government should focus on creativity development from primary sections and incorporate content in curriculum, teacher's training and classroom practices. The classroom practice should be monitored regularly.
- The curriculum expert should incorporate more exciting worksheets with the curriculum to provoke students with a curious and imaginative learning process.

- Teachers should introduce more engaged and activity-based teaching learning approach. If not possible in the classroom, the teachers can take the students outside of the classroom.
- Teachers can provide exciting and interesting homework that need work outside of the classroom to improve the creativity of students.
- The government should supply more resources to the schools so that the teachers and students can use those as Teaching Learning Materials. However, the teachers also can natural resources to develop low cost materials. Training on this should be provided to the teachers.
- The curriculum should be revised and make compatible with the innovation skills appropriate for the twenty first century skills.
- The teaching learning strategies for creativity development are applicable for other subjects as well along with the science; so teachers can utilize and practice the following traits in any subjects to develop the creativity of students.

Reference:

- Alijughaiman, A. (2005). Teachers' conceptions of creativity and creative students. *The Journal of Creative Behavior* 39 (1), 17-34.
- Anderson, R. P. (2001). Team disease presentations: a cooperative learning activity for large classrooms. *The American Biology Teacher*, 40-43.
- Bangladesh Bureau of Educational Information and Statistics. (2017). *Bangladesh Educational Statistics-2016*, Dhaka: Ministry of Education.
- Budd Rowe, M. (1986). Slowing down may be a way of speeding up. *Journal of Teacher Education*, 37:43.
- Cachia, R., Ferrari, A., Ala-Mutka, K., & Punie, Y. (2010). *Creative learning and innovative teaching: Final report on the study on creativity and innovation in education in EU member states* (No. JRC62370). Joint Research Centre (Seville site).
- Cheng M.Y.V. (2011). Infusing creativity into Eastern classroom: Evaluations from students perspectives. *Journal of Thinking Skills and Creativity*. 6 : 67-87.
- Craft, A. (2005). *Creativity in Primary Schools*. In: Wilson, Anthony ed. *Creativity in Primary Education: Theory and Practice*. Exeter, U.K.: Learning Matters, pp. 7–32.
- Cropley, A.J. (2001). *Creativity in Education and Learning, A Guide for Teachers and Educators*, London and Sterling, USA, Kogan Page.
- Daud, A. M., Omar, J., Turiman, P., & Osman, K. (2012). Creativity in science education. *Procedia-Social and Behavioral Sciences*, 59, 467-474.
- de Bono, E. (1995). Serious creativity. *The Journal for Quality and Participation*, 18 (5), 15-18
- Furman, A. (1998). Teacher and pupil characteristics in the perception of the creativity of classroom climate. *The Journal of Creative Behavior*, 32(4), 258-277.
- Gaut, B. (2003). Creativity and imagination. *The creation of art*, 148-173.

- Hesse-Biber, S.N, Leavy.P. (2011). *The Practice of Qualitative Research*, SAGE Publications, Los Angeles
- Jackson, N. (2003). *Designing for Creativity Curriculum Guide*. York: Learning and Teaching
- Jesson, J. (2012). *Developing Creativity in Primary Schools*, Open University Press, England.
- Kampaylis P, Berki, E. (2014). Nurturing creative thinking. *International Academy of Education, UNESCO*, p.6. Retrieved from <http://unesdoc.unesco.org/images/022/002276/227680e.pdf>
- Kazemi, E. (1998). Discourse that promotes conceptual understanding. *Teaching Children Mathematics*. Chapter. 4, 410-414.
- Kleiman, P. (2008). Towards transformation: conceptions of creativity in higher education. *Innovation and Teaching International* 45 (3), 209-217
- Leven, T, Long, R. (1981). *Effective Instruction*. Washington, DC. Association of Supervision and Curriculum Development.
- Lin, Y. (2011). Fostering Creativity through Education – A Conceptual Framework of Creative Pedagogy. *Creative Education*, 2, 149-155. doi: 10.4236/ce.2011.23021.
- Litman, J. A. (2005). Curiosity and the pleasures of learning: Wanting and liking new information. *Cognition and Emotion*, 19(6), 793–814
- Mackin, J. (1996). A creative approach to physics teaching. *Physics Education*, 31(4), 199.
- Marazzi, L. (1999). Camp invention. *Momentum*, 20 (3), 20-21
- Melear, C. T. (1993). Creativity & inventiveness in science: A reflective course for teachers and other majors. *Journal of Science Teacher Education*, 4(4), 137-143.
- Ministry of Education. (2010). *National Education Policy 2010*. Government of People Republic Bangladesh.
- Moran, S. (2010). Creativity in Education. In C. W. Karen Littleton, *International Handbook of Psychology in Education*. 319-359. Bingley: Emerald Group Publishing.
- Piaget, J. (1976). *To understand is to invent*. New York: Penguin.

