

# RESEARCH REPORT

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## Measuring Teacher Effectiveness for Primary Teachers in Bangladesh



**National Academy for Primary Education (NAPE)**  
**Mymensingh**

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# Measuring Teacher Effectiveness for Primary Teachers in Bangladesh

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# Chapter One: Introduction

## *Introduction*

Effective teachers are aware of which skills and knowledge are essential to learners and which are optional; they must understand how the learning areas and subjects have changed gradually to meet the needs of the twenty-first century, including topics like cultural diversity, virtual communication and global awareness. Skilled teachers are good at exploring the relationships between the various disciplines they teach and identifying the concepts and abilities that are necessary for learners to comprehend the taught subjects. However, knowing the topic is not enough; teachers must have a good understanding about the specific pedagogical approaches that are best suited to each student (Danielson, 2011). Thus, it is important for schoolteachers to understand their students well rather than only knowing the subject knowledge and its pedagogy. Moreover, instructional materials also play a significant role in enhancing students' learning. Besides getting the learning resources from the school authority, efficient teachers also develop the learning materials and teaching aids by their own initiative. There are different types of learning materials used at school, like- some materials are for students to use in the classroom, some materials are to use outside the classroom, and again some materials are for only teachers to develop their professional competence. A good teacher must have a good understanding about these learning resources to use them in the classroom effectively and for their professional development.

Furthermore, students' assessment is an important part of teaching as it is closely interrelated with the curriculum and the learning process. Effective teaching requires both assessment for learning and assessment of learning. To know what extent the students have achieved the targeted outcomes after a certain period time, the teachers use the techniques of Assessment of Learning. This assessment is mostly used for awarding certificates at the end of a course evaluating students' performances. In contrast, assessment for learning allows teachers to track the learning progress of learners, enable teachers to identify the learning needs and give feedback to the teachers to re-design the teaching-learning activities (Clark, 2008). Teachers must have a good understanding about these assessment techniques so that they can conduct the students' assessment systematically

in their workplace. These abilities help schoolteachers to make decisions about the learning and progress of learners, which are seen as necessary skills for every teacher to be effective.

Again, teacher's behaviour and classroom activities contribute to enhancing student's achievement. Teachers positive attitude towards teaching and students also termed as influencing factors for teachers' efficacy, these qualities help teachers to get satisfaction about their job and make rapport relationship with the learners. Some scholars, however, take a broader view of teacher efficacy, adding the collaboration and relationship skills rather than being limited to only focusing on subject knowledge or pedagogical skills. A good teacher must be expected to assist colleagues in their teaching, take on more significant leadership positions in the school, improve the quality of his/her own teaching through reflection, or participate in professional development programmes. (Ko & Sammons, 2013).

Evidence suggests that teachers' self-efficacy impacts pupils' academic progress (Woolfolk, 2007). Changes in self-efficacy beliefs affect teachers' performance; it is observed that teachers who reported high self-efficacy were successful in classroom management, lesson preparation, and behaviour control issues (Ahsan, 2014). Teacher self-efficacy also influences their behavioural characteristics such as taking the initiative, making decisions, remaining patient in a challenging setting, and enhancing students' motivation, resulting in pupils becoming high achievers (Paneque & Barbeta, 2006).

As teacher's self-efficacy is very much co-related to student's outcomes. So, it is required to deploy a good number of skilled teachers in educational institutions, and train them on a regular basis. These issues are considered as crucial factors for ensuring quality education, which is clearly stated in the Sustainable Development Goals (SDGs) document. SDG target 4.c stated that "By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing states" (UNESCO, 2017). It requires immediate action since the equity gap in education is worsened by a shortage and uneven distribution of properly educated teachers, particularly in underprivileged communities. Teachers from all levels need to have the freedom to make decisions, be recruited regularly, ensure a reasonable remuneration, and be supported with

sufficient resource materials, as they are crucial for ensuring quality education (UNESCO, 2018). To achieve these SDG 4 targets, the Bangladesh government has invested much in nationalizing all primary schools and recruiting many teachers each year. As of 2019, a total number of 356,366 primary teachers are deployed in different types of primary schools across the country. Out of them, 300,767 teachers received C-in-Ed or DPED training, indicating that 15.6% of teachers are still untrained (DPE, 2020).

Pre-service teacher education is regarded as a crucial stage in transforming teachers' beliefs and attitudes. Most educational researchers have paid much attention to identifying pre-service teachers' efficacy (Jackson, 2015). But not many research studies have been conducted on in-service teacher education. In Bangladesh, there is no scope for pre-service teacher education for the teachers to teach at the primary level. The Bangladesh primary school teachers participate in teacher education programme namely- Certificate in Education (C-in-Ed) or Diploma in Primary education (DPED), as part of their in-service teacher training. National Academy for Primary Education (NAPE) designs and implements this course through 67 Primary Teachers Training Institutes (PTIs) across the country. Around 2,07,660 teachers received one-year long Certificate in Education (C-in-Ed) training from 1983 to 2020, and 97,842 teachers received one-and-a-half-year long Diploma in Primary Education (DPED) from 2012 to 2021 (DPED Board, 2022). It is expected that after completing the DPED, teachers will be able to achieve the targeted 23 teacher standards, which are very much related to teacher effectiveness. But, there is no specific study conducted on achieving teachers' standards that tells the authority the teacher's effectiveness of primary school teachers after completing the teacher education programme. Besides, it is unknown how far the primary school teachers are acquainted with the modern learning approaches and how efficient the teachers are in applying the teaching techniques in the classroom for a better understanding of students.

### ***Rationale of the study***

Teacher efficacy is a concern that has received a lot of attention in recent days. Policymakers are also strongly interested in teacher effectiveness or teacher quality (Muijs, 2006). Effective teachers are important for students' academic performances because quality teachers contribute to their

students' positive academic, attitudinal, and social outcomes and can effectively work with colleagues, administrators, and guardians. Additionally, they also contribute to the development of schools or academic institutions by creating a safe learning space, using diverse learning resources, checking students' achievement regularly, adapting modern teaching approaches and making evidence-based decisions. Moreover, it is seen that efficient teachers collaborate with other teachers, administrators, parents, and education professionals to ensure student success, particularly the success of students with special needs and those at high risk for failure.

Generally, the Bangladeshi primary school teachers are recruited from diverse subjects background, and they used to teach more than one subject in different classes. The teachers have little scope to develop their expertise in a specific subject and conduct teaching-learning activities. In one study, it was found that the teachers had a lack of knowledge in subject pedagogy and were not aware of personal development (Mullick & Sheesh, 2008). Again it is observed that the teacher-student relationship was not quite satisfactory; the teachers ignored the issues related to learners with special needs, used conventional methods in student assessment and had minimal relationships among colleagues (Ahmed et al, 2005). These are the significant problems related to teachers' self-efficacy of primary school teachers in Bangladesh, and these issues should be addressed by the concerned educational authorities to enhance teachers' capacities.

Considering the concerned issues, the government of Bangladesh has taken a number of initiatives, including long-term development programmes in the last decade for the capacity development of primary school teachers. In the Fourth Primary Education Development Program (PEDP4), the sub-components 1.3, 1.4 and 1.5 are related to teachers' recruitment, long-term teacher education and short-term teacher training focusing on continuous professional development respectively (DPE, 2018). To accomplish the activities stated in the above sub-components, the authority set year-wise targets and allocated sufficient funds for the teachers' professional development. It is seen that besides imparting long-term Diploma in Primary Education (DPED) or Certificate in Education (C-in-Ed), the authority arranged subject-based training, need-based sub-cluster training, leadership training, induction training and ICT related training to enable the classroom teachers to conduct the teaching-learning activities effectively (Alam et al., 2021). It is believed these training significantly contributed to developing teachers' self-efficacy.

Understanding how far the teachers are effective in doing school activities, it requires conducting an in-depth study on teachers' effectiveness. But, there are not many studies regarding teacher effectiveness in the primary sector of Bangladesh. The concerned educational authorities are not aware of which factors or indicators play significant roles in teacher effectiveness considering the Bangladeshi context. Moreover, no strategies have been taken by the authority and educational researchers to measure teacher self-efficacy, which is why no specific and standardized tool has yet been developed to measure the effectiveness of primary teachers in Bangladesh.

It is now a crucial issue for educators and education administrators to determine a measurement system for teacher effectiveness or quality, which will help them to re-design teacher training programmes. The findings of this study will contribute to developing a standardized tool to measure teacher effectiveness, and prepare a guideline for measuring teacher effectiveness in Bangladesh based on the evidence. The outcome of this study will also help the classroom teachers to plan classroom teaching-learning strategies, identify the functional indicators, and provide policy directions to the educational authorities to take proper decisions.

### ***Objectives of the study***

The main objective of the study is to measure teacher effectiveness using various methods to identify the functional indicators for effective teaching.

The specific objectives of the study are-

- to measure teacher effectiveness using various measurement instruments;
- to compare the differences in teacher effectiveness obtained by various instruments; and
- to identify the functional indicators of teacher effectiveness based on comparative analysis.

## Chapter Two: Literature Review

It is essential to review the relevant literature in order to update knowledge and practices from a global and national perspectives. Previous researches of national and international have described the concept of teacher effectiveness, as well as their study methodologies and findings. There have been identified a variety of pertinent to this study.

### *Definition of Teacher Effectiveness*

Teacher effectiveness is an overarching issue for teaching-learning activities in the twenty-first century. It results from applying theoretical knowledge to practice in the teaching-learning process (Jupp, 2009). Similarly, Campbell et al. (2004) describe teacher effectiveness as the influence classroom characteristics, such as instructional methods, teacher beliefs, teaching and learning setting, and use of learning materials, have on student achievement. In the same manner, Flanders and Simon (1969) included other elements for measuring teacher effectiveness, such as instructors' behaviours, qualities, pedagogical practices, and their repercussions in the classroom that generate more incredible learning performance. Furthermore, it is therefore associated with the competence of a teacher to deploy tactics, methodologies, learner interactions, and a distinct set of mindsets that culminate in enriched pupil understanding and attainment (Strong, Ward, & Grant, 2011). In the same way, Darling-Hammond (2010) observes that teacher effectiveness depends on student participation, instructional methods, satisfaction, pedagogical content competence, and classroom planning; it really is a repository of a teacher's individual attributes, talents, and proclivities (Darling-Hammond et al., 2012). In addition, Goe et al. (2008) outline teacher effectiveness from three independent perspectives: inputs measurement (Teacher Quality), procedures, and outcomes. Inputs are something that a teacher offers in the classroom, often measured by teacher experience, insights, desires, perception, pedagogical and content knowledge, qualification and license, and academic achievement. Procedures, on the other hand, are the activities that teachers and students do together in a classroom, within the school and in the community; Outcomes focus on the findings of classroom activities, such as the repercussions on academic success, completion rates, learner demeanour, involvement, beliefs, and social wellbeing. Furthermore, Goe, Bell, & Little (2008) develop a more comprehensive five-point concept of teacher effectiveness: 1. Set high

standards for the learners and assist in learning; 2. Promote better educational, psychological, and societal benefits for students such as timely promotion, regular attendance, timely completion, consciousness, and common values; 3. Employ a variety of tools to develop and arrange stimulating learning experiences, monitor academic achievement formatively, modify teaching methods as required, and assess learning through several indicators for documentation; 4. Facilitate the creation of classrooms and schools that promote diversity and civic awareness; 5. Interact with other teachers, authorities, parents, and education professionals to secure learner attainment, especially for high-risk and special-needs students.

### ***Practicing methods and indicators for measuring teacher effectiveness***

There is no universal approach for accumulating the evidence needed to assess a teacher's effectiveness (Little et al, 2009). Multiple measurement approaches should be employed considering student demographics and local contexts to document diverse aspects. As a result, various strategies have been employed for gauging teacher effectiveness.

According to Berk (2005), there are twelve (12) methods for measuring teacher effectiveness in an educational institution: (1) student evaluations, (2) peer evaluations, (3) self-evaluations, (4) videos, (5) student interviews, (6) alumni evaluations, (7) employer evaluations, (8) authority evaluations, (9) teaching scholarships, (10) teaching awards, (11) learning outcome metrics, and (12) teaching portfolios. Similarly, Goe et al. (2008) and Little et al. (2009) consider classroom observation, principal evaluation, instructional artifact, portfolio, teacher self-evaluation, student survey, and value-added model methods in their studies, which are the most commonly used measures of teacher effectiveness in the world and also in other studies.

For measuring the teacher effectiveness using several methods, McKnight (2015) prescribes five major indicators to develop the teacher effectiveness measurement tools: 1. Establish trustworthy and caring rapport with students; 2. Patient, empathetic, kindhearted disposition; 3. Integrity and ethics; 4. Subject matter expertise; 5. Better understanding of students. Analogously, the teacher evaluation model of Stronger and Tonneson (2012) comprised of seven components as indicator to generate a tool: Professional Knowledge, Academic Planning, Classroom Delivery, Assessment

of/for Learning, Teaching and learning Environment, Professionalism, and Academic Achievement. In the same way, Egypt employs a 5-domain benchmark for planning, learning techniques, classroom maintenance, content knowledge expertise, feedback mechanisms, and professionalism to measure teacher effectiveness in a tool, according to Abdelaziz et al (2016). Again, the Marshall Rubrics Model (2011) focuses on evaluating teacher effectiveness using six rubrics: plan and preparedness for learning, classroom management, delivery of instruction, monitoring, assessment, and follow-up, parents and community engagement, and professional commitments.

However, due to time, financial, and human constraints, using a large number of tools and methods in this type of research venture is sometimes unfeasible. Several scholars used a few variety of methods and tools to conduct this type of research. Kane and Staiger (2012), for example, conducted a study on teacher effectiveness that relied solely on classroom observation, student opinion surveys, and student score progress.

According to the literature of different research reports, there are numerous methods accessible to measure teacher effectiveness. Little et al. (2009) recommend for carefully scrutinizing which features are most essential to their setting, whether national, regional, or local, when developing indicators of teacher effectiveness. In this study, the research team considers classroom observation, student evaluation of teacher performance, principal (head teacher) evaluation, and self-evaluation for the measure of teacher effectiveness following the recommendation of Little et al. (2009) and also sets the indicators for measuring in the tools according the different literatures.

### ***Classroom Observation***

Classroom observation takes place in the classroom during teaching-learning activities to observe and assess the teacher's performance and students' learning achievement. According to the Centre for Development and Enterprise (CDE, 2015), classroom observation is the most prevalent tool for measuring teacher effectiveness. As the most significant aspects of teaching-learning activities occur in the classroom, classroom observation is often a source of evidence for teacher evaluation. In contrast, Kane and Stagier (2012) found that the authenticity and dependability of classroom observation have been the subject of discussion and research.

The vast majority of the 29 evaluation systems scrutinized in the OECD (2013) Review on Evaluation and Assessment Frameworks for Improving School Outcomes employed classroom observation as a measure for evaluating teachers. In the same study, Kane and Staiger (2012) claim that classroom observation is merely a snapshot of the teaching and learning process and has a strong correlation with teacher performance. It offers a chance for management to observe teachers in activity, evaluate overall teaching style, student management, and other components of teaching, and for teachers to get constructive feedback on the instructional strategies so that individuals can develop during tenure (Murphy, 2013). According to Bruns et al. (2016), there is a growing global goal in monitoring teachers' classroom instruction for teacher performance evaluation and rewards, process effect evaluation, formative feedback to teachers, and research into the variables of student learning. Murphy (2013) argues in a report for the Sutton Trust that the prime objective of classroom observation is that it provides for constructive feedback to the teacher, which other methods cannot supply.

### ***Head Teacher Evaluation***

Head teacher evaluation is the process of judging, knowing, and rating teachers' classroom performance and students' academic success. The head teacher's classroom observation is one of the most prevalent modes of teacher assessment (Brandt et al., 2007). Head teacher (HT) is the most knowledgeable about the scenario of the schools, its students, and its teachers, allowing to compare school teachers. It is typically derived on classroom observation, HT knowledge of the specific teacher, and setting (Goe et al, 2008). For the HT evaluation, Campbell et al. (2003) address disparities in teacher activity, variations in subjects and/or subject components, and differences in student academic performance. Assessment by school administrator is frequently criticized for being biased and dependent on the evaluator's individual inclinations (CDE, 2015). In contrast, Taylor and Tyler's (2015) investigation of an evaluation program in Cincinnati Public Schools revealed that recurring observation and feedback cycles with expert evaluators and school heads elevated teacher progression and accelerated student performance, both in the short and long term, but that school heads required more time, upskilling, and assistance.

### ***Teacher self-evaluation***

Teacher self-evaluation is the evaluation of teachers' content knowledge, skills, and beliefs, as well as the awareness of the academic development of the students. Self-assessment allows an opportunity to reflect on the practice, recognize the strengths and areas for progress, set objectives for professional development, and establish career objectives (CDE, 2015). Most countries employ teacher self-assessment as part of the performance management process and are often used to measure teacher effectiveness (OECD, 2013).

### ***Student Evaluation of Teacher Performance***

When judging a teacher, it's noteworthy to look at what the students say about them. Teachers and students are the most pivotal persons in any process of teaching and learning. Collaboration between teachers and students shows how well a classroom can assist learners sprout, which is why interactions and interrelationships are the cornerstones to understanding the implications of being engaged (Pianta et al., 2012). Pupils can communicate to the teacher instantaneously. Learners are the direct beneficiary of the teaching-learning activities. So, surveys or rating scales can be used to get students' assessments of the teachers. Like teacher self-evaluation measures, the validity and reliability of student ratings depend on the instrument used, how it is made, how it is used, and how detailed it aims to examine. But their ratings may be affected by how they feel about a certain teacher or how little they know about how teaching works. To get useful and constructive feedback from students, you need a controlled way to collect the data and a design to catch out the feedback, as well as clear rules about how the information is shared (Hall, 2013). The Swedish experience is that if questions are simple and relevant, students answer them accurately about the classroom instruction quality and give teachers meaningful information. The feedback is seen as valuable and affects how teachers teach and how students learn (D. Nusche et al., 2011). So, a new set of functional indicators for effective teaching is proposed to make future research more useful in measuring teacher effectiveness. Therefore, the widely used tools such as classroom observation, head teacher evaluation, teacher-self-evaluation and students' opinions have been applied in this study.

