

TRAINING OF GRADE 5 SCIENCE TEACHERS IN UNDER RESOURCED
PRIMARY SCHOOLS: CONTENT AND CHALLENGES IN
IMPLEMENTATION

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A thesis submitted to the BRAC Institute of Educational Development in partial
fulfillment of the requirements for the degree of
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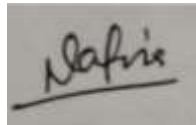
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Declaration

It is hereby declared that

1. The thesis submitted is my 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 have acknowledged all main sources of help.

Student's Full Name & Signature:

A rectangular box containing a handwritten signature in black ink. The signature appears to be 'Nafisa' written in a cursive style.

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Approval

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Ethics Statement

Great consideration was taken while this research was conducted. At the very beginning, a thesis proposal was drafted which was approved and ethics clearance was taken by my Thesis Committee.

Before data collection, the participants were initially called and notified about the research over phone. When the purpose, significance and their contribution towards this research was all discussed and they gave permission, only then, a consent letter was sent to them for their consent sign and for them to take part in the research. While approaching participants for interviewing, if resistant was felt that they didn't want to give the interview at all, it was not preceded. It was communicated that the information they shared with me would remain anonymous and neither their name nor their institute's name will be mentioned in the paper. There was no judgment throughout the research and I tried to maintain total neutrality. The participants were given full freedom in answering questions. If there was any questions they didn't want to answer, it was not asked a second time.

After the research was done, another ethics form was filled up to make sure there were absolutely no issues regarding ethics.

Abstract

Teachers play an important role in academic improvement and so require appropriate training to achieve better student learning outcome. This research aimed to find out the frequency, content and duration of these trainings received by the grade 5 teachers in under resourced school, their application of the learning and challenges faced in doing so. A qualitative research was conducted where target teachers were selected through convenience sampling, interviewed and received data was analyzed thematically. Some key findings included that they were not adequately trained and faced many challenges in the process such as having to manage a large group of students in a single class, achievement gap, lack of resources etc. The findings would help provide probable solutions to the challenges they face through better training content. If teachers are better trained, they would most likely to perform better in delivering lessons which could lead to better students learning outcome.

Key words: Teacher training, science teaching, primary school, challenges

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List of Acronyms

CCTC	California Commission on Teacher Credentialing
C-in-Ed	Certificate in Education
DPE	Directorate of Primary Education
DPED	Diploma in Education
GPS	Government primary school
MoPME	Ministry of Primary and Mass Education
NAPE	National Academy for Primary
PLC	Professional learning community
PST	Program Support Teachers
PTI	Primary Training Institutes
RNGPS	Registered non-government primary school
TED	Teacher Education and Development

Chapter 1

Introduction and Background

1.1 Introduction

It has already been recognized by researchers that in order to improve a school, students learning outcomes, changing classroom practices and teacher's development is very crucial (Borko, 2004 as cited in Postholm, 2018). This is because teachers play a very important role in education (Boudersa, 2016). Therefore, preparing them for their profession in teaching is considered as a high priority since it is critical and challenging and may direct the nation's growing and advancement in various sectors (Boudersa, 2016). However, in Bangladesh, one of the challenges for improving the quality of education system is not sufficient teacher development opportunities (Kecerdasan & Ikep, 2013). Also, there is severe scarcity of skilled teachers in both primary and secondary level schools of Bangladesh (Roy et al., 2020). In Bangladesh, a single teacher has to manage large number of students in a single classroom which reflects poor quality of teaching and learning environment (Asian Development Bank, 2008). Training a teacher means preparing him or her to fulfill his educational functions efficiently and in order to achieve that, the teacher has to incorporate different methods of teaching learning process (Zoulikha, 2014). This only happens when a teacher's personality and style is reflected on teaching and management of his class, which in turn is possible through training of teachers (Zoulikha, 2014). Among the factors that shape quality of teaching, training of teachers and their professional development are significant factors which affect teachers' performance and practices (Boudersa, 2016).

This study intended to find out how science teachers of grade 5 in under resourced schools were trained, how they applied the learning from the training and what challenges they faced while doing so. Under resourced schools are defined as schools which teach children from economically poor backgrounds and which operates with insufficient materials and facilities

(Tatel, 1999). The teacher's experiences were found out through a qualitative approach. The research was carried out in under resourced primary schools as very few researches were done on this area. These schools had scarcity of teachers considered to the number of students in the school and they received less funding, thus, being under resourced. The study intended to look into how the teachers in these schools were trained, what they were trained on and their challenges in implementing learning from the training into their teaching learning approach. The outcome of the study revealed the obstacles the science teachers were facing in applying the methods learned from the training and in the long run, trainers and policy makers could benefit from these results and indirectly affect the quality of teaching learning process for the children in primary level.

1.2 Research Topic

Teacher training on science

Teachers are provided with professional development as well as single subject trainings in span of their teaching career. These intend to provide the students with a better learning experience. Teaching the subject science requires a lot of planning and knowledge content and training given on these work as facilitators for the teachers to take better and organized classes.

1.3 Statement of the Problem

Usually, teachers received very little science subject based training which was in line with the information published in a newspaper article in The Financial Express, 2018, which said that there were minimum of only one training every two weeks and everyday application was far less compared to that of the training received (Nayeem, 2018). Again, millions of dollars are spent on teacher's training but only few studies show precise evidence of the impact of the trainings (Avalos, 2011; Cordingley, Bell, Evans, & Firth, 2005; Guskey & Yoon, 2009; Vescio, Ross, & Adams, 2008 as cited in Gore et al., 2017). Not much research has been

done on under resourced schools which are defined by schools which teach children from economically poor backgrounds and operating with insufficient materials and facilities (Tatel, 1999). Through the research, the content of training offered to grade 5 science teachers, how they apply the learning from the training received and challenges in implementing them were looked into. So, an answer surfaced to the question: why are training the teachers not having the desired result in the classrooms.

1.4 Research Questions

- What type of training is offered to grade 5 science teachers in under resourced primary schools and what are the contents of these trainings?
- How are the teachers applying what they have learned from these trainings in their teaching learning approach?
- What challenges do they face in incorporating the learning from these trainings in their teaching learning approach?

1.5 Purpose of the Study

The purpose of the study was to identify what training opportunities the science teachers of grade 5 were receiving, how they were incorporating the teaching from the trainings and what challenges, if any, were they facing in applying these in their teaching learning approaches. Therefore, the study intended on finding whether the trainings provided to the teachers were reflected on their teaching learning approach or not and the challenges that came with it. The ultimate goal of the study was to find out what problems the teachers were facing, so that if anything could be done to address those, education would be made more interesting to students and the outcome of the study would indirectly be beneficial to the students.