- Piirto, J. (2011). *Creativity for 21st Century Skills: How to Embed Creativity into the curriculum*. Sense Publishers.
- Pitcher, R. (2014). Educational HQ. Retrieved from <http://au.educationhq.com: http://au.educationhq.com/news/11635/the-importance-of-a-creative-and-stimulating-classroom-environment/>
- Robinson, K. (2011). *Out of our minds: learning to be creative*. 2nd Edition. Capstone
- Runco, M. A. (2008). Creativity and Education. *New Horizons in Education*, 56, 107-115.
- Saxon, J. A., Treffinger, D. J., Young, G. C., & Wittig, C. V. (2003). Camp Invention®: A creative, inquiry-based summer enrichment program for elementary students. *The Journal of Creative Behavior*, 37(1), 64-74.
- Schamel, D., & Payres, M. (1992). The minds-on approach: Student creativity and personal involvement in the undergraduate science laboratory. *Journal of College Science Teaching*. 2A :226.
- Seechaliao, T. (2017). Instructional strategies to support creativity and innovation in education. *Journal of Education and Learning*, 6(4), 201-208. <https://doi.org/10.5539/jel.v6n4p201>
- Shawkat, F. (2014). *Measuring the Creativity of JSC Graduates: A Bangladeshi Perspective*. BRAC University Institutional Repository.
- Starko, A.J. (2014). *Creativity in the Classroom*. New York: Routledge. <http://books.google.com>
- Starko, A. J. (2013). *Creativity in the classroom: Schools of curious delight*. Routledge.
- Taan, W.K. (2016). *Transforming Education towards 21st century learnings*. Egovinnovation. Retrieved from <https://www.enterpriseinnovation.net/article/transforming-education-towards-21st-century-learning-1597890508>
- Vygotsky, L. (1978). *Mind in Society: The development of higher psychological process* . Cambridge: Harvard University Press
- World Intellectual Property Organization. (2018). *Global Innovation Index 2018: Emergizing the world with innovation*. Ithaca, Fontalinebleau, Geneva

Appendix A. FGD Guideline

FGD No _____ Date _____ Place _____ Time _____ Duration _____

Interviewer Name: _____

FGD Participants: Assistant teachers

FGD Guideline Questions

1. Introduction and Rapport Building, Norms setting.
2. What is your understanding about Creativity?
3. What is your opinion about the necessity of creativity in schools?
4. What do you do to enhance creativity in your classroom? Could you use any example?
5. What are the things student do in your school that you think foster creativity of students?
6. How do you encourage your students to ask question?
7. What are the current activities in school is going on that provoke imagination and thinking process of students?
8. What are the areas we can focus on to improve creativity of students?
9. What can be done to enhance creativity of students in school?

Is there any challenge to exercise creativity in school? If yes please explain.

Appendix B. Observation Guide

Grade: _____ Subject _____ No. of Students present _____ Capacity of classroom _____

Seating arrangement _____ Age of Teacher _____ Gender of Teacher _____ Learning time _____

Criteria	Checklist	Comment
Teaching Method Used in class	<input type="checkbox"/> Lecture <input type="checkbox"/> Group Activity <input type="checkbox"/> Activity based	
Materials used in class	<input type="checkbox"/> Chalk, boards, text book <input type="checkbox"/> Others	
Activity used in class	<input type="checkbox"/> Question & Answer <input type="checkbox"/> Group Activity <input type="checkbox"/> Games <input type="checkbox"/> Pair activity <input type="checkbox"/> Individual writing <input type="checkbox"/> Others	
Teachers Students relationship	<input type="checkbox"/> Non interactive <input type="checkbox"/> Interactive	
Homework given	<input type="checkbox"/> Require rote learning <input type="checkbox"/> Require imagination	
Assessment type	<input type="checkbox"/> Rote learning based <input type="checkbox"/> Required imagination <input type="checkbox"/> Provoke thought	
Does the class create an opportunity to raise curiosity?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does the class create an opportunity for students to ask questions?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does the class create an opportunity to raise imagination?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Does the class create an opportunity to do anything that requires thinking process?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
List if you observe any challenge that hinders creativity	1. _____ 2. _____ 3. _____	

Appendix C. Teachers Interview Guide

Interview Number: _____ Date: _____ Place: _____ Time: _____

Participant: Assistant Teacher Gender: _____ Age: _____ Duration: _____

1. Introduction and Rapport Building, norms setting.
2. What is your understanding about Creativity?
3. Do you think creativity is necessary in school? Please explain your reason?
4. What are the characteristics of creative students according to you?
5. Do you think about any specific steps during teaching to increase creativity in the classroom?
If yes then explain?
6. What type of training did you receive? Do you think any of the training helped to build creativity in classroom?
7. Do you use any material, activities in your classroom? Can you explain about that?
8. Do you do anything that enhances the curiosity of students? If yes then explain. How do you know that?
9. Do you do anything specific to enhance the imagination of student? Please explain and give reason to your answer?
10. What are the scopes of exercising creativity in your classroom?
11. Do current textbooks help to promote creativity? If yes then please explain how it does?
12. Do you share your thought with anyone to improve creativity in classroom?
13. What are the activities students do in your school that you think are fostering creativity of students?
14. Is there any challenge to foster creativity in schools? If yes please explain
15. Do you have any recommendations to improve creativity in schools?