### ***Findings of various studies on measuring teacher effectiveness***

Idapalapati (2019) finds that developing and implementing fair evaluation systems is as essential as challenging. They argue that many educationists who support finding a remedy of objectivity in teacher evaluation models base their teachers' evaluations primarily on student performance. Schiefelbein and Simmons (1979) examined the impact of teacher training on student learning in Latin America, Africa, and Asia. They established an association of teacher training with student achievement after evaluating various studies. Almutairi and Shraid (2021) conducted a study on teacher effectiveness. They discovered that employing well-organized checklists in the self-evaluation survey instrument can also assist and support teachers in aptly reflecting on their performance, thereby preventing exaggerations of their performance.

# Chapter Three: Methodology

## *Nature of the study*

Literature showed that measuring teacher effectiveness is mainly done in quantitative approach. The objectives of the research also recommend a quantitative study. Thus, it is a quantitative study in nature.

## *Population:*

The study employed four kinds of instrument where data collected from head teachers, assistant teachers, students and classrooms. For conveniently using the instruments and feasibility, this study collected data only from the grade 5. Thus, the population of the study are assistant teachers, students and classrooms of grade 5 and the head teachers of government primary schools.

## *Sample and Sampling*

The size of the population is very large. For determining a representative sample size for a large of population we use the following formula:

$$\text{Sample size} = \frac{Z^2 \times P(1-P)}{e^2}$$

Z=1.96 (for 95% confidence level)

e=0.05

P=0.5

So, the total sample size would be 384. To avoid the risk, the study targeted 480 students.

To select sample, a multi-stage cluster sampling procedure has been applied. Division, geographical location, district are the stages of sampling procedure and schools are the cluster. From each cluster head teacher and all the assistant teachers, students and classrooms of grade 5 are selected purposively. A total of 20 students from each classroom were selected systematic random sampling procedure. From each school head teacher was selected and all the assistant teachers who taught in grade V and presented on the days of data collection were selected as sample. Classroom were selected purposively from grade V where one classroom for each teacher was chosen.

## Sampling Procedure

Table 3. 1: Sampling Procedure at a glance

Division	Geographical location	District	School (Cluster)	HT	Student of grade 5	AT of grade 5	Classroom of grade 5
8	Plain, Coastal, Hill, Char, Haor	12	12×2 =24	24×1 =24	24×20 =480	24×4-5 = 96-120	24×4-5 =96-120
Multi-stage Cluster Sampling Procedure							

The samples cover all divisions and five types of geographical locations (Plain, Coastal, Hill, Char, Haor) to understand teacher effectiveness for all kinds of areas. The hit map shows the sample areas briefly.

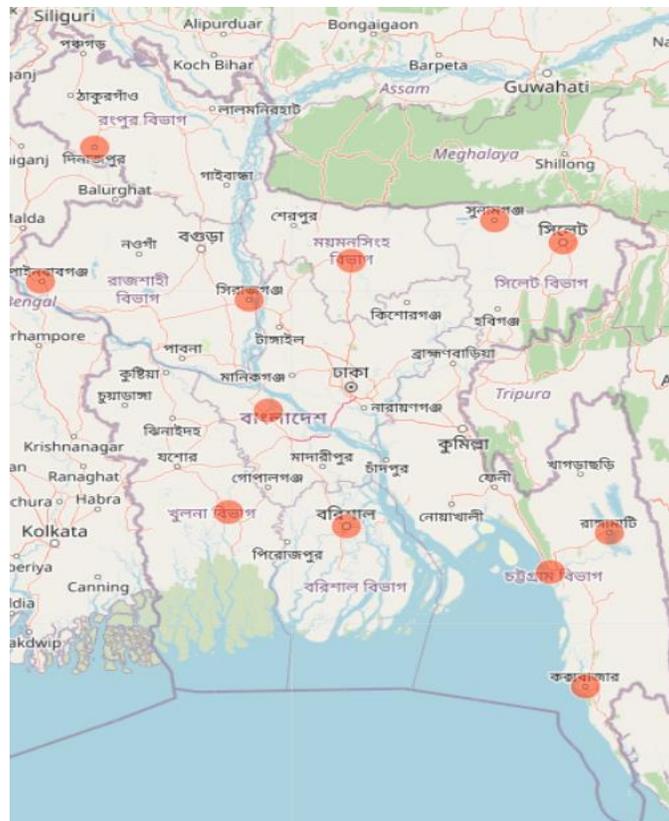


Figure 3. 1: Hit map for sampling areas

## ***Data Collection Instruments***

### ***Teacher's self-evaluation***

A checklist for assistant teacher was developed to know teachers' own reflections on their performance as a teacher. To know how they thought about their own knowledge, skills and attitudes which mostly effects on students' learning, this instrument collected their opinion by a five-point rating scale.

### ***Head teacher rating scale***

Reviewing various literature, it is found that principal or head of the school or institute are a very useful source of measuring teacher effectiveness. As an academic supervisor, head teacher's evaluation is an important instrument to find out how much his/her school's teachers are effective. To evaluate his/her teachers, a rating scale for head teachers was developed.

### ***Students' Interview***

Students' evaluation for measuring teacher effectiveness is also a widely used instrument. A checklist using dichotomous questions was developed to measure teacher effectiveness.

### ***Classroom Observation Checklist***

Classroom observation is a useful tool for measuring teacher effectiveness in a natural setting. It is also an extensively used instrument for this purpose. A five-scale rating scale is used to develop the checklist.

### ***Piloting and finalization of instruments***

To finalize the instruments, piloting was executed in Mymensingh district. Members of the research team had done the piloting and after that they suggested few changes. After analyzing the piloted data, several changes were made and then finalize the instruments for applying in the field.

### ***Data Analysis Procedure***

A five-point rating scale was employed for teacher's self-evaluation, head teacher rating scale and classroom observation checklist. The rating scale is as follows-

**Table 3. 2: Five-point rating scale**

Statements/Questions	1	2	3	4	5
	Lowest Performance ----->				Highest Performance

Dichotomous questions have used to evaluate teachers’ performance by the students. In this case, yes and no – type questions have been used.

### ***Data Entry and Cleaning***

After collecting data from the field, data entry was done in *KoboToolbox* in both offline and online. The members of the research team enter data in KoboToolbox template. When completed the entry, data was then cleaned and coded for analysis.

### ***Data Analysis***

SPSS (Statistical Package for Social Sciences) software was used to analyze the cleaned data. To satisfy the purposes of the research, various types of analysis was done which are as follows:

- Frequency, Percentages
- Measure of central tendency- mean, standard deviation
- Significance Test- ANOVA (Analysis of Variance)
- Correlation

After getting the mean of five-point rating scales, to better presentation of the data in the tables; the mean results are then converted to a three-point satisfactory level which is shown below:

<b>Mean Rating Score</b>	<b>Level of satisfaction</b>
1 to <3	Not Satisfactory
3 to <4	Moderately Satisfactory
4 to 5	Satisfactory

### ***Data Presentation***

For data presentations, several approaches were used which are as follows:

- Frequency tables, Crosstables
- Pie chart, Bar chart
- Boxplots

# Chapter Four: Data Presentation and Analysis

## *Findings from Teacher's Self-Evaluation*

Teacher's self-evaluation result plotted against geographical location and teachers' satisfaction level.

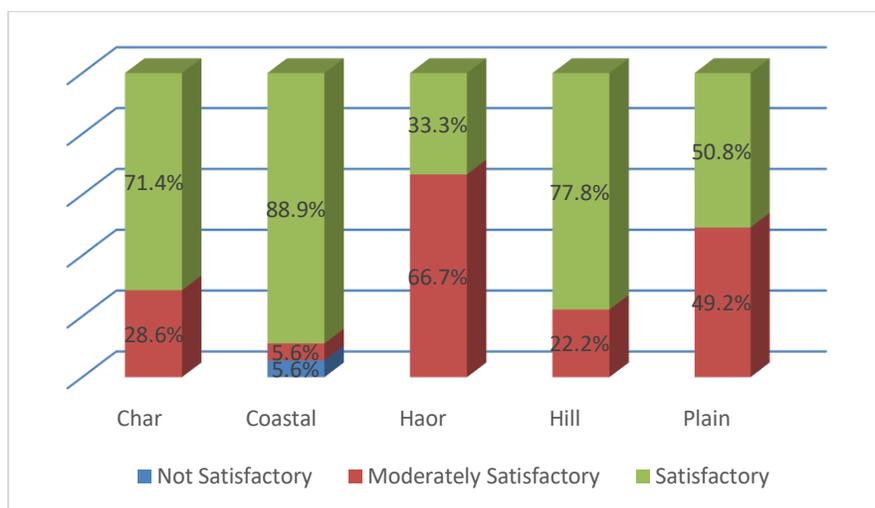


Figure 4. 1: Geographical location wise self-evaluation result

It is found that majority of the teachers in char (71.4%), coastal (88.9%) and hill (77.8%) areas rated themselves at satisfactory level whereas it found opposite in haor area (33.3%). In plain land area, half of the teachers were confident on their effectiveness in satisfactory level.

Teachers evaluated themselves by five-scale rating scale on various questions. Those questions are then categorized and analyzed. Category-wise descriptive analysis is shown below:

**Table 4.1: Subject Knowledge**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	1.7%	24.1%	74.1%
	Graduate	2.8%	22.2%	75.0%
	SSC/HSC	18.2%	54.5%	27.3%
Professional Degree	BEd	0.0%	30.8%	69.2%
	C-in-Ed	12.3%	21.7%	65.9%
	DPEd	0.0%	27.8%	72.2%
Job Experience (in year)	1-10	8.3%	25.0%	66.7%
	11-20	1.8%	28.1%	70.2%
	21-30	0.0%	26.3%	73.7%
	31-40	20.0%	20.0%	60.0%

The above table interprets teacher’s self-evaluation of their understanding on subject knowledge. Teachers were asked to give their opinion on how confident they are in understanding the concepts of aims, objectives and terminal competencies of the national primary curriculum.

It is found that most of the Graduate and Post Graduate teachers (about 75%) were satisfied with their subject knowledge understanding, and only 27.3% of SSC/HSC passed teachers were satisfied with their understanding in Subject Knowledge.

Besides, the BEd teachers (around 70%) and the DPED trained teachers (72.2%) were more likely satisfied than the C-in-Ed teachers (around 65%).

It is also evident that the young teachers with 1-10 years of teaching experience were less satisfied than the mid-level experienced teachers (11-30 years), and about 74% of schoolteachers with 21-30 years of teaching experience showed the highest level of satisfaction compared to other age groups.

**Table 4. 2: Pedagogical Knowledge**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	0.0%	32.8%	67.2%
	Graduate	0.0%	38.9%	61.1%
	SSC/HSC	0.0%	54.5%	45.5%
Professional Degree	BEd	0.0%	61.5%	38.5%
	C-in-Ed	0.0%	29.0%	71.0%
	DPED	0.0%	38.9%	61.1%
Job Experience (in year)	1-10	0.0%	45.8%	54.2%
	11-20	0.0%	31.6%	68.4%
	21-30	0.0%	36.8%	63.2%
	31-40	0.0%	60.0%	40.0%

The above table depicts the teacher’s self-evaluation of their understanding on Pedagogical Knowledge (PK). Different items focusing on preparing a lesson plan, selecting learning outcomes, applying teaching-learning methods, explaining contents, linking with students’ prior knowledge, and students’ engagements were given to classroom teachers to understand their pedagogical knowledge.

It is found that the Post Graduate teachers (67.2%) and Graduate teachers (61.1%) were more satisfied than the SSC or HSC passed teachers (45.5%) in having pedagogical knowledge, and majority of the SSC or HSC passed teachers (about 55%) were moderately satisfied in applying pedagogical knowledge in their classroom.

Besides, teachers who had C-in-Ed and DPED degrees 71% and 61.1% respectively, were satisfied with their PK knowledge, whereas the majority of the BEd trained teachers (61.5%) thought that they are moderately satisfied with applying PK knowledge in the classroom.

In addition, the 68% and 63% of teachers with 11-20 years and 21-30 years of job experience respectively thought that they were satisfied with their PK knowledge, whereas 60% of the teachers with 31-40 years of job experience were moderately satisfactory and 40% of them were satisfied in having pedagogical knowledge.

**Table 4. 3: Professional Attitude**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	0.0%	22.4%	77.6%
	Graduate	0.0%	22.2%	77.8%
	SSC/HSC	0.0%	36.4%	63.6%
Professional Degree	BEd	0.0%	30.8%	69.2%
	C-in-Ed	0.0%	21.7%	78.3%
	DPED	0.0%	22.2%	77.8%
Job Experience (in year)	1-10	0.0%	25.0%	75.0%
	11-20	0.0%	21.1%	78.9%
	21-30	0.0%	31.6%	68.4%
	31-40	0.0%	20.0%	80.0%

The above table represents the teacher's self-evaluation result of professional attitude. Teachers were asked to give a rating on how far they do the school activities in following the school routine, and how often they read books and journals for their professional development and seek support from their mentors. These are considered as professional attitudes in this study.

It is found that 77.8% of Graduate teachers and 77.6% of Post Graduate teachers were satisfied with sowing their professional attitude. Whereas 63.6% of SSC/HSC teachers were satisfied with their professional attitude, which is low compared to other educational qualification categories.

Besides, the table narrates that 78.3% of C-in-Ed trained teachers, 77.8% of DPED trained teachers and 69.2% of Bed completed teachers were satisfied with their professional attitudes, whereas the number for moderately satisfied are 30.8%, 21.7% and 22.2% of teachers who had BEd, C-in-Ed and DPED degree respectively.

In addition, it is also found that about the teachers (80%) with 31-40 years of teaching experience were satisfied with their professional attitude, whereas around 32% of teachers with 21-30 years of teaching experience were moderately satisfactory, which denotes they had less satisfaction level compared to other age groups.

**Table 4. 4: Professional Skills**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	0.0%	12.1%	87.9%
	Graduate	0.0%	22.2%	77.8%
	SSC/HSC	0.0%	9.1%	90.9%
Professional Degree	BEd	0.0%	23.1%	76.9%
	C-in-Ed	0.0%	15.9%	84.1%
	DPED	0.0%	5.6%	94.4%
Job Experience (in year)	1-10	0.0%	8.3%	91.7%
	11-20	0.0%	19.3%	80.7%
	21-30	0.0%	15.8%	84.2%
	31-40	0.0%	0.0%	100.0%

The above table illustrates the teacher's self-evaluation of having professional skills. Teachers assessed themselves on maintaining discipline in the classroom, spontaneous participation in the classroom activities, and eagerness to identify areas for professional development, which are considered as professional skills in this study.

It is found that about 88% of Post Graduate teachers and around 91% of SSC/HSC passed teachers were satisfied with their professional skills, whereas 77.8% of Graduate teachers were satisfied with their professional skills, which is less compared to other educational qualifications categories. Furthermore, it is found that the DPED trained teachers (about 95%) were highly satisfied with their professional skills, whereas about 84% of C-in-Ed trained teachers and around 77% of BEd completed teachers were satisfied with their professional skills.

In addition, the majority of the teachers with 1-30 years of teaching experience were satisfied with their professional skills, but the figure is 100% for the teachers with 31-40 years of job experience, which denotes a high level of satisfaction.

**Table 4. 5: Teaching Aids**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	1.7%	32.8%	65.5%
	Graduate	13.9%	25.0%	61.1%
	SSC/HSC	9.1%	36.4%	54.5%
Professional Degree	BEd	7.7%	46.2%	46.2%
	C-in-Ed	5.8%	26.1%	68.1%
	DPEd	5.6%	22.2%	72.2%
Job Experience (in year)	1-10	8.3%	33.3%	58.3%
	11-20	7.0%	26.3%	66.7%
	21-30	0.0%	36.8%	63.2%
	31-40	20.0%	40.0%	40.0%

The above table portrays the teacher's self-evaluation on using teaching aids in the classroom. Teachers were asked to give a rating on the issues of preparing appropriate teaching aids, using teaching aids in the classroom to achieve learning outcomes and using relevant teaching aids in the lesson.

It is found that 65.5% of Post-graduate, 61.1% of graduate and 54.5 of SSC/HSC passed teachers were satisfied with preparing and using appropriate teaching aids, whereas around 14% of Graduate teachers were not satisfied with using teaching aids.

The table also reveals that 72.2% of DPEd completed teachers and 68.1% of C-in-Ed completed teachers were satisfied with using teaching aids, whereas the lowest satisfaction level found among BEd completed teachers and the figure is 46.2%.

It is also found that 58.3%, 66.7%, 63.2% of teachers with 1-10 years, 11-20 years, 21-30 years of teaching experience were satisfied with using teaching aids respectively. On the contrary, 40 % of the teachers with 31-40 years of job experience were moderately satisfied and 20% of them were not satisfied with using appropriate teaching aids in the classroom.

**Table 4. 6: Teacher’s Preparation**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	1.8%	19.3%	78.9%
	Graduate	0.0%	17.6%	82.4%
	SSC/HSC	9.1%	36.4%	54.5%
Professional Degree	BEd	0.0%	23.1%	76.9%
	C-in-Ed	3.0%	16.7%	80.3%
	DPEd	0.0%	22.2%	77.8%
Job Experience (in year)	1-10	4.2%	20.8%	75.0%
	11-20	0.0%	20.4%	79.6%
	21-30	5.3%	21.1%	73.7%
	31-40	0.0%	20.0%	80.0%

The above table visualizes the data related to teachers' preparation for conducting classes. Teachers were asked to give their opinion on conducting lessons following the developed lesson plan or lesson note. It is found that 82.4% of Graduate teachers were satisfied with their classroom preparation, which is high compared to the SSC/HSC passed teachers.