1.6 Significance of the Study

The findings of the study brought out the specific areas where the teachers are struggling to deliver the science lessons, while incorporating the teachings of the training they received.

This would be a valuable data for training instructors and policy makers. The policy makers would be able to bring a change in the training structure and content to make it more suitable for teachers. Training instructors would be able to work on the approach of training grade 5 science teachers. With proper attention to mitigating the challenges, teachers could overcome the challenges and it would directly reflect on the teaching learning process and better student outcome could be expected. The outcome from a change like this would directly affect positively on the students and the schools as a whole.

Chapter 2

Literature Review

Education plays a very important role in developing skills of learners (Kadir, 2020). In the field of education, teaching the subject science plays a very important part (Imaduddin et al., 2019). A teacher has a huge influence on the lives of his learner. He or she can be the reason behind positive change in classroom or he can end up ruining the lives of individuals (Doyran, 2012). An experienced science teacher with proper knowledge of the content and skills required does not necessarily guarantee effective teaching (Clough, Berg, & Olson, 2009 as cited in Adu-Gyamfi, 2020). Quality of teaching is a demonstration of quality of the teacher (Gore et al., 2017). Having a PhD degree doesn't make one a better teacher, but training them does make them effective at teaching (Raqib, 2019).

In conducting the research on my topic, I have gone through several related journal articles, books and newspapers to find relevant literature which paints the scenario of the situation under research. The literature review has been organized in the following categories: a. importance and outcome of teacher training, b.training content in global context, c.training in local context, d.teacher's role in teaching science, and e. challenges in science classrooms.

2.1 Importance and outcome of teacher training

Teaching profession is considered as vital yet challenging, and providing the teachers with necessary trainings to prepare them for the role is a high priority in any country as it can be the key to a nations' progress in different domains (Boudersa, 2016). Trainings enriches the teachers with new techniques, tips, tricks, methods, processes, and to top it all, training gives them inspiration and the strength to face the next academic year (Pillai et. al., 2012). Science teachers require pre-service and in-service training to create ground for developing skills and knowledge, discussing issues and challenges, and implementing ideas through educational

research (Jessani, 2015). Learning is a continuous process which contributes to the improvement of a teacher's teaching skills and acquires new knowledge in subject areas. Thus, by training teachers, it will in turn help improve student learning (Boudersa, 2016). As documented by Richards and Farrell (2005:03), the term training is defined as: activities focused on a teacher's current responsibilities and is naturally intended for short-term and immediate goals. Training comprises of understanding basic principles and concepts as a requirement for applying them in teaching and the capability to demonstrate principles and new practices in the classroom, usually with supervision, and monitoring and receiving feedback from others on one's practice. The content of training is typically determined by experts and is often available in standard training formats or in methodology books through prescriptions (Boudersa, 2016). At present, professional development and teacher training are seen as essential mechanisms for the expansion of teachers' content knowledge and their teaching skills and practices in order to meet high educational standards (Darling-Hammod & McLaughlin, 1995 as cited in Boudersa, 2016). Good quality teacher training and professional development programs alongside motivating environments will have positive impacts on the teaching/learning improvement (Boudersa, 2016). Training teachers have multiple outcomes including: (a) teacher knowledge (b) teaching practice (c) student achievement (d) attitude and belief of teacher (e) school level practice (Hnin Yu Soe, 2018). Motivation environment for teachers along with high quality of teacher training and professional development will impact positively on the teaching learning process (Boudersa, 2016). Motivation is connected with the time, effort, feelings, intensity and emotions, that occur during the teaching-learning process (Gomes de Freitas et al., 2020). Professional learning can occur in two ways: according to Timperley, 2011, it can happen in formal settings like teaching research groups, formal mentoring programs and professional development programs etc and according to Little, 2012, it can happen in informal settings

like during collaborative planning, mentoring between colleagues and peer learning (Postholm, 2018).

2.2 Teacher training in global context

For development of teachers, programs like induction and mentoring programs exist. These are activities of professional learning community (PLC) and it is said to be a very dynamic factor in developing professional background of teachers (Hnin Yu Soe, 2018). In India and Sri Lanka, empowerment of teacher was emphasized through developing teacher created assessment tools for classroom management (Nilsson, 2003 as cited in Iyengar et al., 2014). Nepal and Maldives focused on conducting training sessions for untrained teachers so as to improve regional inequalities in education (Nilsson, 2003 as cited in Iyengar et al., 2014).

On the other hand, in Algeria, 26 primary schools were selected, of which, 26 directors and 372 teachers in primary education, and 33 inspectors for primary education were participants in a study which brought out the outcome that 40% of teachers believed that their basic training from the pedagogical side before joining the teaching profession was not enough. (Zoulikha, 2014) Regarding the teachers' lack of training and performance, 25% of the teachers agreed that the lack of teachers' training to some extent lead to the school failure with a medium affect, and 22% agreed that it has a big affect. Overall, maximum teacher felt that there was lack of teacher training which impacted poorly on the education system (Zoulikha, 2014).

2.3 Teacher training in local context

Teachers in non-formal education system go through a period of 14 days of pre-service training followed by a one day refresher training once a month (*GroundWork Inc*, 2002). Primary Training Institutes (PTIs) plays an important role in creating efficient teachers (Ehsan et al, 2004 as cited in Biswas, 2012). PSTs (Program Support Teachers) education programs consists of a variety of values and beliefs concerning nature of science, methods

through which students learn, and suitable strategies that can be applied in the classroom (Simmons et al., 1999; Thomas, Pedersen, & Finson, 2001 as cited in Imaduddin et al., 2019). Once a teacher is appointed, he or she is sent to PTI for their professional training (Mullick & Sheesh, 2008). Teachers of RNGPS are brought under the training program at PTI (Mullick & Sheesh, 2008). Bangladesh also took initiatives and revised the curriculum for both teachers training and training for instructors at PTIs (Iyengar et al., 2014).