It is also found that 76.9% of BEd, 80.3% of C-in-Ed and 77.8% of DPEd completed teachers were satisfied with their classroom preparation.

The table also states that majority of the teachers with 31-40 years (80%) and 11-20 years (79.6%) of teaching experience ranked a higher level of satisfaction in classroom preparation.

**Table 4. 7: Inclusive Practice**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	3.4%	20.7%	75.9%
	Graduate	5.6%	22.2%	72.2%
	SSC/HSC	0.0%	9.1%	90.9%
Professional Degree	BEd	7.7%	38.5%	53.8%
	C-in-Ed	2.9%	18.8%	78.3%
	DPEd	5.6%	5.6%	88.9%
Job Experience (in year)	1-10	4.2%	4.2%	91.7%
	11-20	5.3%	28.1%	66.7%
	21-30	0.0%	21.1%	78.9%
	31-40	0.0%	0.0%	100.0%

The above table describes the teacher’s self-evaluation of their inclusive practices in the school activities. Teachers assessed themselves on providing necessary support to the backward students in their learning, maintaining gender equity in the classroom and conducting lessons applying appropriate teaching strategies for students with special needs, which are clustered as teachers’ inclusive practices in this study.

It is found that about 91% of SSC/HSC passed teachers were satisfied with inclusive practices, which is high in comparison with other education levels; whereas, about 73% of Graduate teachers and about 76% of Post-graduate teachers were satisfied with practicing inclusion in classroom.

It is also evident that about 54% of BEd, 78% of C-In-Ed, and 89% of DPed completed teachers were satisfied with their inclusive practices. Besides, about 38% of BEd, about 19% of C-In-Ed, and about 6% of DPed completed teachers were moderately satisfied with their inclusive practices at the school.

In addition, it is seen that the teachers (about 67%) with 11-20 years of teaching experience expressed the lowest level of satisfaction compared with the other age groups of teaching experience. Moreover, all the teachers with 31-40 years of teaching experience stated full satisfaction in inclusive practices in their classrooms, which is noteworthy.

**Table 4. 8: Relationship Skills**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	1.7%	6.9%	91.4%
	Graduate	0.0%	19.4%	80.6%
	SSC/HSC	9.1%	9.1%	81.8%
Professional Degree	BEd	0.0%	7.7%	92.3%
	C-in-Ed	1.4%	11.6%	87.0%
	DPed	5.6%	11.1%	83.3%
Job Experience (in year)	1-10	0.0%	12.5%	87.5%
	11-20	0.0%	14.0%	86.0%
	21-30	10.5%	0.0%	89.5%
	31-40	0.0%	20.0%	80.0%

The above table narrates the teacher's self-assessment on building relationship skills, which means a collaborative relationship with colleagues, maintaining regular communications with guardians regarding learner progress, and receiving the necessary support from HT and other high officials.

It is found that most of the teachers of different education levels were satisfied with their ability to build relationships with the stakeholders, whereas only 9.1% of SSC/HSC passed teachers were not satisfied in building a relationship.

It is also evident that most of the BEd (92.3%), C-In-Ed (87%), and DPed (83%) completed teachers were satisfied with their professional relationship skills.

Moreover, it is found that 87.5% of 1-10 years, 86% of 11-20 years, 89.5% of 21-30 years and 80% teachers of 31-40 years of teaching experience were satisfied with their professional relationship. At the same time, only 10.5% of teachers with 21-30 years of teaching experience ranked themselves as they were not satisfied with their relationship skills.

**Table 4. 9: Teaching Methods**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	0.0%	19.0%	81.0%
	Graduate	5.6%	19.4%	75.0%
	SSC/HSC	0.0%	45.5%	54.5%
Professional Degree	BEd	7.7%	15.4%	76.9%
	C-in-Ed	1.4%	20.3%	78.3%
	DPed	0.0%	22.2%	77.8%
Job Experience (in year)	1-10	0.0%	25.0%	75.0%
	11-20	3.5%	19.3%	77.2%
	21-30	0.0%	21.1%	78.9%
	31-40	0.0%	40.0%	60.0%

The above table tells the scenario of teacher's self-assessment on applying teaching methods in the classrooms. The classroom teachers were asked to assess how confident they are in applying different teaching-learning methods (like- lecture, discussion, and demonstration methods) in their classrooms.

It is found that 81% of Post-graduate and 75% of Graduated teachers were satisfied with applying teaching methods, whereas only 54.5% of SSC/HSC passed teachers were satisfied, which is low in comparison with other education levels.

It is seen that about 77% of BEd and 78.3% of C-in-Ed and 77.8% of DPed completed teachers were satisfied in applying different teaching-learning methods in the classroom. In contrast, a small percentage of BEd (about 8%) and C-in-Ed (1.4%) trained teachers were not satisfied using different classroom methods.

Furthermore, it is found that 75% with 1-10 years, 77.2% with 11-20 years and 78.9% of teachers with 21-30 years' job experience were satisfied with applying teaching methods. Again, only 60.0% of teachers with 31-40 years' job experience were satisfied with using teaching methods and techniques, which is low compared to the other age groups.

**Table 4. 10: Assessment and Feedback**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	1.8%	5.3%	93.0%
	Graduate	2.8%	8.3%	88.9%
	SSC/HSC	0.0%	10.0%	90.0%
Professional Degree	BEd	0.0%	7.7%	92.3%
	C-in-Ed	3.0%	7.5%	89.6%
	DPed	0.0%	0.0%	100.0%
Job Experience (in year)	1-10	0.0%	0.0%	100.0%
	11-20	1.8%	10.7%	87.5%
	21-30	5.3%	0.0%	94.7%
	31-40	0.0%	25.0%	75.0%

The above table demonstrates the data of teachers' self-assessment on applying assessment techniques and feedback issues in the classroom. The classroom teachers were asked to give an opinion on how far they are confident in conducting continuous assessments in the classroom using oral and written tests.

It is seen that 93% of post-Graduate, 88.9 % of Graduate and 90% of SSC/HSC passed teachers were satisfied with applying the student's assessment techniques in the classroom.

It is also evident that about 92% of teachers who had BEd degrees, about 90% of teachers who had C-In-Ed degrees, and all the respondent teachers who had DPed degrees were satisfied with administering different assessment techniques in the classroom.

It is also seen that 87.5% with 11-20 years, 94.7% with 21-30 years and 75% of teachers with 31-40 years' job experience were satisfied in applying the assessment and giving feedback to students. It is also noted that all the school teachers with 1-10 years of teaching experience stated that they were fully (100%) satisfied in conducting students' assessments and giving feedback in the classroom.

**Table 4. 11: ICT Skills**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	14.0%	36.8%	49.1%
	Graduate	37.1%	42.9%	20.0%
	SSC/HSC	50.0%	30.0%	20.0%
Professional Degree	BEd	38.5%	15.4%	46.2%
	C-in-Ed	27.3%	31.8%	40.9%
	DPed	0.0%	77.8%	22.2%
Job Experience (in year)	1-10	16.7%	54.2%	29.2%
	11-20	25.5%	32.7%	41.8%
	21-30	33.3%	38.9%	27.8%
	31-40	40.0%	20.0%	40.0%

The above table depicts the data about teachers' ICT skills as a part of their professional development. Teachers were asked to grade themselves on how far they are confident in using different teaching technologies (digital contents/PPT/Multimedia etc.), developing and applying different teaching aids in the classroom using the internet, conducting online classes (using google meet etc.) and attending official online meetings and professional development trainings (using google meet/zoom).

It is found that 49.1% of Post Graduate teachers and only 20% of Graduate and SSC/HSC passed teachers rated themselves as satisfactory, but half of the SSC/HSC passed school teachers (50%) were not satisfied with their ICT-related skills.

It is also seen that only 46.2% of BEd and 40.9% of C-in-Ed completed teachers were satisfied with their ICT skills, whereas most of the DPED trained teachers (about 78%) considered themselves as moderately satisfied in possessing and applying ICT skills in their profession.

It is also evident that only 29.2% with 1-10 years, 41.8% with 11-20 years, 27.8% with 21-30 years and 40% of teachers with 31-40 years' job experience shared that they were satisfied with their ICT skills. In contrast, a good number of teachers (40%) with 31-40 years of job experience were not satisfied at all in applying ICT skills in their profession.

**Table 4. 12: Overall Scenario of Self-assessment**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	0.0%	37.9%	62.1%
	Graduate	2.9%	38.2%	58.8%
	SSC/HSC	0.0%	45.5%	54.5%
Professional Degree	BEd	7.7%	46.2%	46.2%
	C-in-Ed	0.0%	37.3%	62.7%
	DPED	0.0%	22.2%	77.8%
Job Experience (in year)	1-10	0.0%	37.5%	62.5%
	11-20	1.8%	35.7%	62.5%
	21-30	0.0%	47.4%	52.6%
	31-40	0.0%	50.0%	50.0%

This table represents the overall scenario of teachers' self-assessment that derived by analyzing the data of teachers' subject knowledge, pedagogical knowledge, professional skills, professional attitude, teachers' preparation, inclusive practices, relationship skills, ICT skills, and also using teaching aids, applying teaching methods, conducting assessment and feedback in the classroom. It is evident that only 58.8% of Graduate and 54.5% of SSC/HSC passed teachers were satisfied with their overall performance in teaching, whereas 62.1% of Post-graduate teachers were satisfied with their teaching performance and professional activities, which is also a high in a figure compared to the other education level groups.

It is also found that the DPED completed teachers (about 78%) are satisfied than the BEd (46.2%) and the C-in-Ed (62.7%) completed teachers and a small number 7.7% of BEd completed teachers were not satisfied at all with their teaching practices.

It is also seen that about 63% of teachers with 1-20 years of teaching experience were more satisfied than the teachers (52.6%) with 21-30 and the teachers (50%) with 31-40 years of teaching experience.

### ***Findings from Head Teachers' Evaluation***

Head teachers' evaluation result plotted against geographical location and their satisfaction level.

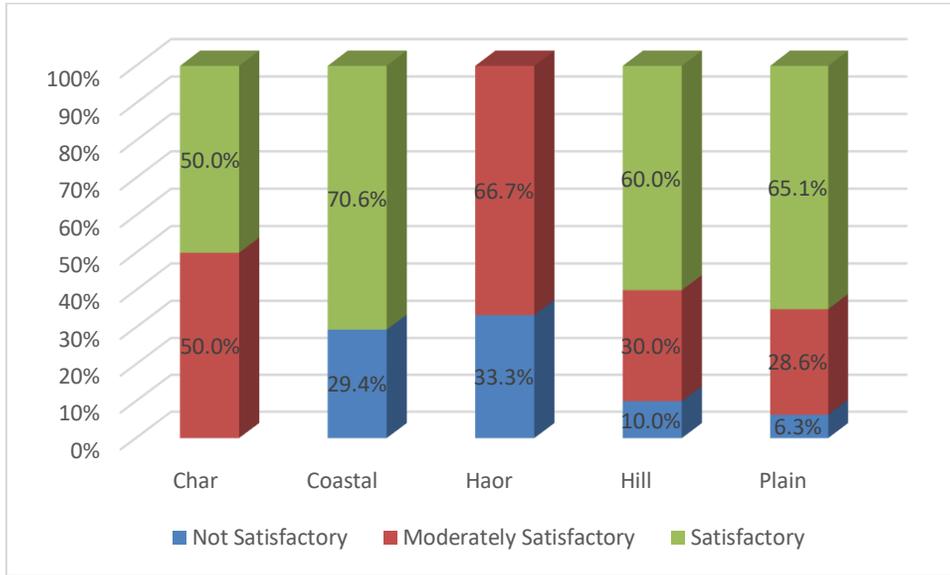


Figure 4. 2: Geographical location wise head teachers' evaluation result

According to the head teachers, majority of their assistant teachers' effectiveness is in satisfactory level in coastal (70.6%), hill (60%) and plain land (65.1%) areas. In char area, half of the teachers are in satisfactory level. However, in haor area, no one is in satisfactory level according to their head teachers where 66.7% are in moderately satisfactory level.

Teachers evaluated themselves by five-scale rating scale on various questions. Those questions are then categorized and analyzed. Category-wise descriptive analysis is shown below:

**Table 4. 13: Subject Knowledge**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-Graduate	0.0%	7.0%	93.0%
	Graduate	13.9%	8.3%	77.8%
	SSS/HSC	22.2%	22.2%	55.6%
Professional Degree	BEd	15.4%	7.7%	76.9%
	C-in-Ed	5.9%	8.8%	85.3%
	DPEd	5.9%	5.9%	88.2%
Job Experience (in year)	1-10	9.1%	13.6%	77.3%
	11-20	3.6%	7.1%	89.3%
	21-30	10.5%	5.3%	84.2%
	31-40	20.0%	20.0%	60.0%

Head teachers rated their assistant teachers on their subject knowledge by evaluating their knowledge of primary textbooks. The above table illustrates the head teachers' satisfactory levels with their assistant teachers regarding subject knowledge.

More than 90% of the teachers who completed their post-graduation scored at a satisfactory level. Notably, most of the graduate teachers (77.8%) and about half (55.6%) of the SSC/HSC passed teachers' subject knowledge was satisfactory by their HTs.

It is also evident that the head teacher rated their assistant teachers as less satisfactory who completed BEd than the teachers who completed C-in-Ed and DPEd.

The table clearly shows that most teachers got satisfactory scores regardless of their years of experience. In most cases, teachers with 11 to 30 years of experience are rated satisfactory by their head teachers than the age group of 31-40.

**Table 4. 14: Professional Skill**

		Professional Skill		
		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	1.8%	12.3%	86.0%
	Graduate	11.1%	13.9%	75.0%
	SSS/HSC	20.0%	10.0%	70.0%
Professional Degree	BEd	23.1%	15.4%	61.5%
	C-in-Ed	4.3%	13.0%	82.6%
	DPEd	0.0%	5.9%	94.1%
Job Experience (in year)	1-10	4.5%	18.2%	77.3%
	11-20	5.3%	12.3%	82.5%
	21-30	15.8%	0.0%	84.2%
	31-40	0.0%	40.0%	60.0%

Head teachers rated their assistant teachers on their skills in managing the classroom and using standard Bangla language in classroom activities. The above table illustrates the head teachers' satisfactory levels with their assistant teachers regarding professional skills.

More than 85% of the teachers who completed their post-graduation scored at a satisfactory level by their HTs. On the other hand, more than 70% of teachers' score was satisfactory who completed their graduation and SSC/HSC.

It is also evident that the head teacher rated the assistant teachers with all category of professional degree as satisfactory level whereas the teachers who completed BEd scored less than others. The table shows that most of the teacher's whose job experience was 11-20 and 21-30 years got satisfactory scores regarding professional skills. Notably, teachers with 31 to above years of job experience scored the lowest (60%) among others by their HTs.

**Table 4. 15: Professional Attitude**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-Graduate	1.8%	10.5%	87.7%
	Graduate	8.3%	16.7%	75.0%
	SSS/HSC	20.0%	10.0%	70.0%
Professional Degree	BEd	15.4%	30.8%	53.8%
	C-in-Ed	5.8%	11.6%	82.6%
	DPEd	0.0%	5.9%	94.1%
Job Experience (in year)	1-10	0.0%	18.2%	81.8%
	11-20	7.0%	8.8%	84.2%
	21-30	10.5%	10.5%	78.9%
	31-40	0.0%	40.0%	60.0%

Head teachers rated their assistant teachers on their Professional Attitude by evaluating their attitude about their regular attendance in School, conducting the classes according to the class routine, skills of arranging co-curricular activities and ensure participation of all the students, teacher obeys the instructions of his/her authorities, pleases positive attitudes to the children, teacher's uniform and gesture decent and dandy, teachers' interest about professional development. The above table illustrates the head teachers' satisfactory levels on their assistant teachers.

According to HTs' rating, the majority of the teacher's professional attitudes scored as satisfactory level irrespective to their educational qualification. It is noticeable that the teacher who completed post-graduation scored highest in satisfactory level as about 88% whereas this satisfactory level is 70% and 75% respectively who completed SSC/HSC and graduation.

It is also evident that head teacher rated his/her teachers at satisfactory level as about 94% who completed DPEd and this percentage is 82.6% for C-in-Ed completed teachers. It is important to note that this percentage is significantly less than the teachers who completed DPEd and C-in-ED which is only 53.8%.

The table clearly shows that majority of the teachers got satisfactory level scores regardless of their years of experience. It is visible that in most of the cases, teachers' who had 11 to 30 years

of experience rated satisfactory by their head teachers except who had 31-40 years of experience, although the percentage is not that frustrating which is 60%.

**Table 4. 16: Preparation**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-graduate	3.5%	17.5%	78.9%
	Graduate	13.9%	16.7%	69.4%
	SSS/HSC	20.0%	40.0%	40.0%
Professional Degree	BEd	30.8%	23.1%	46.2%
	C-in-Ed	7.2%	20.3%	72.5%
	DPEd	0.0%	11.8%	88.2%
Job Experience (in year)	1-10	9.1%	27.3%	63.6%
	11-20	7.0%	14.0%	78.9%
	21-30	15.8%	15.8%	68.4%
	31-40	0.0%	60.0%	40.0%

Head teachers rated their assistant teachers on taking necessary preparation and making planning before the lesson. The above table illustrates the head teachers' satisfactory levels about their assistant teachers' preparation.

According to HTs rating 78.9% of the teachers who completed their post-graduation scored satisfactory level regarding preparation for lesson. It is also revealed that teachers who passed SSC/HSC got only 40% in satisfactory level. This table also shows that, among the same group of teachers 40% are in moderately and 20% are in not satisfactory level .

According to head teachers' rating, teachers who completed DPEd scored highest in satisfactory level (88.2%) whereas the teachers who completed BEd scored lowest in satisfactory level (46.2%). It is also noted that, in the same group of teachers 23% are in moderately and about 31% are in not satisfactory level.

The table clearly shows that majority of the teachers got satisfactory level scores regardless of their years of experience except the age group 31-40.

**Table 4. 17: Inclusive Practice**

		Inclusive Practice		
		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-Graduate	1.8%	12.3%	86.0%
	Graduate	13.9%	13.9%	72.2%
	SSS/HSC	20.0%	20.0%	60.0%
Professional Degree	BEd	15.4%	23.1%	61.5%
	C-in-Ed	7.2%	13.0%	79.7%
	DPEd	0.0%	11.8%	88.2%
Job Experience (in year)	1-10	4.5%	27.3%	68.2%
	11-20	8.8%	8.8%	82.5%
	21-30	10.5%	10.5%	78.9%
	31-40	0.0%	20.0%	80.0%

The table above displays how satisfied the Head Teachers (HT) are with the assistant teachers' educational qualifications, professional degrees, and job experience. Headteachers rated their assistant teachers on the skills of inclusive practice, such as giving equal importance to all students and providing necessary support to the backward learners.

The maximum number of the teachers (86%) who completed their post-graduation got satisfactory level by their HT's. Notably, the majority (72.2%) of the graduated teachers, and more than half (60%) of the SSC/HSC passed teachers were at a satisfactory level. In contrast, only around 2% of post-graduate teachers rated as not satisfactory level.

It is also revealed that the head teacher rated his/her most of the teachers regarding professional issues in satisfactory level and the teachers who completed DPEd scored highest regarding inclusive practice.

The table shows that most teachers got satisfactory scores regardless of their years of experience. In most cases, teachers with 11 to 40 years of experience were rated more satisfactory by their head teachers.

**Table 4. 18: Relationship Skill**

		Relationship Skill		
		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	3.5%	7.0%	89.5%
	Graduate	11.1%	5.6%	83.3%
	SSS/HSC	20.0%	10.0%	70.0%
Professional Degree	BEd	30.8%	7.7%	61.5%
	C-in-Ed	5.8%	8.7%	85.5%
	DPEd	0.0%	0.0%	100.0%
Job Experience (in year)	1-10	4.5%	13.6%	81.8%
	11-20	7.0%	5.3%	87.7%
	21-30	15.8%	0.0%	84.2%
	31-40	0.0%	20.0%	80.0%

Head Teachers rated their assistant teachers to ensure regular attendance of the students, maintaining the relationship between teachers and students as well as with the guardians and the society. The above table illustrates the head teachers' satisfactory levels of their assistant teachers' relationship skills.

It is also revealed that the head teacher rated his/her most of the teachers regarding educational qualification in satisfactory level and the teachers who completed post-graduation scored highest in respect of relationship skills.

The head teacher rated his/her assistant teachers in respect of relationship skills at a satisfactory level in all cases (100%) who completed their DPEd degree. Head Teachers also rated satisfactory levels in most of the C-in-Ed and BEd completed teachers in respect of relationship skills.

The table clearly shows that most of the teachers got satisfactory level regardless of their years of experience by their head teacher, whereas some of the teachers (21-30 years age group) rated as (15.8%) not satisfactory.

**Table 4. 19: ICT Skill**

		ICT Skill		
		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post-Graduate	21.2%	32.7%	46.2%
	Graduate	51.6%	16.1%	32.3%
	SSS/HSC	60.0%	30.0%	10.0%
Professional Degree	BEEd	27.3%	45.5%	27.3%
	C-in-Ed	41.0%	24.6%	34.4%
	DPEd	23.5%	29.4%	47.1%
Job Experience (in year)	1-10	33.3%	23.8%	42.9%
	11-20	28.6%	26.5%	44.9%
	21-30	50.0%	27.8%	22.2%
	31-40	60.0%	40.0%	0.0%

The table above shows how pleased the Head Teachers (HT) are with the assistant teachers regarding their educational qualifications, professional degree, and job experience. HTs judged the assistant teachers on the skills of using ICT in classroom teaching.

It is found that 60% of SSC/HSC passed, and 51.6% of graduate teachers rated as not satisfactory level; on the contrary, 46.2% of post-graduated teachers were at the satisfactory level by their HTs. It is also evident that the head teacher rated his/her teachers as not satisfactory level in nearly half of the cases 41% who completed their C-in-Ed, while around half of the DPEd completed teachers scored as satisfactory and one-third of the C-in-Ed completed teachers scored as satisfactorily level.

The table clearly shows that 42.9% of less experienced teachers (1-10 years) and 44.9% of teachers with 11 to 20 years of experience got satisfactory scores. Surprisingly, experienced teacher (31-40 years) scored Zero (0%) in satisfactorily level. The majority of (60%) the experienced (31-40 years) and half of the mid-level experienced (21-30 years) teachers rated as not satisfactory levels.

**Table 4. 20: Overall Rating Score**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	3.6%	23.2%	73.2%
	Graduate	19.4%	27.8%	52.8%
	SSS/HSC	30.0%	50.0%	20.0%
Professional Degree	BEd	30.8%	7.7%	61.5%
	C-in-Ed	10.3%	32.4%	57.4%
	DPEd	0.0%	23.5%	76.5%
Job Experience (in year)	1-10	13.6%	22.7%	63.6%
	11-20	8.9%	25.0%	66.1%
	21-30	15.8%	36.8%	47.4%
	31-40	20.0%	40.0%	40.0%

The data of the above table indicates the assistant teachers' overall performance assessed by the respective head teachers. Considering the educational background of the assistant teachers, the head teachers rated highest to the post graduate teachers and lowest to the SSC/HSC passed teachers in satisfactory level.

It is also found that the DPEd completed teachers (about 77%) rated as satisfactory level than the BEd (61.5%) and the C-in-Ed (57.4%) completed teachers.

It is also seen that more than 60% teachers with 1-20 years of teaching experience rated by the HTs as satisfactory level than the teachers (47.4%) with 21-30 and the teachers (40%) with 31-40 years of teaching experience.

## *Findings from Classroom Observation*

**Table 4. 21: Subject Knowledge**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	38.9%	19.4%	41.7%
	Graduate	26.8%	30.4%	42.9%
	SSS/HSC	27.3%	36.4%	36.4%
Professional Degree	BEd	15.4%	53.8%	30.8%
	C-in-Ed	33.8%	23.5%	42.6%
	DPEd	29.4%	29.4%	41.2%
Job Experience (in year)	1-10	25.0%	25.0%	50.0%
	11-20	30.9%	27.3%	41.8%
	21-30	36.8%	31.6%	31.6%
	31-40	40.0%	20.0%	40.0%

Teachers' lessons were observed to understand how they apply their subject knowledge (SK) in the classroom teaching. Teachers' SK was evaluated by observing how they explaining the objectives and achievement of the lesson. The above table illustrates the teachers' satisfactory levels by observing their SK along with their educational qualifications, professional degree and job experience in years.

It is found that post-graduate (38.9%) teachers' performances were not satisfactory regarding their subject knowledge. Those who completed their SSC/HSC (36.4%) were at a moderately satisfactory level and the teachers who completed their graduation (42.9%) were at satisfactory level.

It is also found that among the BEd completed teachers, about more than half (53.8%) of them scored moderately satisfactory levels in performing their SK. In difference, (42.6%) of the C-in-Ed completed teachers were at satisfactory level.

The table also shows that half (50.0%) of the less experienced teachers (1-11 years' experience) performance were in satisfactory level whereas (40.0%) of the experienced teachers (31-40 years' experience) performed as not satisfactory level regarding their subject knowledge.

**Table 4. 22: Pedagogical Knowledge**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	21.4%	48.2%	30.4%
	Graduate	47.2%	30.6%	22.2%
	SSS/HSC	45.5%	45.5%	9.1%
Professional Degree	BEd	30.8%	38.5%	30.8%
	C-in-Ed	30.9%	47.1%	22.1%
	DPEd	47.1%	29.4%	23.5%
Job Experience (in year)	1-10	41.7%	25.0%	33.3%
	11-20	29.1%	45.5%	25.5%
	21-30	36.8%	42.1%	21.1%
	31-40	20.0%	80.0%	0%

Teachers' lessons were observed to understand how they apply their pedagogical knowledge (PK) in the classroom. Teachers' PK was evaluated by observing how teachers create suitable learning environments, ensure appropriate sitting arrangements, assess students' prior knowledge, and introduce the lesson. The observation also considered how teachers link current topics with the previous ones, describe the main content, and give students' scope of thinking etc. to understand their pedagogical knowledge.

The above table illustrates the teachers' satisfactory levels with their educational qualifications. It is found that about half of the SSC/HSC passed (45.5%) and graduation completed (47.2%) teachers' performances were not satisfactory regarding their pedagogical knowledge. Those who completed their post-graduation (48.2%) were at a moderately satisfactory level.

It is also found that among the DPEd completed teachers, about half (47.1%) of them scored as not satisfactory level in performing their PK. In contrast, nearly half (47.1%) of the C-in-Ed completed teachers were at moderately satisfactory level.

The table also shows that about half (41.7%) of the less experienced teachers' performance was not satisfactory level whereas most (80%) of the experienced teachers (31-40 years' experience) performed moderately satisfactory level.

**Table 4. 23: Professional Attitude**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	3.6%	0%	96.4%
	Graduate	2.8%	2.8%	94.4%
	SSS/HSC	0%	9.1%	90.9%
Professional Degree	BEd	0%	0%	100.0%
	C-in-Ed	2.9%	1.5%	95.6%
	DPEd	5.9%	5.9%	88.2%
Job Experience (in year)	1-10	4.2%	0%	95.8%
	11-20	3.6%	1.8%	94.5%
	21-30	0%	5.3%	94.7%
	31-40	0%	0%	100.0%

Teachers' lessons were observed to understand how they showed their professional attitude in their classroom. Teachers' professional attitude was assessed by observing how the teachers conducting class according to the class routine for class management. The above table shows the teachers' satisfactory levels regarding their educational qualifications, professional degree and job experience.

The data of the table explores that most of the teachers' performance in professional attitude were satisfactory. Most of the teachers performed satisfactory level regarding educational qualifications who completed their Post-Graduation, Graduation degree and SSC/HSC.

It is also revealed from the table that most of the professional degree holder teachers' performance were satisfactory and it is remarkable that the BEd completed teachers' scored highest (100%) in satisfactory level.

The data of the table also shows that in considering the job experiences of all age groups more or less experienced teachers' performance were in satisfactory level.

**Table 4. 24: Teaching Aids**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	61.1%	22.2%	16.7%
	Graduate	30.4%	41.1%	28.6%
	SSS/HSC	63.6%	18.2%	18.2%
Professional Degree	BEd	46.2%	30.8%	23.1%
	C-in-Ed	42.6%	33.8%	23.5%
	DPEd	58.8%	29.4%	11.8%
Job Experience (in year)	1-10	54.2%	16.7%	29.2%
	11-20	38.2%	34.5%	27.3%
	21-30	52.6%	36.8%	10.5%
	31-40	40.0%	60.0%	0%

Teachers' lessons were observed to understand how effectively use the blackboard or whiteboard choosing content-related and learner-centered teaching aids or drawing pictures or telling stories to help the learners to understand, clarify students' thoughts and offer opportunities to use the board to the students in the teaching-learning process.

The observer found that more than half (61%) of the post graduate and 63% of SSC/HSC passed teachers are not in satisfactory level using teaching aids, while about an equal number (16.7% and 18.2%) of post graduate and SSC/HSC passed teachers were satisfactory level in the same issue and nearly half (41%) of the graduate teachers are in the moderately satisfying level regarding their educational qualifications.

The above table indicates that 58% of DPEd completed and approximately 44% of BEd and C-in-Ed completed teachers are not at the satisfactory level about utilizing proper teaching aids, whereas only 11% of DPEd completed and also equal number (23%) of BEd and C-in-Ed teachers are in satisfactory level in the same issue. In contrast, a nearly equal number (30%) of all teachers are moderately satisfactory regarding the same issue using teaching aids.

The same table demonstrates teachers' satisfaction with teaching aids by age. It shows that 60% of experienced teachers (31-40 years) are moderately satisfactory, and the rest (40%) are not. More than half (52%) of mid-level experienced teachers (21-30) are not satisfactory and 10% of them

are in satisfactory level regarding effectively using teaching aids. At the same time, it is observed that 54% of less experienced teachers (1-10 years' experience) are not at the satisfactory level, but 29% of them are in satisfactory level.

**Table 4. 25: Teacher's Preparation**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	48.1%	11.1%	40.7%
	Graduate	51.4%	22.9%	25.7%
	SSS/HSC	63.6%	9.1%	27.3%
Professional Degree	BEd	41.7%	8.3%	50.0%
	C-in-Ed	50.0%	18.2%	31.8%
	DPEd	70.6%	5.9%	23.5%
Job Experience (in year)	1-10	45.8%	8.3%	45.8%
	11-20	48.1%	23.1%	28.8%
	21-30	63.2%	5.3%	31.6%
	31-40	60.0%	0%	40.0%

Teachers' lessons were observed to understand how much they prepare for teaching-learning in the classroom. Teachers' preparation was evaluated by observing how much teachers use the Teaching learning activities and techniques mentioned in the Lesson Plan/ Lesson Note.

It is found that a maximum number of the SSC/HSC passed (63.6%) and graduation completed (51.4%) teachers' performances were not satisfactory regarding teachers' preparation, whereas those who completed their post-graduation (40.7%) were at satisfactory level.

It is also found that among the DPEd completed teachers, about two-thirds (70%) of them scored not satisfactory levels in their preparation. In contrast, half (50%) of the BEd completed teachers were at a satisfactory level.

It is also found that more than half (63.2% & 60.0%) of the experienced teachers (21-30 and 31-40 years' experience) performed not satisfactory level, whereas 45.8% of less experienced teachers (1-10 years) performed satisfactory level by the observer.

**Table 4. 26: Inclusive Practice**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	14.3%	30.4%	55.4%
	Graduate	22.9%	31.4%	45.7%
	SSS/HSC	27.3%	27.3%	45.5%
Professional Degree	BEd	15.4%	46.2%	38.5%
	C-in-Ed	16.4%	31.3%	52.2%
	DPEd	35.3%	17.6%	47.1%
Job Experience (in year)	1-10	16.7%	25.0%	58.3%
	11-20	16.4%	29.1%	54.5%
	21-30	33.3%	22.2%	44.4%
	31-40	0%	100.0%	0%

Teachers' lessons were observed to understand how they present the lesson by giving equal opportunities to all the students or inclusion practice in the classroom.

It is found that about half of the SSC/HSC, graduation and post-graduation completed teachers' inclusion practices were satisfactory. One-third of the teachers were at a moderately satisfactory level, while only 14% of the post graduate teachers were not in satisfactory level.

It is also found that among the C-in-Ed completed teachers, more than half (52.2%) of them scored at satisfactory levels in performing inclusion practice, whereas only 16.4% of them were in the opposite; in contrast, nearly half (46.2%) of the BEd completed teachers were at a moderately satisfactory level and 47.1% of DPEd completed teachers are at satisfactory levels.

The table also shows that all experienced teachers' performance was satisfactory, whereas 58.3% of the less experienced teachers' performance was the same and only one-third of mid-level experienced teachers (21-30) were in not satisfactory level in performing inclusion practice.

**Table 4. 27: Relationship Skill**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	5.4%	35.7%	58.9%
	Graduate	30.6%	38.9%	30.6%
	SSS/HSC	36.4%	27.3%	36.4%
Professional Degree	BEd	15.4%	38.5%	46.2%
	C-in-Ed	17.6%	33.8%	48.5%
	DPEd	23.5%	41.2%	35.3%
Job Experience (in year)	1-10	12.5%	45.8%	41.7%
	11-20	14.5%	34.5%	50.9%
	21-30	26.3%	31.6%	42.1%
	31-40	40.0%	20.0%	40.0%

Teachers' lessons were observed to understand how they apply their relationship skills in the classroom. Teachers' preparation was evaluated by observing the teachers support the learners individually if needed; teachers address the students, teachers' relationship with students, teachers' usage of language, and teachers' appreciation of students in the classroom.

It is found that more than half of the post-graduate (58.9%) teachers' performance was satisfactory regarding teachers' relationship skills in the classroom.

It is also found that among the BEd and C-In-Ed completed teachers, about half (46.2% & 48.5%) of them scored satisfactory levels in their relationship skills in the classroom. It is also found that among the DPEd completed teachers, 41.2% of them scored moderately satisfactory levels in their relationship skills in the classroom.

The table also shows that about half of the less experienced (11-20) and 42.1% of mid-level experienced (21-30 years) teachers' performance was satisfactory. It was also found that 40% of experienced teachers (31-40 years) were not satisfactory, while the same number of experienced teachers observed as satisfactory.

**Table 4. 28: Teaching Methods**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	41.1%	37.5%	21.4%
	Graduate	66.7%	25.0%	8.3%
	SSS/HSC	54.5%	18.2%	27.3%
Professional Degree	BEd	38.5%	38.5%	23.1%
	C-in-Ed	51.5%	33.8%	14.7%
	DPEd	64.7%	17.6%	17.6%
Job Experience (in year)	1-10	54.2%	20.8%	25.0%
	11-20	54.5%	27.3%	18.2%
	21-30	42.1%	52.6%	5.3%
	31-40	40.0%	40.0%	20.0%

The above data interprets teachers' how successfully they can use teaching methods and techniques. Teaching methods were tested through giving the learners opportunities to think individually for making clear the content/information of the lesson, presenting the lesson by keeping eye contact with all the learners, helping the learners getting proper information about the content by working in pairs/groups, monitoring the group work and providing necessary support, asking necessary questions to the learners for getting for per ideas about the content, giving the learners opportunities to ask questions for making clear their ideas about the content, and answering the learners' questions positively.