It is stated by Directorate of Primary Education (DPE) that most teachers in the GPS have received C-in-Ed course (Mullick & Sheesh, 2008). In 2011, Bangladesh took a national strategy and plan for primary education Teacher Education and Development plan (TED). The aim of the plan was to provide a comprehensive framework for teacher development (Khatun et al., 2019). The Diploma in Primary Education (DPED) is one of the noteworthy advances of TED plan. In the same year as the establishment of TED plan, in 2011, the Ministry of Primary and Mass Education (MoPME) took a decision to start DPED for primary school teachers against the existing Certificate in Education (C-in-Ed) course (Khatun et al., 2019). According to Khatun et al., 2019, National Academy for Primary (NAPE) was instructed by MoPME to develop curriculum and course materials for the DPED course. It was piloted in the year 2012 at 7 Primary Teachers' Training Institutes (PTIs). Later in 2013, this course was introduced at 29 PTIs and in 2015 at 36 PTIs and in 2019 it was introduced in all 67 PTIs (Hossain, et al., 2015 as cited in Khatun et al., 2019). In Bangladesh, presently there are 67 PTIs scattered over almost all over the districts which train 46,975 primary teachers from the year 2016–2020 in 18 months long DPED course (NAPE, 2020). The DPED course is half a year, i.e. six months lengthier than the C-in-Ed. The program is structured in such a way that it actively combines both student teachers' practical experiences in school along with the learning on courses taught at the PTIs (Khatun et al., 2019). With the aim to support long term change in classroom practice, the DPED program promotes learner centered

teaching and use of learning methods. (Breakell, Nishad, & Das, 2016 as cited in Khatun et al., 2019).

So far approximately 74,000 teachers of RNGPS received training. However, in two different researches, it was shown that 26-27% of teachers are not trained (Mullick & Sheesh, 2008). The Government is said to spend only 2% on education as a share of the GDP, which is the second lowest spending in South Asia (Roy et al., 2020). Primary level teachers usually teach multiple subjects in classes, but, only 27% of government primary school (GPS) teachers and 30% of registered non-government primary school (RNGPS) teachers are said to have received subject based training (BANBEIS, 2007). This points to the fact that content pedagogy of the teachers is insufficient (Mullick & Sheesh, 2008). It has also been reported that Bangladesh's primary and secondary schools suffer from severe shortage of skilled teachers due to lack of proper training (Roy et al., 2020).

2.4 Teacher's role in teaching science

A teacher's role in teaching scientific concepts is vital (Adu-Gyamfi, 2020). A teacher teaching science needs to be skilled and knowledgeable (Jessani, 2015). The content of science looks into choosing suitable subject material for every level and involving students to make meaning of the targeted materials (Tuomi & Tweed, 2006 as cited in Adu-Gyamfi, 2020). Effectively teaching the subject science depends on the teacher's pedagogy while being independent of the teacher's knowledge of the content (Adu-Gyamfi, 2020). According to CCTC (2003), science teachers should be innovative, enthusiastic and flexible about their personal appreciation that they have for science and they need to be very well-informed about safety concerns, laboratory and field practices, as well as the history and philosophy of science (Adu-Gyamfi, 2020). A teacher has to put in more effort and work more in order to teach science compared to other subjects like language and history as the subject requires

definite teaching-aids and the teachers have to relate the subject with real life and give examples, while giving logical explanations all at the same time (Mim, 2020).

2. 5 Challenges in science classrooms

The fact that the classrooms are overcrowded, adds to the many challenges that teachers face in teaching in classrooms in Turkey (Profile, 2018). These scenarios are common in under resourced schools which are associated with serving children from lower socioeconomic background which are very much in need for capable teachers and better facilities as they are running with minimum materials and facilities. (Tatel, 1999). In an article covering scenarios in USA, it was recorded that lack of classroom resources was a significant challenges that the teachers faced (Anderman et al., 2012). In Abu Dhabi public schools, it was recorded that teachers faced challenges like lack of resources, lack of parental support and student behavior while implementing their teaching learning methods in class (Kadbey et al., 2015).

Science educators are facing many problems in classrooms (Anderman et al., 2012). In Bangladesh, in a study, 63% teachers pointed out that they lack classroom space and 68% said they have insufficient teaching materials (Talukder et al., 2021). In addition, about three quarters approximately 73% teacher in the same study reported that their schools do not offer sufficient materials and they have very less opportunity to use digital strategies (Talukder et al., 2021). In USA, some of challenges included the availability of proper textbooks and classroom resources and training of science teachers (Anderman et al., 2012). There was also deficiency of up-to-date resources and the infrastructure of the classrooms is not sufficiently organized to support the learning (Boakye & Ampiah, 2017). In Pakistan, large class size was a struggle in science classrooms (Jessani, 2015).

Chapter 3

Methodology

3.1 Research Approach

Qualitative research is defined as an approach which explores and understands the meaning caused by a problem (Creswell, 2014). Therefore, the research approach of this particular research was qualitative as the study looked into the content and quality of training received by primary teachers on the subject science, how they were applying the trainings in their classrooms and what they thought are the challenges, if any, that exists in implementing or incorporating their learning in classrooms. The problems faced by the teachers were explored and tried to be understood.

3.2 Research Site

The research site is under resourced primary schools in the district Dhaka. These schools provide education to children belonging to the lower socioeconomic group. The schools are mostly situated in residential area where constructions are usually going on most of the time. The parents of these children are mostly day laborers with very limited income. These families usually live right near the schools colonies, where each family live in one single room. The schools have insufficient teachers and have to manage large group of students in a single class. They also have poor infrastructure for the accommodation of these students. Teaching learning resources required is also limited in the schools under research.

3.3 Research Participants

Research participants were science teachers of grade 5 in under resourced primary school. The total number of participants who participated in the interview was 5. 2 were from NGO run school and 3 from government primary schools. Only one of the five participants was

male and the other four were females. All the teachers had more than 10 years of teaching experience. Participants from both NGO run and government primary school both were taken so that the research was not concentrated. This meant I would have an overall idea about the scenario in the under resourced schools in Dhaka.

3.4 Sampling Procedure

The target group for the research was the science teachers who taught grade 5 in under resourced schools. The participants were selected by convenience sampling because of their geographical proximity, easy accessibility, their availability at a given time and their willingness to take part in the interview (Etikan et al., 2017). The main reason for selecting this sampling was because it is quick, inexpensive and very convenient (Elfil & Negida, 2017).

3.5 Data Collection Method

The data was collected online, through Zoom calls considering the current situation of the pandemic. No data was collected physically in order to minimize the threat to infection of COVID-19. Prior to data collection, I have communicated with the probable participants over phone, then I have sent them a consent form to sign, mentioning the purpose of the research, ensuring to conceal their identity while using any of their data and about freedom of withdrawing from the research at any point so as to be completely ethical. Purpose of the study along with its significance was also explained to them verbally before data collection. I conducted five in depth interviews for data collection. Interviews were chosen as a method of data collection as it is commonly used to extract qualitative data which provides insight into people's behavior and at the same time, the meaning of that behavior (Bolderston & Mrt, 2018). Interviews were basically a place for people to tell their stories to empathic listeners (Knapik, 2006). Through their shared stories, the research questions were answered. Data

collected by interview was later analyzed. Relevant literatures were also collected for reference.