The data of the table explores by the observer that most of the teachers' performance in teaching methods were not satisfactory. The highest 27% SSC/HSC passed teachers who have the lowest educational qualifications performed satisfactory in this regard.

It is also revealed that most of the professional degree holder teachers' performance were not satisfactory and it is remarkable that the highest 65% DPEd trained teachers' performance in this regard was not satisfactory.

The data of the table also shows that in considering the job experience all categories of teachers more or less experienced performance were not satisfactory while observing their teaching method.

**Table 4. 29: Assessment and Feedback**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	26.8%	42.9%	30.4%
	Graduate	47.2%	30.6%	22.2%
	SSS/HSC	54.5%	18.2%	27.3%
Professional Degree	BEd	30.8%	46.2%	23.1%
	C-in-Ed	38.2%	36.8%	25.0%
	DPEd	41.2%	29.4%	29.4%
Job Experience (in year)	1-10	37.5%	25.0%	37.5%
	11-20	38.2%	36.4%	25.5%
	21-30	36.8%	42.1%	21.1%
	31-40	20.0%	60.0%	20.0%

Teachers' lessons were observed to understand how they assess and give feedback to students in the classroom. Teachers' assessment and feedback skills was evaluated by observing how teachers testing the learning in each step of learning and at the end of the lesson, assessing the performance of all the learners of the class and assessing the learner's performance oral and written form. The observation also considered how Scoring the learners written testes answers in the classroom and Summarizing the lesson before finishing the lesson. The above table illustrates the teachers' satisfactory levels by observing their teachers' assessment and feedback skill along with their educational qualifications, professional degree and job experience in years.

It is found that about half of the SSC/HSC passed (54.5%) and graduation completed (47.2%) teachers' performances were not satisfactory regarding the above issue. Those who completed their post-graduation (42.9%) were at a moderately satisfactory level.

It is also found that among the DPEd completed teachers, 41.2% of them scored not satisfactory level in performing their assessment and feedback. In contrast, 46.2% of the BEd completed teachers were at moderately satisfactory level.

The table also shows that 37.5% of the less experienced teachers' performance was not satisfactory level whereas most (60.0%) of the experienced teachers (31-40 years' experience) performed moderately satisfactory level.

**Table 4. 30: Total Score obtained from Classroom Observation**

		Not Satisfactory	Moderately Satisfactory	Satisfactory
Educational Qualification	Post Graduate	26.8%	46.4%	26.8%
	Graduate	40.0%	42.9%	17.1%
	SSS/HSC	54.5%	27.3%	18.2%
Professional Degree	BEd	23.1%	46.2%	30.8%
	C-in-Ed	35.8%	43.3%	20.9%
	DPEd	41.2%	47.1%	11.8%
Job Experience (in year)	1-10	33.3%	37.5%	29.2%
	11-20	32.7%	41.8%	25.5%
	21-30	38.9%	50.0%	11.1%
	31-40	40.0%	60.0%	0%

Teachers' lessons were observed to understand overall performance in the classroom. Teachers' overall performance was evaluated by observing their Subject Knowledge (SK), Pedagogical Knowledge (PK), Professional Skill, Professional Attitude, Teaching Aid, Teacher's Preparation, Inclusive Practice, Teaching methods, Assessment and Feedback, Relationship Skill and ICT skill etc. The above table illustrates the teachers' satisfactory levels by observing their overall performance along with their educational qualifications, professional degree and job experience in years.

It is found that about half of the SSC/HSC passed (54.5%) and graduation completed (40.0%) teachers' performances were not satisfactory regarding their overall performance. Those who completed their post-graduation (46.4%) were at a moderately satisfactory level.

It is also found that among the DPEd completed teachers, about nearly half (41.2%) of them scored as not satisfactory levels in performing their overall performance. In contrast, nearly half (43.3%) of the C-in-Ed completed teachers were at moderately satisfactory level.

The table also shows that about 33.3% of the less experienced teachers' performance was not satisfactory level whereas about 60% of the experienced teachers (31-40 years' experience) performed moderately satisfactory level.

## ***Findings from Students Evaluation***

In the interview, students were asked to share the name of their favourite teacher and to point out the qualities they like their teacher most.

**Table 4. 31: Pedagogical Knowledge (PK)**

	Yes	No
Teacher uses relevant examples from known environment	89.1%	10.9%

The above table tells information about the pedagogical knowledge of classroom teachers given by the students. Most of the students shared that their teachers used relevant and known examples in the classroom for understanding the lessons, and the number of students is 89.1% that confirmed using examples by the teachers while teaching.

**Table 4. 32: Professional Skill**

	Yes	No
Teacher gives instructions loudly and clearly	97.3%	2.7%
Teacher makes you understand the lesson within the class	96.0%	4.0%

The above table provides information about teachers' professional skills shared by the students. The students (97.3%) reported that their favourite teacher gave classroom instructions clearly and loudly. Besides, 96% of students shared that the teacher made them understand the lessons within the class duration.

**Table 4. 33: Professional Attitude**

		Yes
Teacher comes to classroom in time	Yes	100.0%
	No	0.0%

The above table shows information about teachers' professional attitudes reported by the students. All students shared that teachers entered the classroom on time to start the lesson.

**Table 4. 34: Use of Teaching Aids**

	Yes	No
Teacher uses related teaching aids	63.2%	36.8%
Teacher uses boards and let the students to use	91.6%	8.4%

The above table displays information about teachers' professional attitudes reported by the students. Students were asked about their favourite teacher and whether they were using lesson-related teaching aids or not. Majority of the students (63%) confirmed the use of related teaching aids during class. It is evident from the students' conversations that most of the teachers use blackboard or whiteboard when necessary. They also declared that they had opportunities to use the board when needed. Thus, it can be said that according to the students, their favourite teacher used various lesson-related teaching aids, and they had opportunities to use the board which helped them to learn effectively.

**Table 4. 35: Skills on Use of Teaching Techniques**

	Yes	No
Teacher gives opportunities asking questions and provides answers	90.0%	10.0%
Teacher provides pair/ group work	70.7%	29.3%
Students can present pair/ group work in the plenary	73.4%	26.6%

The above table portrays information about teachers' skills in using teaching methods and techniques shared by the students. Students were asked about their favourite teacher and whether they gave opportunities to ask questions, do pair or group work and present their activities in the classroom. Most of the students (90%) said that the teacher allowed them to ask questions when they needed any clarification. The majority of the students (about 71%) also shared that teachers gave pair work or group work during the session, and 73.4% of students confirmed that they had the opportunity to present their work in the classroom.

**Table 4. 36: Assessment and Feedback Skill**

	Yes	No
Teacher assesses your homework	97.8%	2.2%

The above table provides information about teachers’ assessment and feedback skills given by the students. Most of the students (about 98%) shared that teachers assessed their assigned work and provided feedback accordingly to ensure their learning.

**Table 4. 37: Teacher-Student Relationship**

	Yes	No
Teacher motivates students to come to school regularly	96.2%	3.8%
Teacher discusses individual well-being	93.6%	6.4%
Teacher calls you by name	90.7%	9.3%
Teacher treats you rudely	26.3%	73.7%

The above table illustrates data about the teacher-student relationship. Students were asked whether their favourite teacher motivated them to come to school regularly, asked about their well-being, and how the teachers behaved with them. Most of the students (96.2%) shared that the teachers motivated them to come to school regularly. Besides, about 94% of students reported the teachers asked about their well-being. The majority of the students (about 91%) told that the teachers called them by name in the class while doing or presenting any activities. Again, a good number of students (around 74%) informed that the teachers behaved cordially with them, but 26.3% of students were not satisfied with their teachers’ behaviour which is a major constraint in developing rapport relationships between teachers-students.

## ***Significant tests (ANOVA) for various categories with the teachers' background information***

### ***Significant tests results for teachers' self-evaluation***

- Teacher's effectiveness was measured according to various categories which are displayed in the previous sections. It is found from those analysis that teachers rating scores varies with their job experiences, professional degree and educational qualification. Significant test is performed to find out the statistical significance of those differences in different categories. For satisfy the purpose ANOVA (Analysis of Variance) tests has executed. In this section, findings from the significant tests have described.
- Teachers' years of job experiences are categorized in four ranges which are 1-10, 11-20, 21-30 and 31-40 years. It is found that the teachers' job experiences wise differences which were noticed from the data tables are not statistically significant for any category. So, it can be inferred from teachers' self-evaluation results that teachers' job experiences do not have any impact on their self-assurance on effective performance on students' learning.
- Teachers' professional degree was plotted against their performance in different categories [See Annex A, Table A 2] and same as the previous it is found that their professional degree does not influence their effectiveness on students' performance.
- The significance among the categories with their educational qualification [See Annex A; Table A 3] revealed that among the categories two of them have statistically significant differences. Teachers who completed their graduation and post-graduation has significant effects on their performance in subject knowledge. It is also evident from the ANOVA table that teachers' educational qualification has strongly significant effects on their ICT skills in the classroom and professional practice. In use of ICT in the classroom and professional practice, teachers who have post graduate degrees performed comparatively better than others.

### ***Significant tests results for head teachers' evaluation***

- Teachers' years of teaching experience do not affect head teachers' evaluation ratings in any categories for assistant teachers' effectiveness [See Annex A; Table A 4].
- Teachers' professional degree impacts their professional skills, professional attitude, preparation before class, inclusive practice, relationship skills and ICT skills when head teachers evaluate them [See Annex A; Table A 5].
- It is found from head teachers evaluation results that teachers' educational qualification have statistically significant effects on their subject knowledge, professional skills, professional attitude, inclusive practice, relationship skills and ICT skills when head teachers evaluate them [See Annex A; Table A 6].

### ***Significant tests results for observation checklist***

- Teachers' years of teaching experience do not affect their performance in teaching in any categories [See Annex A; Table A 7].
- Teachers' Professional degree does not significantly affect their teaching practices, or any categories encompass teacher effectiveness [See Annex A; Table A 8].
- Teachers with a higher educational degree do significantly better use teaching aids while conducting classes. Post-graduation completed teachers showed significantly better relationship skills [See Annex A; Table A 9].

## Comparative Analysis of Four Instruments

Teacher effectiveness was measured using various instruments: head teacher rating, assistant teacher self-evaluation, classroom observation and students' evaluation. This chapter discusses and interprets a comparative analysis of those instruments according to the categories mentioned in the previous chapter.

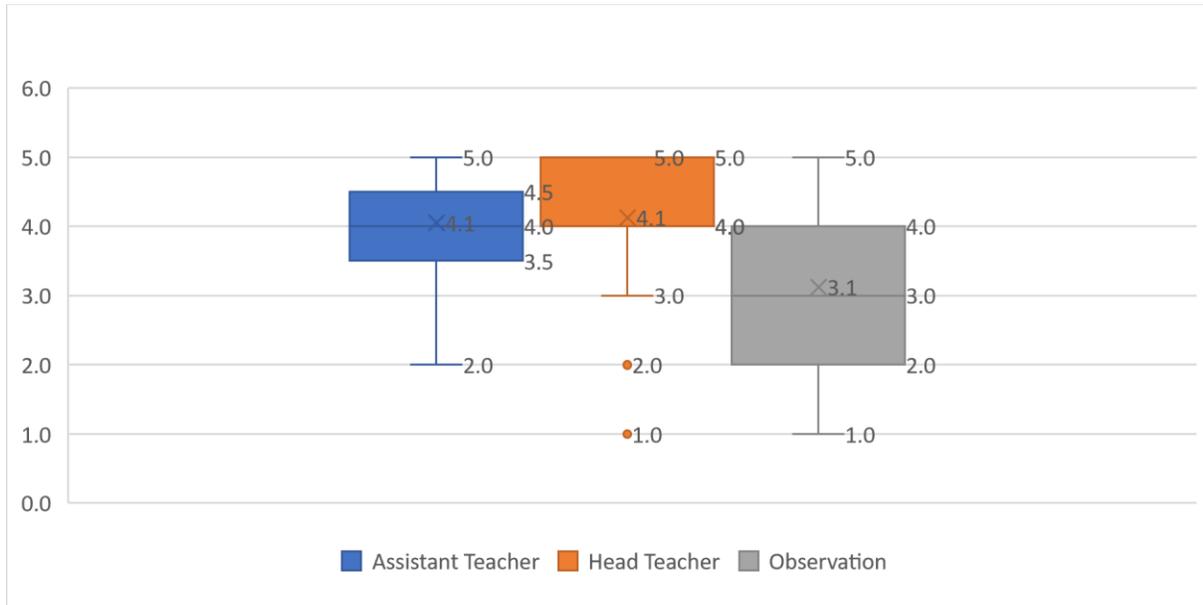


Figure 4. 3: Comparative Rating Scores on Subject Knowledge

The boxplot on rating scores obtained by three different instruments about teachers' subject knowledge reveals that head teachers gave higher scores on subject knowledge than teachers' ratings. The middle 50% of the scores lies between 3.5 and 4.5 for the assistant teachers' self-evaluation whereas 75% scores ranges from 4.0 to 5.0 for the head teachers evaluation. In the actual classroom situation, it shows that teachers got comparatively lower scores (mean score 3.1) and also, the scores have maximum variations (50% scores are between 2.0 and 4.0) .

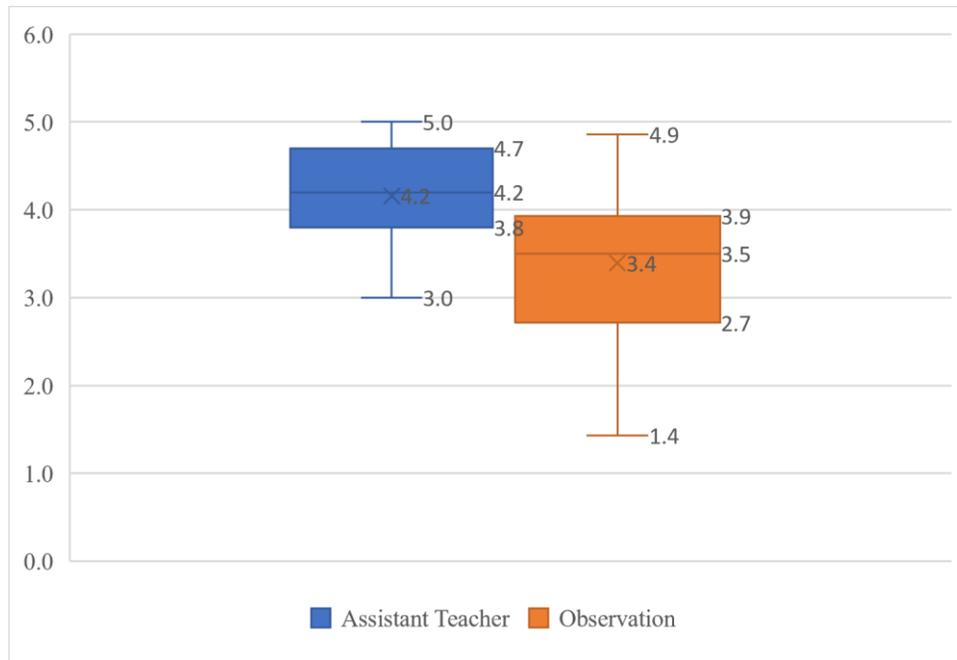


Figure 4. 4: Comparative Rating Scores on Pedagogical Knowledge

Assistant teachers rated themselves on their pedagogical knowledge where the 50% scores lies between 3.8 and 4.7 and the mean score is 4.2. The findings from the students' interview also revealed classroom practices of teachers' pedagogical knowledge. Observation scores discovers teachers' lower performance on pedagogical knowledge (mean 3.4) in comparison with other findings and the middle 50% scores lies between 2.7 to 3.9 indicates higher variations in their performance.

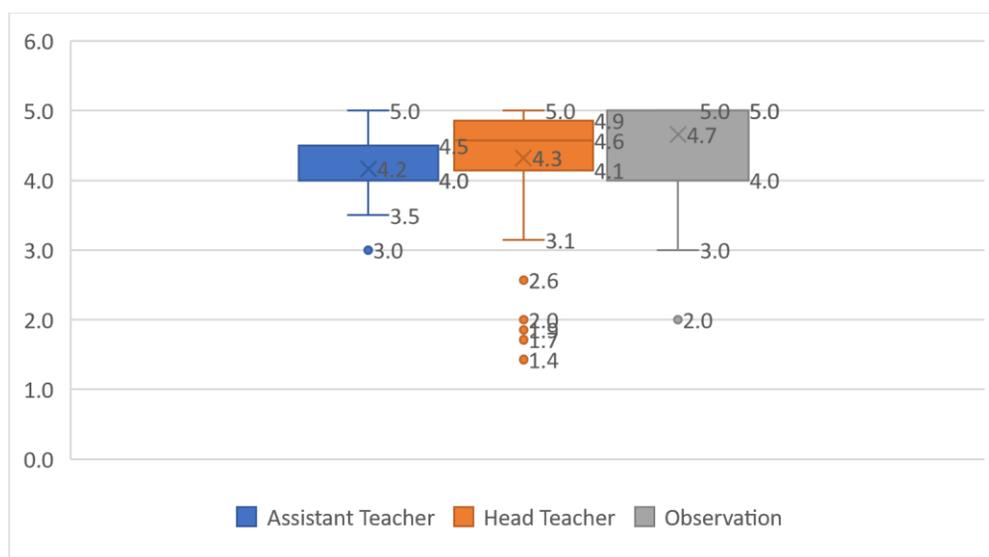


Figure 4. 5: Comparative Rating Scores on Professional Attitude

Teachers' professional attitude was measured by various indicators in different instruments. Variations in rating scores by assistant teachers and head teachers found low. Their thoughts about professional attitude are close to each other. Assistant teachers' self confidence on their professional attitude ranges from 4.0 to 4.5 and head teachers estimation on this category is 4.1 to 4.9 for the 50% of the cases. Unlike other categories, in teachers professional attitude, teachers' actual performance got higher scores and it is rages from 4.0 to 5.0. It is interesting that teachers got comparatively higher rating score (mean 4.7) than other two ratings (Assistant teacher's mean 4.2 and head teacher's mean 4.3).

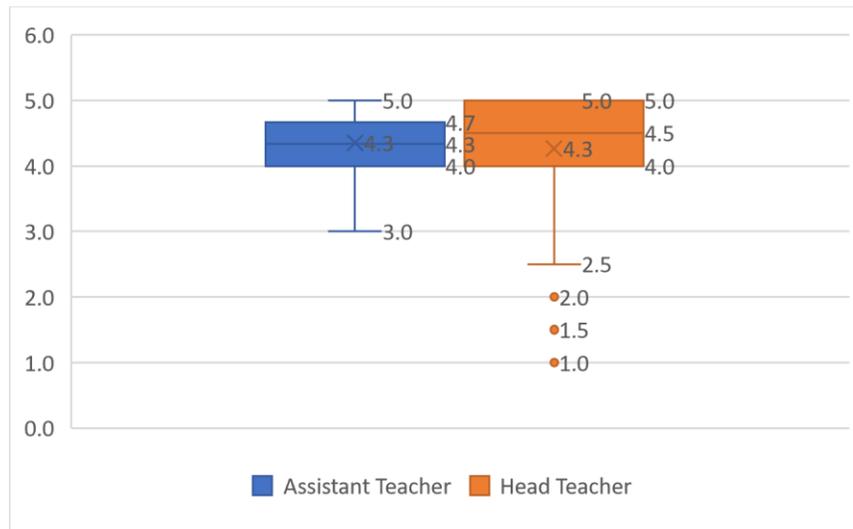


Figure 4. 6: Comparative Rating Scores on Professional Skill

Teachers' professional skill was measured by their self-evaluation, head teacher rating and student evaluation. Teachers' self-evaluation score have median of 4.3 whereas head teacher rating score have the median of 4.5. Head teacher ratings have few exceptions (1.0, 1.5, 2.0). The middle 50% scores varies from 4.0 to 4.7 for teachers' self-evaluation whereas head teachers ratings have comparatively larger variations (4.0 to 5.0). Most of the students reported positively about their teachers' professional skill.

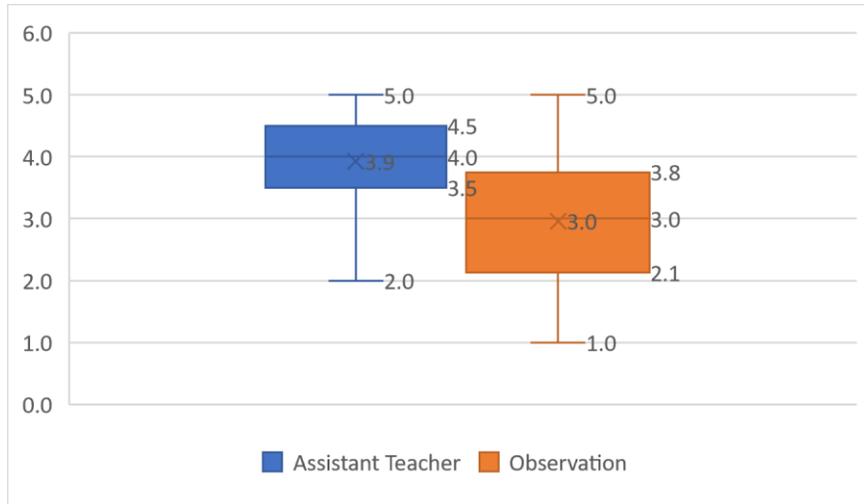


Figure 4. 7: Comparative Rating Scores on Use of Teaching Aids

Teachers got lower mean scores on using teaching aids in both assistant teachers self-evaluation (3.9) and classroom observation ratings (3.0) in compared with other categories. In contrast, 50% of the teachers' self-evaluation ranges from 3.5 to 4.5 whereas observation scores ranges from 2.1 to 3.8 which is comparatively low. Students' interview also shows that in 63.2% cases their teachers used various teaching aids related to topics though in 91.6% cases teachers used black board or white board and also let the students to use the board when needed.

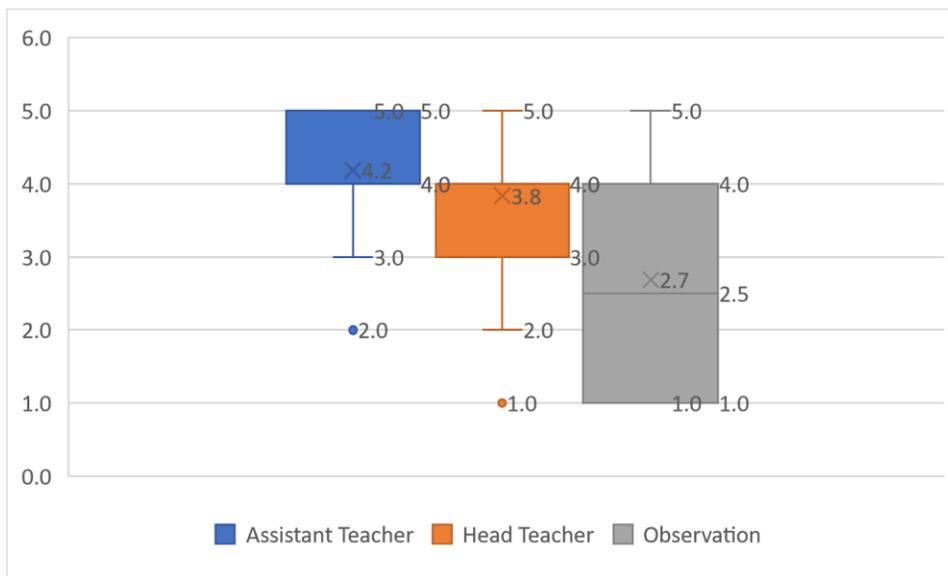


Figure 4. 8: Comparative Rating Scores on Preparation before lesson

Most of the assistant teachers affirmed that they prepare themselves before starting the classes by preparing lesson plans or lesson notes, making or collecting teaching aids etc., by giving

themselves scores up to 5.0 and 50% of them scored between 4.0 and 5.0. Head teachers felt comparatively less confident about their assistant teachers' preparation before classes, as 50% of the head teachers rated assistant teachers between 3.0 to 4.0. From observation, these scores have more deviations ranging from 1.0 to 4.0.

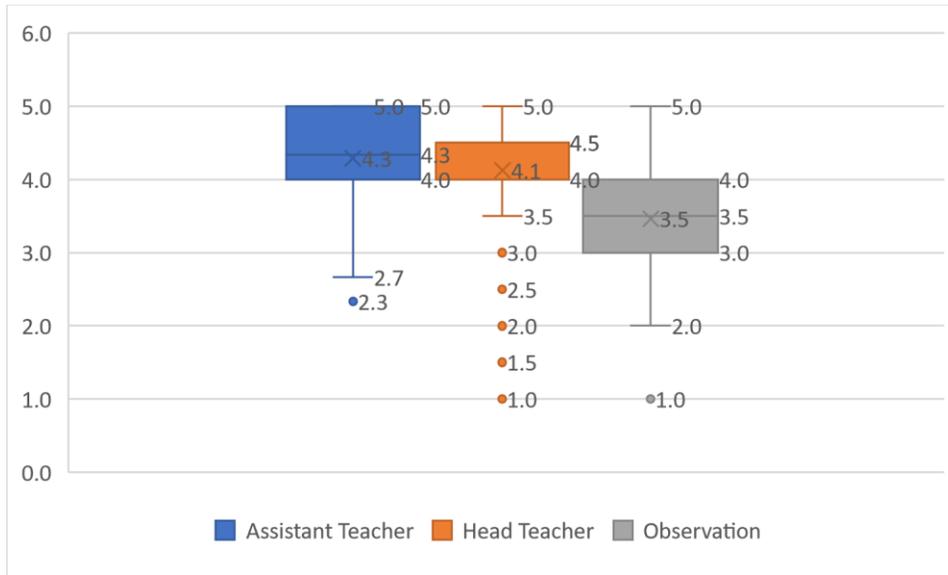


Figure 4. 9: Comparative Rating Scores on Inclusive Practice

Teachers showed confidence in their inclusive practices while conducting classes, with 50% rating themselves 4.0 to 5.0. Among the head teachers, 50% rated the assistant teachers regarding this issue between 4.0 and 4.5. In both cases, the 25th percentile is 4.0, whereas, in the case of classroom observation, the 75th percentile is 4.0. It indicates that assistant teachers' declaration and head teachers' affirmation in inclusive practices was found not up to that expectation in actual practices. The mean value regarding inclusive practices was 4.3 and 4.1 for assistant teachers and head teachers, respectively, while 3.5 for the classroom observation.

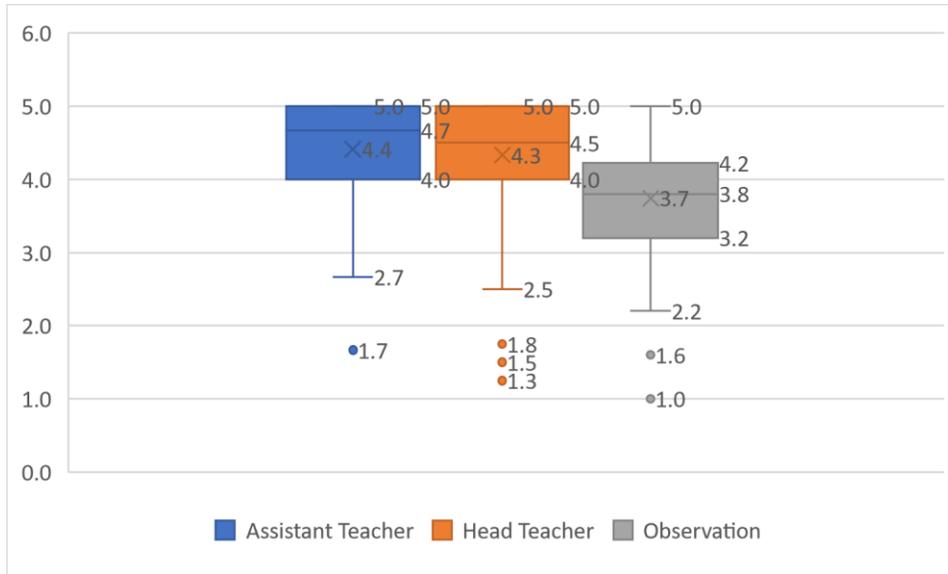


Figure 4. 10: Comparative Rating Scores on Relationship Skill

Teachers' relationship skills with the students and their authority was also evaluated by self-evaluation, head teacher evaluation and student evaluation. Teacher self-evaluation and head teacher evaluation have almost similar results with 50% cases ranged from 4.0 to 5.0. Though observations shows lower performances on teacher-student relationship where 50% cases ranged from 3.2 to 4.2, most of the students assured that relationship with their favourite teachers were very good.

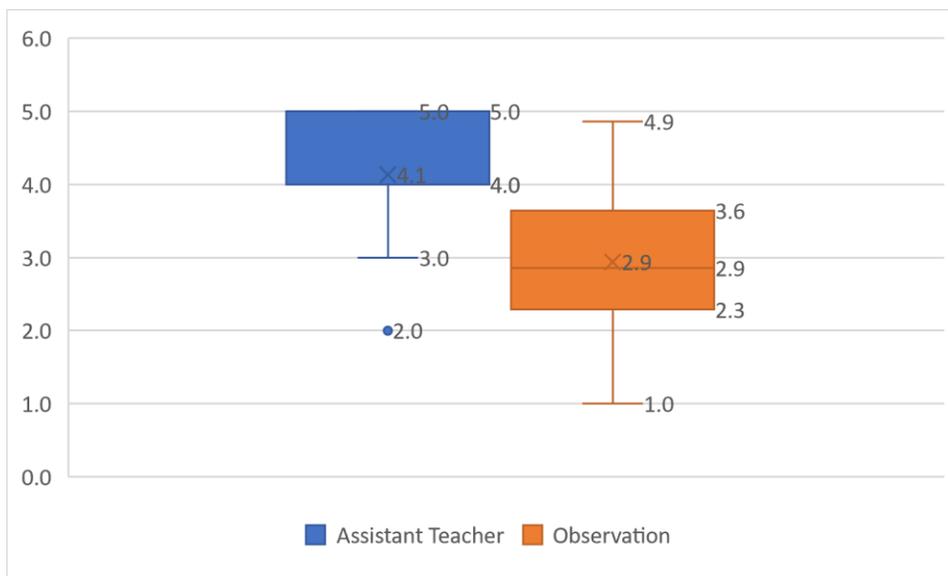


Figure 4. 11: Comparative Rating Scores on Use of Teaching Methods/Techniques

Teachers declared that they used various teaching methods and techniques which was effective on students' learning. However, from observations it is found that their mean scores was very low (2.9) in comparison with teachers' self-evaluation mean score (4.1). It is found from the students' interview that teachers performed better in using some teaching techniques such as give students' opportunities to ask questions and provide answers. However, their teachers did not use pair work or group work regularly according to the students.

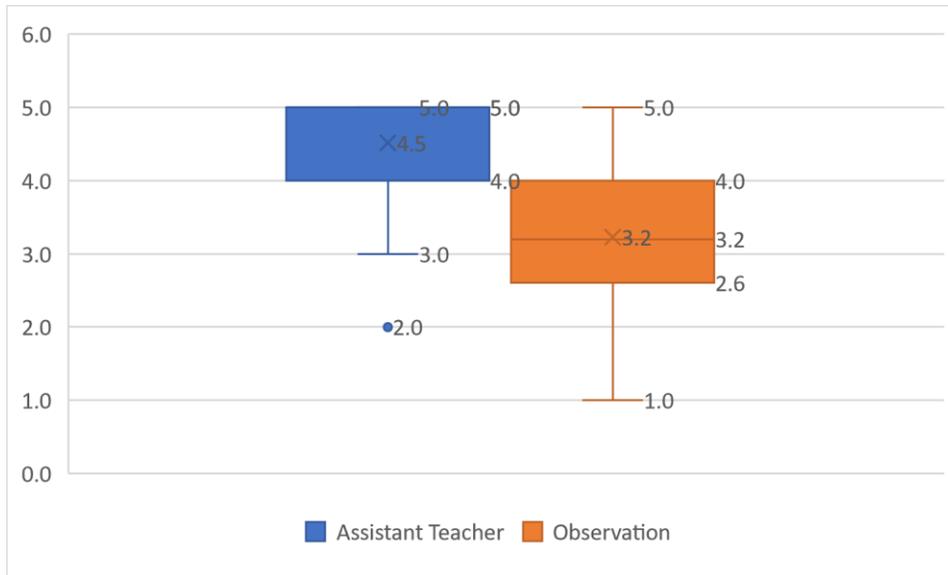


Figure 4. 12: Comparative Rating Scores on Assessment and Feedback Practice

Teachers' assured that they use classroom assessment or continuous assessment during conducting their classes by rating themselves between 3.0 to 5.0 where 50% of their ratings ranged from 4.0 to 5.0 with the mean of 4.5. On the other hand, observation shows that their performance ranged from 1.0 to 5.0 and 50% of the cases ranged from 2.6 to 4.0 with the mean of 3.2. According to the students, teachers assess their homework and gave feedback in almost everyday.

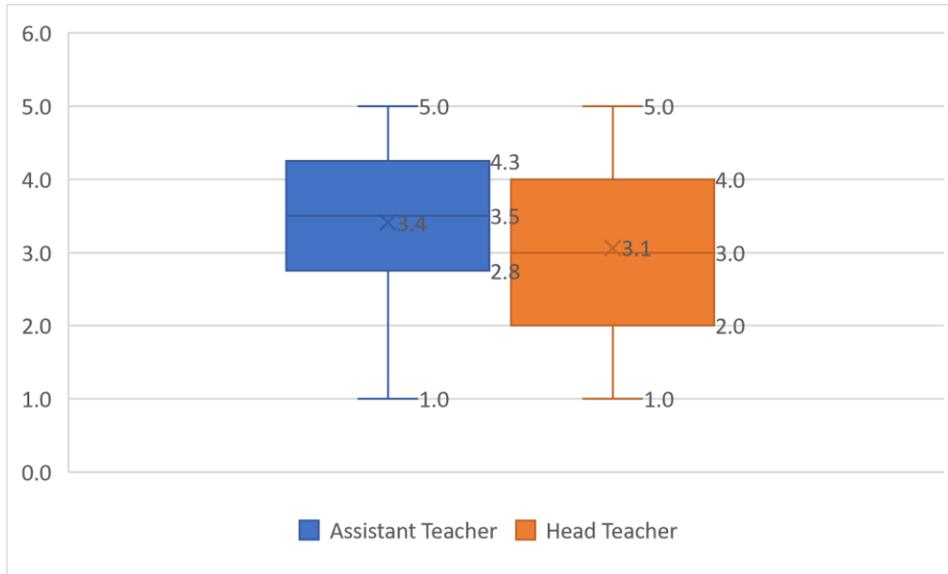


Figure 4. 13: Comparative Rating Scores on ICT Skill

Teacher evaluated themselves on using ICT for academic purposes and middle 50% rated themselves between 2.8 to 4.3 and mean value is 3.4. On the other hand, head teacher rated their teachers on ICT skills where 50% of the scores range from 2.0 to 4.0 and mean score is 3.1. Head teachers ratings are slightly lower than the assistant teachers self-evaluation though the total scores range from 1.0 to 5.0 for both the teachers and head teachers.