3.6 Role of the Researcher

As a researcher, I was completely unbiased towards the participants while collecting data through interview. No previous opinions were forced onto the participants at the time of interview. However, having worked as a teacher in an under resourced primary school, I was empathetic towards them and tried to be sensitive of their situation. There was also no judgment involved in the process.

3.7 Data Analysis

The data collected from the interview was transcribed and analyzed thematically. Thematic analysis was chosen as it provides a highly flexible approach which can be modified accordingly to ones research. Thus, providing a rich and thorough, yet complex account of the data (Nowell et al., 2017). It involves finding out recurring meanings across a data set, which is vital to the interpretation of phenomena (Vaismoradi et al., 2013 as cited in Xu, 2020). It was arranged according to themes like frequency of training, content of training, challenges faced etc. The table below summarizes the methodology of the research:

Site	Five under resourced government primary schools
Participants	3 government primary school teachers and 2 NGO run school teachers
Sampling of participants	Convenience sampling
Approach	Qualitative approach
Tool used for data collection	Interview
Data analysis	Thematic analysis

3.8 Ethical issues and Concerns

All the research participants were sent a consent letter prior to data collection. Purpose of the study along with its significance was shared with the participants and verbal consent to collect data from them was also taken. It was communicated that the information they shared with me would remain anonymous and neither their name nor their institutes name will be mentioned in the paper. I have repeated their answer to them for them to review. The participants were given full freedom in answering questions. If there was any questions they didn't want to answer, it was not asked second time. While approaching participants for interviewing, if resistant was felt that they didn't want to give the interview at all, it was not preceded.

3.9 Credibility and Rigor

The research followed a specific timeline where deadlines were maintained to complete certain tasks. Presence of a mentor was also there and peer debriefing of the research at different stages was also done. Moreover, I have had the experience of taking part in an interview before and so had an idea of how an interview is conducted and is aware of small details like how the language should be when asking questions, how to ask probing questions etc. I've gone through several journals and articles similar to my study and have taken similar approach for conducting the study.

3.10 Limitations of the Study

Every study has its own limitations. One major limitation of the study was that schools were closed. The newspaper, The Daily Star, March 16th, 2020, published that it was declared by the Education Minister, that schools will be closed from the next day to fight against the spread of Corona virus. That school closure is still maintained countrywide even after more than a year. The latest news in The Daily Star on July 12th, 2021 consisted of information

stating that school closure will extend and that more information will follow. Since the schools are closed, physical classes are not being taken in schools. This meant I was unable to observe class where grade 5 science teachers take classes with incorporating the learning from the trainings. Since class observation could not be done, I asked the teachers about student response to the specific classes where they incorporate the learning from the trainings as to the one where classes are taken normally.

Chapter 4

Results

4.1 Introduction

In this section, science based training received by grade 5 teachers of under resourced schools and their experience are presented. Based on the research questions, thematic analysis was done. It was focused on training, which included types, frequency, duration and content of trainings, application of those training in teaching learning approach and challenges faced while trying to do so. Thematic analysis was done to understand the three research questions.

4.1.1 Training

In this sub sections, the types of trainings, frequency, duration and content of trainings are presented.

4.1.1.1 Types of training

There are two types of training as mentioned by the teachers: pre-service training which is of only 2 weeks and in-service training for single subjects. The in-service training is again of two types: one is a yearlong residential training on all single subjects and other is a weeklong training focusing on a specific single subject. The residential training is mandatory for all teachers and in-service training is given at different points in their teaching career and not everyone receives it. The residential trainings are called C-in-Ed trainings. In in-service trainings, the teachers receive trainings on specific subjects like science, language, religion and even music unlike C-in-Ed trainings where every subject is covered in the specific time period. “I was lucky to have received a C-in-Ed at the beginning of my teaching career.” (Personal communication: Interview #4, 02/03/2021) According to the teacher, the training at

the beginning helped her a lot in the days to come. In recent years, DPED course has also started which is a 1.5year diploma course in Education.

4.1.1.2 Frequency of training

In under resourced government primary schools, trainings are given in seniority basis. If someone is in the teaching field for longer years, he or she is given preference. This result in teachers not getting the science based trainings even in their 11 year old career because there is someone who is in the teaching field more than them as shared by an under resourced government primary teacher. “I am in the teaching profession for 11 years now but still haven’t received single in-service science training because I am a junior teacher.” (Personal communication: Interview #4, 02/03/2021) It was unfortunate what the teacher shared about not receiving training. In the last year, science trainings were scheduled but for government primary school teachers, it got cancelled, while for NGO run schools, it was conducted virtually because of the outbreak of COVID-19 virus which led to the closure of schools for minimizing its spreading. In NGO schools, science subject trainings are more often given compared to government primary schools. Both the NGO run school teachers interviewed had attended training on science in the past 2 years.

Relevant trainings are seldom given to government primary school teachers. Subject based trainings for teachers seem to be inadequate. Since from teacher’s point of view, teaching science is a bit more challenging than teaching other subjects, they should be receiving more support in terms of training. However that is not the scenario. Also, the training is usually given with little or no consideration of the real scenario with huge number of students in one single classroom. In under resourced schools, one of the significant lack of resource is the lack of teachers, single teacher having to manage large number of students at a time. One of the participants said, “In the last two years, I have only received training on Music but I am

teaching science in grade 5 for the last two years.” (Personal communication: Interview #1, 14/02/2021) The teacher who said it did not ever have to take music classes yet was trained on it.

4.1.1.3 Content and duration of training

In under resourced government primary schools, out of 3 teachers who were interviewed, 2 teachers of grade 5 received trainings for six days from 9am to 5pm at PTIs, jela training center or thana research center. Everyday there were 2 to 3 sessions and for rest of the time, practice teaching was done. The content consisted of how to start the class with exchange of greetings and move on to topic based discussions, lesson planning, how to conduct pair work and group work, how to select team leader when assigning a group, how to incorporate presentation into lesson plans, material making, how to make question following certain criteria, how to grade, how to maintain the flow of the lesson. The idea of showing and doing experiments as a part of lesson was also a part of the training. One of the teacher explained how they were trained. “The trainers tried to take classes in the way they expected us to take classes with our students, incorporating materials, making us do pair and group works and class discussions” (Personal communication: Interview #5, 07/03/2021) Therefore it was understood that teachers were trained on different elements. The training was conducted with the help of a projector and also by white boards.