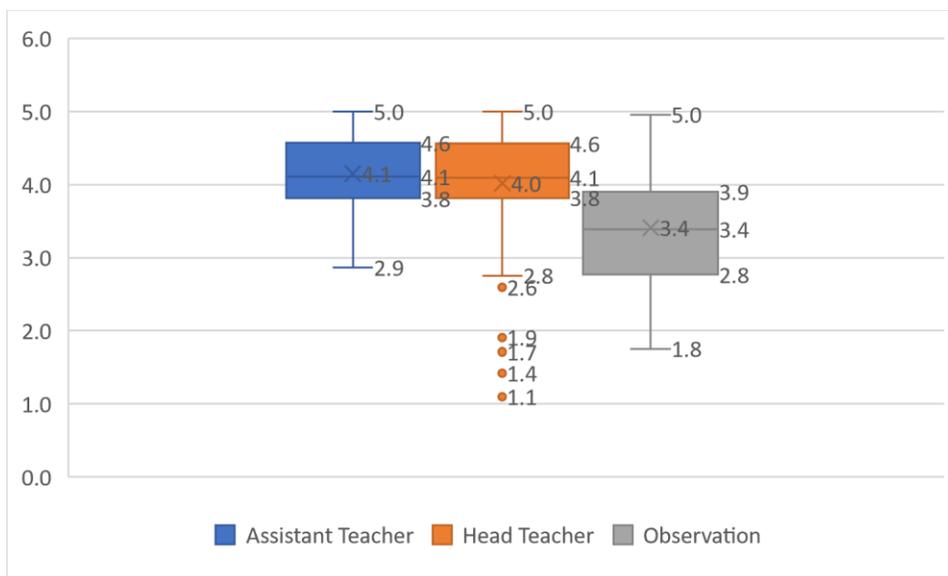


Figure 4. 14: Comparison of Total Rating Scores

The above table illustrates the comparative picture of teachers' overall effectiveness scores obtained from three different instruments. The overall mean score for teachers' self-evaluation, head teachers' evaluation and observation are 4.1, 4.0 and 3.4 respectively. The middle 50% scores range from 3.8 to 4.6 for both the assistant teacher and head teacher evaluations. However, from the observation it is comparatively low and ranges from 2.8 to 3.9.

# Chapter Five: Results

## *Teachers' Subject Knowledge*

Teacher's self-evaluation revealed that graduate and post-graduate teachers do better than others which is statistically significant and head teachers' evaluation uncovered that post-graduate teachers comparatively got better score which is also statistically significant. However, classroom observation uncovered that teacher performed same regardless of their educational background.

Most of the DPED (around 72%), C-in-Ed (65.9%) and BEd (69.2%) trained teachers were satisfied about their subject knowledge according to their self-evaluation. According to HTs' rating the satisfactory level is higher than teachers self- evaluation and this percentages are DPED (around 88%), C-in-Ed(85.3%) & BEd (77 %). But from the classroom observation, it is found a reverse picture from teachers' self-evaluation and HTs rating about teachers SK according to their professional degree. one third of DPED, C-in-Ed & BEd trained teachers are in satisfactory level (41%,42.6%,30.8%).

Most of the mid-level teachers with 11-30 years of teaching experience showed the highest level of satisfaction on their subject knowledge compared to teachers with 31-40 & 1-10 years of job experience. This satisfactory level is also very much similar to HTs evaluations of their teacher's subject knowledge except the teachers experience with 31-40 years. An opposite picture found from the classroom observation than teachers self-evaluation and HTs rating about teachers SK according to their job experience. Half (50%) of the young teachers having 1-10 years job experience, and more than one third of the rest of the teachers are in the level of not satisfactory and moderately satisfactory regarding their subject knowledge.

It is observed that teachers were confident about their subject knowledge and head teachers had high expectations about the teachers' subject knowledge which are comparatively higher than the actual classroom situation. These differences occurred because teachers possibly knew about primary curriculum and primary textbooks, still, they were not skilled enough to use their subject knowledge in the classroom situation.

### ***Pedagogical Knowledge***

According to teachers' self-evaluation, Graduate (61%) and post-graduate (67%) teachers were more satisfied than the SSC or HSC passed teachers (45.5%) in having pedagogical knowledge. From the classroom observation, it is found very poor picture that only 9.1% of the SSC/HSC passed teachers, 22.2% Graduate and 30.4% post graduate teachers' performances were satisfactory regarding their pedagogical knowledge. From the teachers self-evaluation, it is found that teachers who have C-in-Ed (71%) and DPED (61%) degrees were satisfied with their PK knowledge compared to the BEd (38.5%) trained teachers. From the classroom observation, it is found that less than one third of the C-in-Ed, DPED BEd trained teachers are in satisfactory level regarding their pedagogical knowledge.

Most of the teachers with 11-30 years of job experience satisfied with their PK knowledge according to their self-evaluation. From the classroom observation, it is found that less than one third of the teachers of different experience are in satisfactory level regarding their pedagogical knowledge.

It is discovered that teachers were confident about their pedagogical knowledge which is comparatively higher than the actual classroom situation. These differences occurred because teachers may know about creating suitable learning environment, classroom management, relate the present lesson with previous lesson including test the student with lesson related previous knowledge, introduce the lesson with posing lesson related problems, know how to act as a facilitator. But still they were not skilled enough to use their pedagogical knowledge in the classroom situation.

### ***Professional Attitude***

Most of the SSC/HSC (63.6%), Graduate (77.8%) & post graduate (77.6%) teachers with different educational qualification were satisfied with showing their professional attitude according to their self-evaluation. According to HTs' rating, most of the teacher's (More than 75%) scored as satisfactory level irrespective to their educational qualification showing their professional

attitudes. From the classroom observation, more than 90% teachers scored satisfactory level showing their professional attitudes.

Most of the teachers with different professional degree CinEd(97.3%), DPEd (77.8%) & BEd (69.2%) rated themselves in satisfactory level regarding professional attitudes. In the same area, DPEd and C-in-Ed trained teachers scored significantly satisfactory than the BEd trained teachers according to Hts' rating. It is noted that from the classroom observation, more than 90% teachers with different professional degree scored satisfactory level.

According to teachers' self-evaluation, HTs' rating of their teacher and from classroom observation Teachers scored satisfactory level showing their professional attitudes irrespective to their job experiences.

It is perceived from the above analysis that although teachers were confident showing their professional attitude but head teachers showed high expectations about the teachers' professional attitudes and this also supported from the actual classroom observation which are comparatively higher than the teachers' self evaluation. These differences occurred because teachers maybe pre-informed about the purpose of visiting of the researchers. It may also consider that they had to follow the class routine, in time present in the school, showed their positive attitude to the children. In this regard assistant teachers professional attitudes were found comparatively higher by the rating of HTs and classroom observations.

### ***Professional skill***

Teachers' self-evaluation reveals that most of the three educational degree holder teachers are satisfied with their professional skills. The classroom observation score also shows that majority of all level's academic degree holder teachers' professional skill was satisfactory. Students' responses were also optimistic regarding the teacher's professional skills.

According to teachers' self-evaluations, all professional degree holder's satisfaction levels regarding professional skills. Classroom observation also reveals that most of the C-In-Ed and

DPEd passed teachers' performance was satisfactory. Still, BEd passed teacher professional skill was not at the same level as C-In-Ed and DPEd passed teachers. Students' interview also shows positive response regarding this.

Regarding job experience, teachers' professional skills were mostly satisfactory shown by teachers' self-evaluation ratings. Classroom observation reveals that 31-40 years of experienced teachers' professional skill was at the lowest level; all other categories of experienced teachers' performance were satisfactory.

It is observed from the above analysis that teachers efficiently maintained proper discipline during the lesson, ensuring the spontaneous engagement of students in classroom activities, using standard language in classroom teaching and identifying their professional development area. Headteacher rates regarding teachers' professional skills were higher than Assistant teachers' self-evaluation. These differences might occur due to the lack of teachers' practice in identifying their professional skill development area.

### ***Teaching Aids***

According to the teacher's self-evaluation, most (around 60%) of SSC/HSC completed, graduate and post-graduate teachers are satisfied with preparing and using teaching aids in the classroom, whereas in classroom observation, it is found that less than one-third of SSC/HSC completed, graduate and post-graduate teachers are satisfied in the same area.

Most of the C-in-Ed and DPEd completed teachers are better than BEd completed teachers in preparing and using teaching aids; compared with classroom observation, one-fourth of BEd and C-in-Ed completed teachers are in a better position than DPEd completed teachers.

In preparing and using teaching aids, most of the mid-level (11-30 years) experienced teachers rate themselves as satisfactory; but in classroom observation, it is found that less than one-third of less experienced (1-10 years) teachers are satisfactory level rather than mid-level or experienced teachers. It is also found that the students' rate is satisfactory to most of the teachers.

It is found from the above discussion that teachers were self-assured about preparing and using teaching aids and students rated the teachers' preparing and using teaching aids which are comparatively higher than the actual classroom situation. These differences happened because teachers might have a clear conception about preparing and using teaching aids in the classroom but in observation, using appropriate teaching aids was comparatively below in the classroom.

### ***Teacher's Preparation***

It is found that teachers evaluated themselves that most (82.4%) of the graduated teachers are in satisfactory level rather than post-graduated and SSC/HSC completed teachers in terms of teacher's preparation while Headteacher rate that post graduated (78.9%) teachers are well prepared; but in classroom observation, less than half of post-graduated and less than one-third of graduated and SSC/HSC completed teachers are in satisfactory level.

In the same area, most (80%) of the BEd, C-in-Ed and DPED completed teachers rate themselves as satisfactory, while Headteacher rate that most (88.2%) of the DPED completed teachers are the same; on the contrary, less than one-third of C-in-Ed and DPED completed teachers are in satisfactory level while half of the BEd completed teachers are the same.

Most (around 80%) of the teachers of all levels of experience teachers rate themselves in the satisfactory level regarding teacher's preparation, while Headteacher evaluated that 11-20 years experienced teachers (79%) are the same; in contrast, in the classroom observation, it is only less than half for the less experienced (1-10 years) teachers.

It is revealed from the above analysis that teachers were confident enough about the preparation of a lesson and headteachers' rating is comparatively low in preparing lesson plans which are comparatively high in actual classroom observations. These differences occurred because teachers usually prepare and use lesson plans but were not skilled enough to follow the lesson plan in the classroom situation.

### ***Inclusive Practice***

Post-graduate, graduate and SSC/HSC completed are satisfactory in their self-evaluation in case of inclusive practice in the classroom. According to the Headteacher, most of the Post-graduate and graduate teachers are satisfactory, but in classroom observation, nearly half of the Post-graduate and graduate teachers are the same in practicing inclusion.

Most of the DPEd and C-in-Ed completed teachers are rated at the satisfactory level by the Headteacher and assistant teachers, while in classroom observation, it is nearly half of the same teachers.

Teachers rate themselves that all experienced (31-40 years) teachers are in satisfactory level regarding inclusive practice, while it is reverse in the classroom observation and all teachers are in moderately satisfactory; again, Headteacher rate that most of (80%) them are in satisfactory level. Headteacher and assistant teachers rate the other teachers at a satisfactory level in inclusive practice, but in classroom observation, it is nearly half.

It is observed from the above analysis that teachers were confident about inclusive practice in the classroom and head teachers had the nearly same expectations but in observation, it is comparatively low. These differences occurred because teachers possibly knew about the inclusive practice, still, they were not skilled enough to use their technique and knowledge in the classroom.

### ***Use of Teaching methods and techniques***

Teachers' self-evaluation shows that most teachers apply the teaching methods satisfactorily regarding their educational qualifications. In contrast, classroom observation reveals that most teachers' performance is not satisfactory. Remarkably, SSC/HSC passed teachers' performance was more satisfactory than graduate and post-graduate teachers. Students' response was positive regarding this issue.

According to teachers' self-evaluation, teachers of all professional degree holders have a high satisfaction level regarding applying different teaching-learning methods in the classroom. On the

other hand, classroom observation reveals that most of the teachers of all level professional degree holders' performance was not satisfactory. However, the students' interview shows positive response regarding the application of teaching methods.

Regarding job experience, the application level of teaching methods in the classroom was mainly satisfactory, as shown by teachers' self-evaluation ratings. In comparison, classroom observation shows that in considering the job experience, all categories of experienced teachers' performance were unsatisfactory.

It is observed from the above analysis that teachers were competent in applying teaching methods in the classroom during lessons. On the other hand, the observer rated low for teachers' skills of thinking individually, keeping eye contact, arranging group work and pair work, asking the critical question and answering the learners' questions positively. These differences might occur due to the lack of practice in authentic classroom teaching though teachers know well about the teaching methods.

### ***Assessment and feedback***

Teachers' self-evaluation reveals that around ninety percent of all educational degree holder teachers are satisfied with their confidence in conducting continuous assessments in the classroom using oral and written tests. On the other hand, the classroom observation score shows that most graduate and SSC/HSC passed teachers' performance regarding assessment and feedback was at the unsatisfactory level and around half of the post-graduate teachers performed at a moderately satisfactory level. Most students shared that the teacher assessed their assigned work and provided feedback to ensure their learning.

According to teachers' self-evaluations, all professional degree holder's satisfaction levels regarding assessment and feedback. On the other hand, classroom observation reveals that most of the teachers of all three professional degree holders' performance were between not satisfactory and moderately satisfactory. However, the students' interview shows a positive response regarding this.

Regarding job experience, the application level of assessment and feedback in the classroom was mainly satisfactorily shown by teachers' self-evaluation ratings. At the same time, classroom observation reveals that in considering the job experience, all categories of experienced teachers' performance were between 36 to 60 percent at a moderately satisfactory level.

It is observed from the above analysis that teachers are assured that they use classroom-based or continuous assessment while conducting their classes. On the other hand, the Classroom observer reveals that teachers' skill of assessing students in every step of teaching, using various assessment techniques, evaluating students' work and summarising the session before finishing the class was not confident. These reverse results may occur because teachers have clear concept about student assessment but lack practice in actual classroom teaching.

### ***Relationship Skill***

According to the headteachers' assessment most of the post-graduate teachers (90%), graduate teachers (83%) and SSC/HSC passed teachers (70%) scored at a satisfactory level in building relationship with the learners. In the same issue it is found from the teachers' self-evaluation records that most of the teachers of different education levels were satisfied in this regard. The teachers' self-evaluation records and the headteachers' evaluation records are fully supported by majority of the students' interview information in all of the relevant areas they respond. It is found from the classroom observation that more than half of the post-graduate degree holders (58.9%) teachers' performance was satisfactory and about half of graduate teachers' performance was moderately satisfactory regarding teachers' relationship skills in the classroom.

It is evident that most of the Bed, C-In-Ed, and DPED completed teachers were satisfied with their professional relationship skills. In this respect all the DPED completed teachers, most of the C-in-Ed completed teachers and majority of B-Ed completed teachers' skills are at a satisfactory level as the headteachers rated. In the respective issue it is found from classroom observation that about half of BEd and C-In-Ed completed teachers scored satisfactory levels and about half of the DPED completed teachers scored moderately satisfactory levels in this regard.

Regardless of teaching experience, most of the teachers were satisfied with their professional relationship skills. In the respective issue most of the teachers were rated in the satisfactory level by the headteachers, however the observation data shows that nearly half of the sample teachers could show their performance in satisfactory level in this regard.

It is observed from the above analysis that teachers were confident about their skills in making teacher-student relationships in the real classroom situation, and head teachers' expectations about the teachers' ability in this regard are almost similar, however, in the real classroom situation, the relationship between teacher-student was observed lower than their expectations. These differences might be occurred due to the lack of their practice.

### ***ICT Skill***

According to the teachers' self-evaluation, it is found that around half of the post-graduate teachers were satisfactory levels regarding ICT skills, while Headteachers rated the post-graduate teachers' ICT skills as were same.

Teachers rated themselves that around half of the DPED completed teachers' ICT skills were satisfactory, while Headteachers rated BEd completed teachers' ICT skills were satisfactory level. Teachers rated themselves that less than half of the experienced (31-40 years) and mid-level experienced (11-20 years) teachers' ICT skills were in a satisfactory level, while Headteachers rated less and mid-level experienced teachers (1-20 years) ICT skills were same.

It is evident from the above analysis that teachers were confident about their ICT skills which are slightly higher than the head teachers' observation. Teachers were quite good at using ICT in conducting Multimedia-based sessions, facilitating online classes, preparing teaching aids and participating in professional meetings.

### ***Overall Scenario***

The data getting from teachers' self-evaluation evident that regardless educational background around 60% teachers were satisfied with their teaching performance and professional activities,

however the headteachers rated the majority number of post graduate degree holder teachers in the satisfactory level and on the other hand, the lowest 20% SSC/HSC passed teachers were rated in the same level. It is also interesting that according to the lesson observation data regardless the teachers academic background around 20% teachers performed in the satisfactory level.

In the aspects of professional degrees the data of the teachers' self-assessment represents that majority of the DPED and C-in-Ed completed teachers rated themselves in the satisfactory level, where only 46% BEd completed teachers rated themselves in the same level. On the other hand, the headteachers rated the highest 77% teachers in the satisfactory level and the lowest number of C-in-Ed completed teachers were rated in the same level.

The data getting from classroom observation revealed that in the aspect of job experience the highest 60% of the most experienced teachers) performed moderately satisfactory level, however none of them could perform in the 'satisfactory' level. On the other hand the highest 29% less experienced teachers performed in the 'satisfactory' level.

It is observed from analysing the overall scores that the teachers were overall efficient in having a good understanding of subject knowledge and pedagogical knowledge, practising professional skills, showing a professional attitude and applying modern teaching methods using ICT; which is similar to Head Teacher's expectations. On the contrary, teacher self-efficacy related to the above issues was seen as comparatively low in the classroom practices compared to their expectations.