One of the interviewed government primary teachers received C-in-Ed training where all single subject training was given for six months followed by practice teaching for the next six months. “It was a very rigorous and lengthy training where we had to attend sessions from 6am to 2pm in the morning shift but we had to work in groups till 5pm most days.” (Personal communication: Interview #4, 02/03/2021) There, training content mainly comprised of class delivery techniques like incorporation of group and pair work, discussion with the students,

relating the lesson with nature and also encouraging the teachers to take children outside of the school premises for their better understanding of a topic as they bond with nature and relate the bookish knowledge to that of real life. The training also taught them how to make low cost teaching learning materials and with whatever resources that are easily accessible.

In NGO run under resourced schools, the trainings were not so prolonged like in government schools. Both of the teachers received both online and physical training on the subject science. The training took place in NGO office and it was in sets of 2 days and not more than 1.5 hours per day for the physical training and for the one day virtual training, it was only for 1.5 to 2 hours. The training content was very specific, it was on how to teach specific chapters from the grade 5 science book. The teachers were trained on how to explain children for their better understanding, what can be the expected questions from the students and how to answer them, practical demonstrations of lessons, doing experiments with children and how to incorporate the environment in lessons. Teachers were encouraged to take students outside of school premises and let them bond with nature for better understanding of the subject science. How to create assessments were also discussed in their training.

“We were trained on the chapter ‘Podartho o Shokti’ (Matter and Power) from the grade 5 science book. The training consisted of expected questions from students and how to answer them, incorporating conducting experiments as a part of teaching learning approaches. We were also taught to take the students outside of school and relate the environment with the specific chapter.” (Personal communication: Interview #2, 17/02/2021)

A bit of ICT was also taught so that teachers could utilize multimedia platforms in their classrooms. How short films or animations which are related to the lesson could be shown was also given an idea of in their trainings. “They would give us instructions on how to find

relevant animations in the internet to be shown to children as a part of their lesson.” (Personal communication: Interview #2, 17/02/2021) The teachers were trained on ICT even if there was no access for them, keeping in mind about the opportunity later where they can actually make use of it.

4.1.2 Application of learning from trainings

Teachers tried to incorporate and apply their learning in their lessons in the form of starting the class with greetings and slowly moving on to the main theme of the lesson. Group works as well as pair works were given, team leader selection with respect to sincerity, eagerness to learn and read, patient and open minded enough to respect every opinion from different students and evaluate them before coming to a conclusion. Experiments were also carried out in class and presentations were taken. They made use of real life materials in lessons such as potted plant, candles, glass etc. The teachers buy low cost materials to make teaching learning materials and also sometimes ask the students to bring so very easy to find materials to be used in class. “I once asked a few students to bring candles to class so that I can demonstrate experiments with it” (Personal communication: Interview #2, 17/02/2021)

They also explained a topic through discussing it with the students. “At the beginning of a new chapter, I would discuss the topic with my students for me to understand their level and to make them familiar with the topic before getting into it completely.” (Personal communication: Interview #3, 28/02/2021) However, the teachers couldn’t make use of the multimedia due to its unavailability. They also couldn’t take the children outside for the lessons due to large student number. Also, due to the trainings taking place in long intervals, teachers tend to forget what they have learned from the training for them to actually apply it.

“I can’t remember the last time I received training on science. I can’t recall the content of the training, can just remember few things vaguely: I remember learning

about science, how to start class with greetings and giving students group works to do.” (Personal communication: Interview #1, 14/02/2021)

The NGO run school teachers could apply more learning from training in their teaching learning approaches compared to the government primary teacher as they received more frequent training. The 2 NGO run school teachers shared that they have also received training online in the time of COVID-19 while no such thing was said by the 3 government primary school teachers. They said that online training was scheduled but was canceled for some reason. “We received training on science and of safety in times of COVID-19 during the pandemic. It was very resourceful. It was of course conducted online” (Personal communication: Interview #5, 07/03/2021)

One of the two NGO run school shared about how in their school, few teachers were trained on taking classes online which was also followed through. The teacher, who was trained, took classes online incorporating the learning from her training.

“It was a great experience for me to even be a part of the zoom class as she took classes after the training session. We have never used zoom to take classes or attend any meetings as everything was physically done. Even though our school has recently taken a Wi-Fi service, it was only used by the head teacher to communicate with the school’s founding body members who are stationed outside of the country.” (Personal communication: Interview #2, 17/02/2021)

It showed that the training conducted was followed through which makes it easier for teacher to learn better and retain these learning for application later.

4.1.3 Challenges to application of learning from training

Many challenges to implementing the learning from the training in class has come up which are discussed below:

4.1.3.1 Teachers having to manage a large classroom

One of the most common challenges of the teachers for application of learning from training is that they could not delivery it properly due to large number of students. Along with the large number of students, some external factors also exist.

“I have to take 9 classes per day, each class consisting of 70 students on average. On top of these, there are noises of cars coming from the streets, of construction, of the generator of the school building during power cut. Under these circumstances, it is quite hard to actually implement what I have learned in the training in the class.”

(Personal communication: Interview #1, 14/02/2021)

On top of huge number of students, time limitation is also a challenge. Managing this huge number of students in a classroom before the actual delivery of lesson leaves less time for application of the different learning of the teachers from the trainings they received.

“Sometimes it feels like I have just started class and I have not even gone through half of my lesson plan when the bell rang for the next period. 40 minutes per period to teach a subject to so many children is next to impossible” (Personal communication: Interview #4, 02/03/2021) Also, a head teacher shared how she does have classes but cannot apply any new techniques as she is busy most of the time and do not have the time for it. “I have a lot of responsibilities outside of classes and so I do not actually get the time to think about how to incorporate the learning from the training I

received, let alone apply those in class.” (Personal communication: Interview #3, 28/02/2021)

Adding to these, the children who go to these schools usually come from a lower socioeconomic background and they often come to school hungry and with family issues on their mind. They are sometimes the victim of physical and emotional abuse. Considering these factors, the flow of lesson is most certainly disrupted.

“There is also the factor that the children who come to our school come from poor household and they are often hungry, tired from the work they have to do before and after school for earning extra money and sometimes stressed out due to conflicts in their homes which include physical and mental abuse. Due to this, their attention span tends to be very short as well.” (Personal communication: Interview #1, 14/02/2021)

This shows the unstable mental situation of children which actually hinders their learning process.

“I had a student in my grade 5 class last year who used to be always late. I once scolded her for it and later came to know that the student shared the pair of school shoes with her brother who used to do classes in the morning shift. When her brother’s shift ended, he would go back home and then my student will come to class since their class was in day shift.” (Personal communication: Interview #2, 17/02/2021)

The problems faced by the children were very real and when these in fact caused hindrance for the teacher to apply learning from training that they received.