## ***Functional Indicators for Teachers Effectiveness***

Students' achievement is a good indicator for measuring teachers effectiveness. In classroom observations, students' rate of learning on the topics discussed in the classroom was considered as their achievement. The correlation of different categories with the students' achievement are displayed in the below table:

**Table 5. 1: Correlation of students' achievement with different categories**

	Subject Knowledge	Pedagogical Knowledge	Professional Attitude	Teaching Aids	Teacher's Preparation	Inclusive Practice	Relationship Skill	Teaching Methods	Assessment and Feedback	Total Score
Students' Achievement	0.537**	0.672**	0.143	0.655**	0.361**	0.610**	0.698**	0.667**	0.737**	0.729**

[\*\* Correlation is strongly statistically significant]

The above table evidenced that except professional attitude, rest of the categories are strongly correlated with students' achievement in the classroom and these correlations are statistically strongly significant.

From the analysis shown in the previous chapter also discovered various indicators which are mentioned as categories have significant relations with teacher effectiveness. Indicators are split in two groups. Functional indicators which are discovered from the analysis are shown below:

### **Background Indicators**

- Educational Qualification
- Professional Degree
- Job Experience

### **Classroom based indicators**

- Subject Knowledge
- Pedagogical Knowledge
- Professional Attitude
- Professional Skill
- Teaching Aids
- Teacher's Preparation
- Inclusive Practice
- Relationship Skill
- Teaching Methods
- Assessment and Feedback
- ICT Skill

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# ANNEX-A

Table A 1: ANOVA table for Teachers' Job Experience with different categories

		Sum of Squares	df	Mean Square	F	Sig.	
Subject Knowledge	Between Groups	0.469	3	0.156	0.290	0.833	Not statistically significant
	Within Groups	54.493	101	0.540			
	Total	54.962	104				
Pedagogical Knowledge	Between Groups	0.273	3	0.091	0.269	0.848	Not statistically significant
	Within Groups	34.198	101	0.339			
	Total	34.470	104				
Professional Attitude	Between Groups	0.449	3	0.150	0.535	0.660	Not statistically significant
	Within Groups	28.298	101	0.280			
	Total	28.748	104				
Professional Skill	Between Groups	0.029	3	0.010	0.039	0.990	Not statistically significant
	Within Groups	25.333	101	0.251			
	Total	25.362	104				
Teaching Aids	Between Groups	1.204	3	0.401	0.662	0.577	Not statistically significant
	Within Groups	61.187	101	0.606			
	Total	62.390	104				
Teacher's Preparation	Between Groups	0.957	3	0.319	0.456	0.713	Not statistically significant
	Within Groups	68.504	98	0.699			
	Total	69.461	101				
Inclusive Practice	Between Groups	1.194	3	0.398	0.846	0.472	Not statistically significant
	Within Groups	47.513	101	0.470			
	Total	48.706	104				
Relationship Skill	Between Groups	0.325	3	0.108	0.297	0.828	Not statistically significant
	Within Groups	36.847	101	0.365			
	Total	37.172	104				
Teaching Methods	Between Groups	0.702	3	0.234	0.340	0.796	Not statistically significant
	Within Groups	69.432	101	0.687			
	Total	70.133	104				
Assessment and Feedback	Between Groups	1.420	3	0.473	0.932	0.428	Not statistically significant
	Within Groups	50.308	99	0.508			
	Total	51.728	102				
ICT Skill	Between Groups	2.580	3	0.860	0.845	0.473	

	Within Groups	99.751	98	1.018			Not statistically significant
	Total	102.331	101				
Total Score	Between Groups	0.087	3	0.029	0.119	0.949	Not statistically significant
	Within Groups	24.736	101	0.245			
	Total	24.823	104				

Table A 2: ANOVA table for Teachers' professional degree with different categories

		Sum of Squares	df	Mean Square	F	Sig.	
Subject Knowledge	Between Groups	0.344	2	0.172	0.346	0.709	Not statistically significant
	Within Groups	48.303	97	0.498			
	Total	48.648	99				
Pedagogical Knowledge	Between Groups	0.447	2	0.223	0.684	0.507	Not statistically significant
	Within Groups	31.660	97	0.326			
	Total	32.107	99				
Professional Attitude	Between Groups	0.704	2	0.352	1.292	0.279	Not statistically significant
	Within Groups	26.406	97	0.272			
	Total	27.110	99				
Professional Skill	Between Groups	0.482	2	0.241	0.977	0.380	Not statistically significant
	Within Groups	23.928	97	0.247			
	Total	24.410	99				
Teaching Aids	Between Groups	0.218	2	0.109	0.186	0.831	Not statistically significant
	Within Groups	56.910	97	0.587			
	Total	57.128	99				
Teacher's Preparation	Between Groups	0.001	2	0.000	0.000	1.000	Not statistically significant
	Within Groups	65.010	94	0.692			
	Total	65.010	96				
Inclusive Practice	Between Groups	1.502	2	0.751	1.602	0.207	Not statistically significant
	Within Groups	45.477	97	0.469			

	Total	46.979	99				
Relationship Skill	Between Groups	0.208	2	0.104	0.283	0.754	Not statistically significant
	Within Groups	35.640	97	0.367			
	Total	35.848	99				
Teaching Methods	Between Groups	0.803	2	0.401	0.609	0.546	Not statistically significant
	Within Groups	63.947	97	0.659			
	Total	64.750	99				
Assessment and Feedback	Between Groups	0.482	2	0.241	0.477	0.622	Not statistically significant
	Within Groups	47.977	95	0.505			
	Total	48.459	97				
ICT Skill	Between Groups	0.717	2	0.359	0.367	0.694	Not statistically significant
	Within Groups	91.825	94	0.977			
	Total	92.543	96				
Total Score obtained from Self-Assessment	Between Groups	0.279	2	0.140	0.583	0.560	Not statistically significant
	Within Groups	23.231	97	0.239			
	Total	23.510	99				

Table A 3: ANOVA table for Teachers' educational qualification with different categories

		Sum of Squares	df	Mean Square	F	Sig.	
Subject Knowledge	Between Groups	4.392	2	2.196	4.429	0.014	Statistically Significant
	Within Groups	50.570	102	0.496			
	Total	54.962	104				
Pedagogical Knowledge	Between Groups	1.447	2	0.723	2.234	0.112	Not statistically significant
	Within Groups	33.024	102	0.324			
	Total	34.470	104				
Professional Attitude	Between Groups	0.147	2	0.073	0.262	0.770	Not statistically significant
	Within Groups	28.601	102	0.280			
	Total	28.748	104				

Professional Skill	Between Groups	0.173	2	0.086	0.350	0.705	Not statistically significant
	Within Groups	25.189	102	0.247			
	Total	25.362	104				
Teaching Aids	Between Groups	1.359	2	0.679	1.135	0.325	Not statistically significant
	Within Groups	61.032	102	0.598			
	Total	62.390	104				
Teacher's Preparation	Between Groups	2.051	2	1.025	1.506	0.227	Not statistically significant
	Within Groups	67.410	99	0.681			
	Total	69.461	101				
Inclusive Practice	Between Groups	0.301	2	0.150	0.317	0.729	Not statistically significant
	Within Groups	48.405	102	0.475			
	Total	48.706	104				
Relationship Skill	Between Groups	0.597	2	0.299	0.833	0.438	Not statistically significant
	Within Groups	36.574	102	0.359			
	Total	37.172	104				
Teaching Methods	Between Groups	2.404	2	1.202	1.810	0.169	Not statistically significant
	Within Groups	67.729	102	0.664			
	Total	70.133	104				
Assessment and Feedback	Between Groups	0.083	2	0.041	0.080	0.923	Not statistically significant
	Within Groups	51.646	100	0.516			
	Total	51.728	102				
ICT Skill	Between Groups	13.327	2	6.663	7.412	0.001	Statistically Very Significant
	Within Groups	89.004	99	0.899			
	Total	102.331	101				
Total Score obtained from Self-Assessment	Between Groups	0.879	2	0.439	1.872	0.159	Not statistically significant
	Within Groups	23.944	102	0.235			
	Total	24.823	104				

Table A 4: HT

Job Experience							
		Sum of Squares	df	Mean Square	F	Sig.	
Subject Knowledge	Between Groups	2.689	3	0.896	1.176	0.323	Not statistically significant
	Within Groups	74.655	98	0.762			
	Total	77.343	101				
Professional Skill	Between Groups	0.689	3	0.230	0.308	0.819	Not statistically significant
	Within Groups	73.733	99	0.745			
	Total	74.422	102				
Professional Attitude	Between Groups	0.489	3	0.163	0.266	0.850	Not statistically significant
	Within Groups	60.747	99	0.614			
	Total	61.237	102				
Preparation	Between Groups	2.816	3	0.939	0.974	0.408	Not statistically significant
	Within Groups	95.379	99	0.963			
	Total	98.194	102				
Inclusive Practice	Between Groups	1.084	3	0.361	0.473	0.702	Not statistically significant
	Within Groups	75.649	99	0.764			
	Total	76.733	102				
Relationship Skill	Between Groups	0.866	3	0.289	0.401	0.752	Not statistically significant
	Within Groups	71.183	99	0.719			
	Total	72.049	102				
ICT Skill	Between Groups	14.257	3	4.752	2.527	0.062	Not statistically significant
	Within Groups	167.356	89	1.880			
	Total	181.613	92				
HT Total Score	Between Groups	1.972	3	0.657	1.015	0.390	Not statistically significant
	Within Groups	64.152	99	0.648			
	Total	66.124	102				

Table A 5: HT

Professional Degree							
		Sum of Squares	df	Mean Square	F	Sig.	
Subject Knowledge	Between Groups	1.558	2	0.779	0.994	0.374	Not statistically significant
	Within Groups	74.442	95	0.784			
	Total	76.000	97				
Professional Skill	Between Groups	4.738	2	2.369	3.454	0.036	Significant
	Within Groups	65.843	96	0.686			
	Total	70.581	98				
Professional Attitude	Between Groups	4.631	2	2.316	3.943	0.023	Significant
	Within Groups	56.377	96	0.587			
	Total	61.008	98				
Preparation	Between Groups	8.179	2	4.089	4.399	0.015	Significant
	Within Groups	89.235	96	0.930			
	Total	97.414	98				
Inclusive Practice	Between Groups	4.364	2	2.182	3.096	0.050	Significant
	Within Groups	67.656	96	0.705			
	Total	72.020	98				
Relationship Skill	Between Groups	7.781	2	3.891	5.835	0.004	Significant
	Within Groups	64.008	96	0.667			
	Total	71.789	98				
ICT Skill	Between Groups	1.806	2	0.903	0.456	0.635	Not statistically significant
	Within Groups	170.149	86	1.978			
	Total	171.955	88				
HT Total Score	Between Groups	4.259	2	2.129	3.382	0.038	Significant
	Within Groups	60.447	96	0.630			
	Total	64.706	98				

Table A 6: HT

Educational Qualification							
		Sum of Squares	df	Mean Square	F	Sig.	
Subject Knowledge	Between Groups	10.191	2	5.096	7.512	0.001	Significant
	Within Groups	67.152	99	0.678			
	Total	77.343	101				
Professional Skill	Between Groups	6.483	2	3.241	4.771	0.010	Significant
	Within Groups	67.940	100	0.679			
	Total	74.422	102				
Professional Attitude	Between Groups	4.894	2	2.447	4.343	0.016	Significant
	Within Groups	56.342	100	0.563			
	Total	61.237	102				
Preparation	Between Groups	5.025	2	2.513	2.697	0.072	Not statistically significant
	Within Groups	93.169	100	0.932			
	Total	98.194	102				
Inclusive Practice	Between Groups	5.888	2	2.944	4.155	0.018	Significant
	Within Groups	70.845	100	0.708			
	Total	76.733	102				
Relationship Skill	Between Groups	5.142	2	2.571	3.842	0.025	Significant
	Within Groups	66.907	100	0.669			
	Total	72.049	102				
ICT Skill	Between Groups	17.385	2	8.693	4.764	0.011	Significant
	Within Groups	164.228	90	1.825			
	Total	181.613	92				
HT Total Score	Between Groups	7.506	2	3.753	6.402	0.002	Significant
	Within Groups	58.619	100	0.586			
	Total	66.124	102				

Table A 7: Observation

Job Experience							
		Sum of Squares	df	Mean Square	F	Sig.	
Subject Knowledge	Between Groups	4.962	3	1.654	1.071	0.365	Not statistically significant
	Within Groups	152.863	99	1.544			
	Total	157.825	102				
Pedagogical Knowledge	Between Groups	0.443	3	0.148	0.186	0.906	Not statistically significant
	Within Groups	78.427	99	0.792			
	Total	78.869	102				
Professional Attitude	Between Groups	0.062	3	0.021	0.045	0.987	Not statistically significant
	Within Groups	45.355	99	0.458			
	Total	45.417	102				
Teaching Aids	Between Groups	4.238	3	1.413	1.214	0.309	Not statistically significant
	Within Groups	115.153	99	1.163			
	Total	119.391	102				
Teacher's Preparation	Between Groups	3.738	3	1.246	0.636	0.593	Not statistically significant
	Within Groups	188.022	96	1.959			
	Total	191.760	99				
Inclusive Practice	Between Groups	3.227	3	1.076	0.891	0.449	Not statistically significant
	Within Groups	118.263	98	1.207			
	Total	121.490	101				
Relationship Skill	Between Groups	1.536	3	0.512	0.764	0.517	Not statistically significant
	Within Groups	66.402	99	0.671			
	Total	67.939	102				
Assessment and Feedback	Between Groups	0.815	3	0.272	0.287	0.834	Not statistically significant
	Within Groups	93.605	99	0.946			
	Total	94.420	102				
Teaching Methods	Between Groups	1.425	3	0.475	0.498	0.685	Not statistically significant
	Within Groups	94.437	99	0.954			
	Total	95.862	102				
Total Score obtained from Classroom Observation	Between Groups	1.439	3	0.480	0.778	0.509	Not statistically significant
	Within Groups	61.087	99	0.617			
	Total	62.526	102				

Table A 8: Observation

Professional Degree							
		Sum of Squares	df	Mean Square	F	Sig.	
Subject Knowledge	Between Groups	1.388	2	0.694	0.452	0.638	Not statistically significant
	Within Groups	145.959	95	1.536			
	Total	147.347	97				
Pedagogical Knowledge	Between Groups	0.559	2	0.279	0.365	0.695	Not statistically significant
	Within Groups	72.765	95	0.766			
	Total	73.323	97				
Professional Attitude	Between Groups	0.747	2	0.374	0.817	0.445	Not statistically significant
	Within Groups	43.457	95	0.457			
	Total	44.204	97				
Teaching Aids	Between Groups	1.977	2	0.989	0.845	0.433	Not statistically significant
	Within Groups	111.211	95	1.171			
	Total	113.188	97				
Teacher's Preparation	Between Groups	6.401	2	3.201	1.676	0.193	Not statistically significant
	Within Groups	175.704	92	1.910			
	Total	182.105	94				
Inclusive Practice	Between Groups	2.042	2	1.021	0.858	0.427	Not statistically significant
	Within Groups	111.897	94	1.190			
	Total	113.938	96				
Relationship Skill	Between Groups	1.920	2	0.960	1.436	0.243	Not statistically significant
	Within Groups	63.485	95	0.668			
	Total	65.405	97				
Assessment and Feedback	Between Groups	0.829	2	0.415	0.443	0.644	Not statistically significant
	Within Groups	88.992	95	0.937			
	Total	89.821	97				

Teaching Methods	Between Groups	1.719	2	0.860	0.942	0.394	Not statistically significant
	Within Groups	86.721	95	0.913			
	Total	88.440	97				
Total Score obtained from Classroom Observation	Between Groups	1.285	2	0.642	1.078	0.344	Not statistically significant
	Within Groups	56.608	95	0.596			
	Total	57.893	97				

Table A 9: Observation

Educational Qualification							
		Sum of Squares	df	Mean Square	F	Sig.	
Subject Knowledge	Between Groups	0.390	2	0.195	0.124	0.884	Not statistically significant
	Within Groups	157.435	100	1.574			
	Total	157.825	102				
Pedagogical Knowledge	Between Groups	4.160	2	2.080	2.784	0.067	Not statistically significant
	Within Groups	74.709	100	0.747			
	Total	78.869	102				
Professional Attitude	Between Groups	0.137	2	0.068	0.151	0.860	Not statistically significant
	Within Groups	45.281	100	0.453			
	Total	45.417	102				
Teaching Aids	Between Groups	9.789	2	4.894	4.466	0.014	Significant
	Within Groups	109.602	100	1.096			
	Total	119.391	102				
Teacher's Preparation	Between Groups	5.345	2	2.673	1.391	0.254	Not statistically significant
	Within Groups	186.415	97	1.922			
	Total	191.760	99				
Inclusive Practice	Between Groups	0.534	2	0.267	0.219	0.804	Not statistically significant
	Within Groups	120.956	99	1.222			
	Total	121.490	101				
Relationship Skill	Between Groups	5.934	2	2.967	4.786	0.010	Significant
	Within Groups	62.004	100	0.620			
	Total	67.939	102				

Assessment and Feedback	Between Groups	4.299	2	2.149	2.385	0.097	Not statistically significant
	Within Groups	90.122	100	0.901			
	Total	94.420	102				
Teaching Methods	Between Groups	5.168	2	2.584	2.849	0.063	Not statistically significant
	Within Groups	90.694	100	0.907			
	Total	95.862	102				
Total Score obtained from Classroom Observation	Between Groups	2.919	2	1.459	2.448	0.092	Not statistically significant
	Within Groups	59.607	100	0.596			
	Total	62.526	102				