4.1.3.2 Lack of resources

These under resourced schools lack resources to take the science class the way the teachers have been trained. Lack of proper infrastructure and the lack of a suitable laboratory becomes a challenge for the teachers. “There are some experiments that need to be demonstrated for the better understanding of the students but those are not actually safe to be done in class, and since there are no labs, we can’t show it to the students.” (Personal communication: Interview #1, 14/02/2021) Moreover, resources to make the teaching learning materials is also scarce, as well as use of ICT in taking lessons is bare minimum as the schools do not always own a projector or the one that they have in the school premises doesn’t work. “We can show the students videos relating to the topic we are explaining in class but it is time consuming and we don’t actually own a proper working projector in school to show them in.” (Personal communication: Interview #5, 07/03/2021)

4.1.3.3 Achievement gap between students

Another challenge is the achievement gap that exists between the students. Achievement gap means that the students have knowledge deficiency in respect to the grade level content. When these students are in class, it becomes very hard for the teachers to take the class incorporating different method he has learned in the training. Rather, he has to spend time in making these students understand and bring them in pace with the whole class.

“There are students who can barely understand what the teachers are saying due to the lack of their prior knowledge on the topic. This happens when the students don’t have prior understanding of a topic from the grade below. It is very hard to actually incorporate new elements from the learning from the training in a lesson when a big percentage of your students can’t even follow the regular class.” (Personal communication: Interview #1, 14/02/2021)

Even more challenges follow in applying the learning from trainings as it is an obvious fact that different students have different pace of learning: some understand quickly while some struggle. “There are different levels of students: some learn quickly and some takes a lot of time. Their understanding capacity is also different so their capacity to actually take in the contents of the lesson varies” (Personal communication: Interview #3, 28/02/2021)

Irregularity of students also leads to achievement gap as the students miss out on lessons in class due to being absent. “There are students in my class who is absent in 70% of the classes. If they are this irregular, how can I support them?” (Personal communication: Interview #5, 07/03/2021) Having to make the lesson and learning inclusive is a big struggle as teachers have to make sure everyone is included and understands what is being taught. This takes up a lot of time and including new elements from the training becomes close to impossible. These students becomes a problem too as they miss out on class and when they come back to class, the teacher struggles to make time for that student while taking a class incorporating the learning from their training.

4.1.3.4 Lack of motivation of teachers

The teachers who teach science in grade 5 also take different subjects in different grades and they have 5 to 9 classes per day. Since a single teacher has to take multiple classes per day, they are always under huge workload which drains their energy. When the teachers are not well rested and they have to create multiple lesson plans on different subjects and take classes accordingly, they cannot apply a lot of the components from their learning from training even if they wanted to. Thus, they lose the motivation to do so. “It gets tiring to take so many classes and making so many lesson plans. The gap between classes is also not sufficient enough to make teaching learning materials.” (Personal communication: Interview #1, 14/02/2021)

4.1.4 Recommendations from teachers

The teachers wanted more prolonged trainings which were more engaging with more hands on activities for the teachers to learn more deeply. The teachers feel that teaching science is a bit more challenging than teaching any other subjects and thus they need thorough trainings for it. “One or two day training is honestly not enough. Also, we know the theory, what we need is actual demonstration of how to manage a huge class while incorporating different elements learned from the training. (Personal communication: Interview #1, 14/02/2021)

They also wanted basic trainings along with the subject based on how to manage and control class with large student number. They also wanted trainings on the NCTB attainable competencies and how to incorporate that into lessons. One thing which was a common answer to what type of training that they wanted was it didn’t matter what they wanted because in reality they will not be given the opportunity. “It honestly doesn’t matter what type of training I want because I don’t get a say there” (Personal communication: Interview #5, 07/03/2021)

4.1.5 Key findings

The research has put forward certain information about the teacher training which is discussed below:

- Science teachers were not adequately trained and the teachers seldom attended single subject training. This is because, in government primary schools, priority is given to training senior teachers. The head teacher of a school is thus given more training even though he or she cannot actually take classes often due to other responsibilities of the school.
- Application of the learning from training in teaching learning process was not satisfactory as teachers were seldom trained and this caused them to forget what they

have learned. They applied basic learning from training like starting the class with greetings and implementing group works.

- Major challenges to application of learning from training were a single teacher having to manage a huge classroom, presence of external factor like sound pollution, time limitation, lack of resources, achievement gap that exists between students and lack of motivation of teachers.
- Under resources schools were usually in residential areas where construction occurs very frequently and which pose as an additional challenge in taking classes due to the noise and applying the learning from the training to their teaching learning approach.

Chapter 5

Discussion and Conclusion

5.1 Discussion

According to Zey, 1984, cited in Ingersoll & Strong, 2011, given that teachers receive efficient training and induction programs, they can perform better at their job of teaching which will improve student learning (Hnin Yu Soe, 2018). This was a finding in a paper published in Finland. However, if the hypothesis correct, Bangladeshi teachers are lagging behind. In Bangladesh, one of the challenges for improving the quality of education system is not sufficient teacher development opportunities (Kecerdasan & Ikep, 2013). Primary level teachers in Bangladesh usually teach multiple subjects in classes, however, only 27% of government primary school (GPS) teachers and 30% of registered non-government primary school (RNGPS) teachers are said to have received subject based training (BANBEIS, 2007). They are not at all given the training that they deserve in order to provide the better education. Teachers in non-formal education system go through 14 days period of pre-service training followed by a one day refresher training once a month (*GroundWork Inc*, 2002). However, in real life scenario, this one day training once a month doesn't happen and all the 5 teachers interviewed feels that what little training they receive, it should be lengthier for their better understanding and learning. There is however, subject based training scheduled monthly in alternate basis like in the first month, teachers are trained on English, then next month, they are trained on math, so on. There is huge number of schools and even more number of teachers, so only one teacher from each school gets to attend this training and sometimes, even no teacher from specific schools unable to attend. This means the training of a teacher is very inconsistent and inadequate.

Teachers all around the world face challenges in classrooms and delivering lessons. In USA, some of challenges included the availability of proper textbooks and classroom resources and

training of science teachers (Anderman et al., 2012). There was also deficiency of up-to-date resources and the infrastructure of the classrooms is not sufficiently organized to support the learning (Boakye & Ampiah, 2017). In Bangladesh, in a study, 63% teachers pointed out that they lack classroom space and 68% said they have insufficient teaching materials (Rahman Talukder et al., 2021). According to the findings of this research, one of the findings about the challenges that teachers go through in under resources schools was lack of resources also. Classrooms in Turkey are overcrowded and this adds to the challenges that teachers face in teaching in classrooms (Profile, 2018). In Pakistan, large class size was a struggle in science classrooms (Jessani, 2015). In this research, it was found out that a single teacher is responsible for taking class of large number of students, and the size of the classrooms are often not big enough to accommodate the large student number, causing congestion. In addition, about three quarters approximately 73% teacher in a study at Bangladesh reported that their schools do not offer sufficient materials and they have very less opportunity to use digital strategies (Rahman Talukder et al., 2021). Achievement gap between students, lack of opportunities to use digital strategies, irregularity of students and lack of motivation of teachers were also some of the challenges that teachers faced in taking classes while trying to implement the learning from training that they attended.

Since the challenges that teachers face is put front with this research, the findings can be shared with the personnel who designs the trainings and the trainers themselves so that they can better construct and conduct the trainings which address their challenges. This might be a very useful data for them as when the teachers will be given trainings that better cater to their real life scenarios and what type of trainings they want and is necessary for them, they can take better classes and this might, in turn, improve the teaching learning process the children go through.

The research would have been more thorough if data could also have been collected through observation for both classroom and trainings. This would have given a better insight as to how teachers are being trained and how they are applying the learning from the trainings into their lessons.

5.2 Conclusion

This research has provided an overview of grade 5 teacher training on science: how frequent the training takes place, its content, the teacher's application of the learning from the training into lessons and challenges while doing so. The results indicated that while the teachers are being trained, but just not enough and the training does not consider the real scenario in the under resourced primary classrooms.

It has been made clear from the research that there are lots of external factors which act as a challenge for the teachers in applying the learning from trainings in their lessons. If the trainings given were designed taking these factors into consideration, the training will yield a much better outcome i.e. the teachers will be able to apply more of the learning into their lessons, enhancing the overall teaching learning process the children go through.

The research has also put forth the information that a government primary teacher receives trainings before starting his professional career as well as in between their teaching profession. Personally, I believe that this particular training is very beneficial for the new teachers starting their career in teaching.

5.3 Recommendation

Recommendations for the overall research and its findings are as follows:

- For further research, data could be collected through observation of classroom as well as of the training sessions. This would bring out more detailed information on how

teachers are being trained and how they are applying the learning from the trainings into their lessons.

- Since senior teachers are given priority for training, they can support the teachers who could not receive the training. They can take workshops for those teachers, sharing their experience and learning from the training that they received. Once that is done, teachers can be paired or they can work in groups as a part of peer learning and ask for the teachers help and feedback on their work who has actually had the privileged of getting trained.
- Now that the challenges that teachers face in real scenario is known, this can be a valuable data for the personnel who decides on the content of training and trainers themselves as they can incorporate these while designing and taking trainings of teachers.
- Policy makers can utilize these data to make certain training mandatory for teachers so that they can better support the students.

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Appendices:

Appendix A. Letter of consent

Dear Sir/Madam,

I am a student of BRAC Institute of Educational Development in BRAC University. My thesis requires me to conduct a research and I am inviting you to take part in the study to aid me to complete my research.

The research or study intends to find out the content of grade 5 science teacher training, how they are applying the learning from the training into their lessons and what challenges are being faced by teachers in the process.

If you agree to participate, you will be asked to share your knowledge, attitudes and experiences about the grade 5 science trainings that you have received in an hour interview remotely, online.

You are not at all at risk for taking part in this interview. Moreover, teachers and higher authority may directly or indirectly benefit from the study if the work contributes to knowledge about the quality of teacher training and how it can be improved.

The information you provide will be kept strictly confidential. I will protect your privacy and confidentiality about any details that you choose to provide. I would be happy to answer any of the study questions that you might have and if necessary, you are welcome to contact me via mobile phone at: +8801681457212

Some of the information collected from this study might be kept and used for future research. However, in any such cases, information and data will be used anonymously confidentiality and identify of individual participants will not be revealed in any circumstance.

Your participation in the research is completely voluntary and you have the sole authority to decide for and against your involvement in this study. There will be no penalty for refusing to participate in the report at any point of the study. You are free to withdraw from the study at any time.

If you agree with my proposal to take part in my research, please state your agreement by placing your signature in the space below.

Thank you very much for your support and cooperation.

Signature of Investigator
Date:

Signature of Participant
Date:

Appendix B. Interview Guideline

Date:	Interviewer:
Name:	
Name of School:	
Gender:	
1. Did you attend any science based training in the last 2 year? If yes, what was the training about?	
2. How long was the training and how was it conducted? (physically, virtual)	
3. What was the content of the training? What aspects were covered?	
4. What teaching tools were used in the training?	
5. Where was the training conducted?	
6. Could you apply anything that you learned from other trainings that you attended and use it in your science class? How did you use it?	
7. What are some of the challenges that you faced while incorporating the learning from the training in your teaching learning process?	
8. Did other training help you in teaching the subject science to grade 5 students?	
9. What kind of trainings do you want to take?	

Appendix C. Sample Interview Transcript

Interviewer: Assalamualaikum miss, how are you?

Interviewee: I'm fine. How are you?

Interviewer: I am also fine, Alhamdulillah. So miss, I'd like to start by thanking you to take time out of your busy schedule to give this interview. I really appreciate it. I am asking to record this session for further use in my research. Is that ok? If it is, I'll start the recording.

Interviewee: That is ok with me.

Interviewer: Thank you miss. So for my first question, how long are you teaching science in grade 5?

Interviewee: I tell you the process about this subject teaching. Every year we are assigned to take a new subject. If I get science this year, next year I will may be get maths or English. So I have taken science in the last year and two years before. So in total I have taken science in two years, not consecutively, but in total two years.

Interviewer: Ok. So did you receive any science training in the last two or three years?

Interviewee: No, I haven't received any science training. What happens is that these trainings are given to senior teachers and because I am junior, I haven't yet received one.

Interviewer: So, from the beginning of your career, you haven't received any science training but have received trainings of different subjects. Is that correct?

Interviewee: Yes.

Interviewer: Understood. So, could you take anything from other trainings that you attended and use it in your science class?

Interviewee: Yes, ofcourse. I'd like to add something here. Every one of the teachers has

to attend C-in-ed training which is of one. It is mandatory for all teachers. There is also DPED which is of one and a half years which has started in the recent years. I was fortunate to have received it in the very beginning of my career.

Interviewer: Can you tell me a bit about this C-in-Ed training?

Interviewee: Yes. It is all subject based training. We are trained on math, Bangla, English, science, basically all subjects. We also have to sit or an exam at the end of it. What you were saying is single subject training where training happens once a month and teachers are trained on English the first month, then next month, they are trained on maths, so on. There is huge number of schools and even more number of teachers, so only one teacher from each school gets to attend this training and sometimes, even no teacher from specific schools unable to attend. In my school thana, Gulshan thana there are 37 schools and not teacher from all the schools even get the training. Junior and senior is also mentioned when selecting the teacher who will receive the training. What happens then is that those who are senior, they are receiving the training.

Interviewer: What happens to the junior teacher?

Interviewee: A long time passes till they get a specific training. Like I have been teaching for 11 years now and I have taught grade 5 science for 2 years but still haven't received a single training on the subject science.

Interviewer: Ok miss. Can you tell me how was the C-in-ed training conducted? Did you teach at a school then and the training was conducted after school hours? What was the frequency and duration of the training?

Interviewee: No. Suppose I am teaching at a school, when I am scheduled to receive this

training, they will take me in deputation and train me on these single subjects. It was a residential training where I went to Gazipur. You are allowed to choose the location of your training and I chose Gazipur. So I went and stayed there and attended the training. It was one year long as I said before. I was trained for six months, six days a week. There was 2 shifts, morning shift and day shift. I was in the morning shift which was from 6 am to 3 pm. After six months, I would be placed at a nearby school where I will teach, trying to implement the learning from the training that I have received. There would be a guide teacher in every school who used to monitor and evaluate us.

Interviewer: Ok, I understood. Now miss, can you tell me what the content of the training was and what aspects were covered?

Interviewee: Ok, so, there was obviously a curriculum which was followed in giving the training. It consisted of what we'll learn and how will we deliver it to our students. We learned how to convey the lesson so that we get better feedback from the students and what to actually teach them. The training taught us about learning outcomes and how much to actually teach so that it is neither much or too little. So if I give an example, suppose a chapter from the grade 5 science book is selected and we were given the idea what the students would learn from that specific chapter. Then we were taught how we should teach the students, what materials to use and when to use them. There are basically three steps in which we bring the materials in class and how to apply them: real life, half real and abstract. Real life materials are living things like we were taught to bring trees, leaves etc. In half real, we learned to create charts with pictures in them and in abstract we were taught

to give the students an idea of the topic by explaining it. We were advised to use clues and question and inquire students so that they could guess and learn about the topic. We were also taught to take the students outside and mingle with nature so that they learn better. Our trainers took us outside of the classroom and demonstrated how the nature can be related to a science lesson and how to incorporate in the lesson that we will take later in our classrooms. There were also group works and a guide teacher would be assigned to every group to monitor us and see how we did our work. When I did the training, 200 teachers were trained in the same classroom so groups were often made. After a group work, there would be demo classes to demonstrate our learning, and there, use of teaching learning materials was mandatory for these demo classes.

Interviewer: How was the training conducted? What mediums were used?

Interviewee: Projector was sometimes used. Training was given with the help of teaching learning materials so that we can learn from it, traditional teaching was also done. Basically it was decided according to the need, based on the content of the training on the specific day. But, they mostly delivered their training using a projector.

Interviewer: Thank you, miss. Now I'd like to ask you how you applied what you learned from the training in your classroom.

Interviewee: So I could apply some of it like I drew pictures in chart papers and used it in class. I would sometimes ask the students to look out the window to relate a specific topic with the nature. I would also tell them to find things from nature while coming to and going back from school. I'd later ask them about what they observed. I couldn't take them outside as the student number was

huge and for one teacher to manage all of them together is an impossible task. I'd also give them group works to do and assess them as a group.

Interviewer: Then, I'd like to ask you what are some of the challenges that you faced while incorporating the learning from the training in your teaching learning process? Like the training and the real teaching are quite different so what are some of the challenges that you face while taking classes?

Interviewee: One of the biggest challenges that I faced is the presence of different type of students. Some of them understand quite quickly, while others struggle and some don't even understand at all what is being taught. It might also be the case that the student had some lacking in the last class that they are being unable to somehow overcome. So when I try to apply different methods, it becomes a bit difficult. I try to keep track of the slow learners and help them accordingly but they sure make a hindrance in the flow of the teaching. I then try to find out where their lacking is and address it.

Interviewer: Was there any other challenges that you faced?

Interviewee: I'd say that there is lack of resources. The teaching learning materials have to be made by me and I have 9 classes per day. I can't take 9 different materials to 9 classes when resources to make are very less. Also it is time consuming and I don't have the time to make them. Another challenge is the student number. It is huge. There is also limitation of class time. Suppose I made a lesson plan incorporating a new element from my training but due to shortage of time and huge student number, I can't follow it properly. Sometimes, I can't even create proper materials due to lack of resources that I have already discussed. Also to add to it, I haven't received any training other than the C-in-ed training. I don't have the expertise to apply new

elements in class because I haven't had adequate training to learn in the first place.

Interviewer: Thank you miss. I can understand. This brings me to my next question which is what type of training do you wish to take?

Interviewee: I'd like to very frankly answer to this question. The trainings that we get for a week on single subjects are not actually enough. Three days go by just by explaining the theory of the subject, like making us familiar with the subject and the content of the curriculum. What I think is that I know the theory, I know what are the learning outcomes and what contents that I need to delivery to my student. I also know the curriculum, even though I don't have them memorized, I have the option of going through it to revise as documentation of curriculum is readily available. So to take 3 days just to explain that is a waste of time. I'd really like to attend trainings that address the behavioral issues of the students and how to control them in class. This can't happen in the rest of 4 days that are left of the training session. I'd also want to observe demo classes so that we learn from them and overcome some of the challenges that we face while teaching science and as a whole. In single subject trainings, roughly 30 teachers take the trainings at once. So if I could observe demo classes that they deliver, I'd be able to see and take in information on how differently a class can be taken. So I would want more demonstration.

Interviewer: Is there anything else that you want to share?

Interviewee: Yes, since you have asked. Sometimes what happens is that I've created a material for a specific topic but if there is an option to discuss it with others, I'd know what alternative materials can be made for the same lesson to be

taken. This is something we don't always get to do and I believe it will create a difference in how we teach if we were given the opportunity.

Interviewer: Thank you for sharing miss. This is the end of my questions. Thank you so much for giving me time and taking this interview. I will be very helpful for my thesis. Do pray for me. Take care miss. Assalamualaikum.

Interviewee: Thank you too. Hope I could have helped. Take care.