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Influences of Teachers' Accountability on Students' Mathematics Performance

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Abstract

This research attempts to explore how students' mathematics performance is affected by teachers' accountability. We considered the population as the math teachers in all community secondary schools located in Kathmandu district. By using random sampling, we chose a sample of 71 secondary math teachers. Value-free axiology, objectivist epistemology, post positivist ontology, and quantitative research design were used. In this study, reliability and validity of the questionnaires determined by using the Cronbach's alpha and Delphi methods, respectively. In this study, 50 questionnaires in the form of five-point scales were used, but 9 questionnaires were excluded by rotation to prepare factors. The results of this study showed that a variety of factors, including teachers' professionalism and subject-matter expertise, students' regular learning, the equity and fairness of the assessment process, community trust, and efforts to enhance teaching contributed to the students' performance in mathematics. Further, teachers' accountability strategies have been found to be influenced by methods, organizational background, and cooperation. A supportive, professional development environment and accountability were stood crucial to create a positive learning environment which raised students' performance.

Key words: Accountability of teachers, students' performance, quantitative research design, one sample t- test, mathematics

Introduction

The concept of "teacher accountability" states that teachers have to take ownership of their teaching and learning methods and be held accountable for the outcomes they provide for their students. There are several ways to hold teachers' accountable, such as performance reviews, observations in the classroom, assessments, and standardized testing (Attarwala, 2015). Ensuring that teachers are teaching students effectively and that students are making academic progress is the main objective of teacher accountability (Bae, 2018). Evaluations and classroom observations are common components of teacher accountability measures, and they can give

teachers insightful feedback (Smith & Benavot, 2019). Teachers who use this feedback to assess their strengths and weaknesses may be able to take advantage of opportunities for professional growth. Students stand to gain from more interesting and productive lessons as teachers strive to improve their teaching quality. Teachers' accountability has a significant impact on how well students comprehend and apply mathematical ideas (Shalem & Brodie, 2011). It is the duty of teachers to carry out the curriculum in an efficient manner. Students' learning of mathematics can be influenced by the way teachers organize lessons, select instructional resources, and match instruction to curriculum standards (Celik et al., 2013). In order to assess their students' comprehension of mathematical concepts, teachers create and administer assessments. Fair and well-designed tests can give educators and students insightful information that helps them make decisions about how best to teach their subjects (Ehren & Bachmann, 2020). Teachers who have accountability for keeping track of each student's progress individually can spot learning gaps and give more help to students who might be having trouble understanding mathematical ideas (Cheryan et al., 2014). Teachers who take on responsibility for their own professional growth are more likely to keep up with the most recent developments in education research and teaching strategies. Their continued education may have a beneficial effect on their capacity to instruct mathematics (Horn, 2018). Students' confidence and interest in learning mathematics can be increased by a teacher who creates a positive and encouraging learning environment in the classroom (Darmawan & Keeves, 2006). It may be a duty of teachers to promote parental involvement in their students' education. Working together, parents and teachers can foster a more encouraging learning environment, which may enhance students' mathematics performance (Fraine et al., 2002). The tools available to teachers, such as technology, extra support services offered by the school, and textbooks, can have an impact on how well their students perform mathematically (Anderson & Anderson, 2015). It's critical to understand that there are multiple facets to the relationship between students' performance and teachers' accountability (Olafsdottir et al., 2022). Aside from the teacher's control, other factors that affect student performance include individual learning styles, family support, and socioeconomic status. The entire educational environment can also be impacted by systemic factors, school leadership, and educational policies (Battey & Franke, 2015). Improved student outcomes and effective instruction frequently come from a confluence of encouraging elements at different levels of the educational system (Schreurs & Rundgren, 2023). In Nepal, mathematics teacher accountability

is intricate and involves multiple parties, such as teachers, administrators at schools, lawmakers, students, and the community. In addition to deliver teaching in a way that optimizes student understanding and engagement, teachers are obliged to adhere to the national curriculum and syllabi set forth by the government. Teachers are also required to routinely evaluate students' progress through assignments, assessments, and classroom participation to improve the students' mathematics performance.

Statement of Problem

Influence of teacher accountability is a complex issue affecting student achievement, but can also restrict curriculum, promote test-based learning, and cause stress (Jabeen et al., 2023). Both developed and developing nations face challenges in maintaining accountability and quality education so policies and approaches vary, leading to conflicting opinions on their effectiveness.

Theoretical Framework

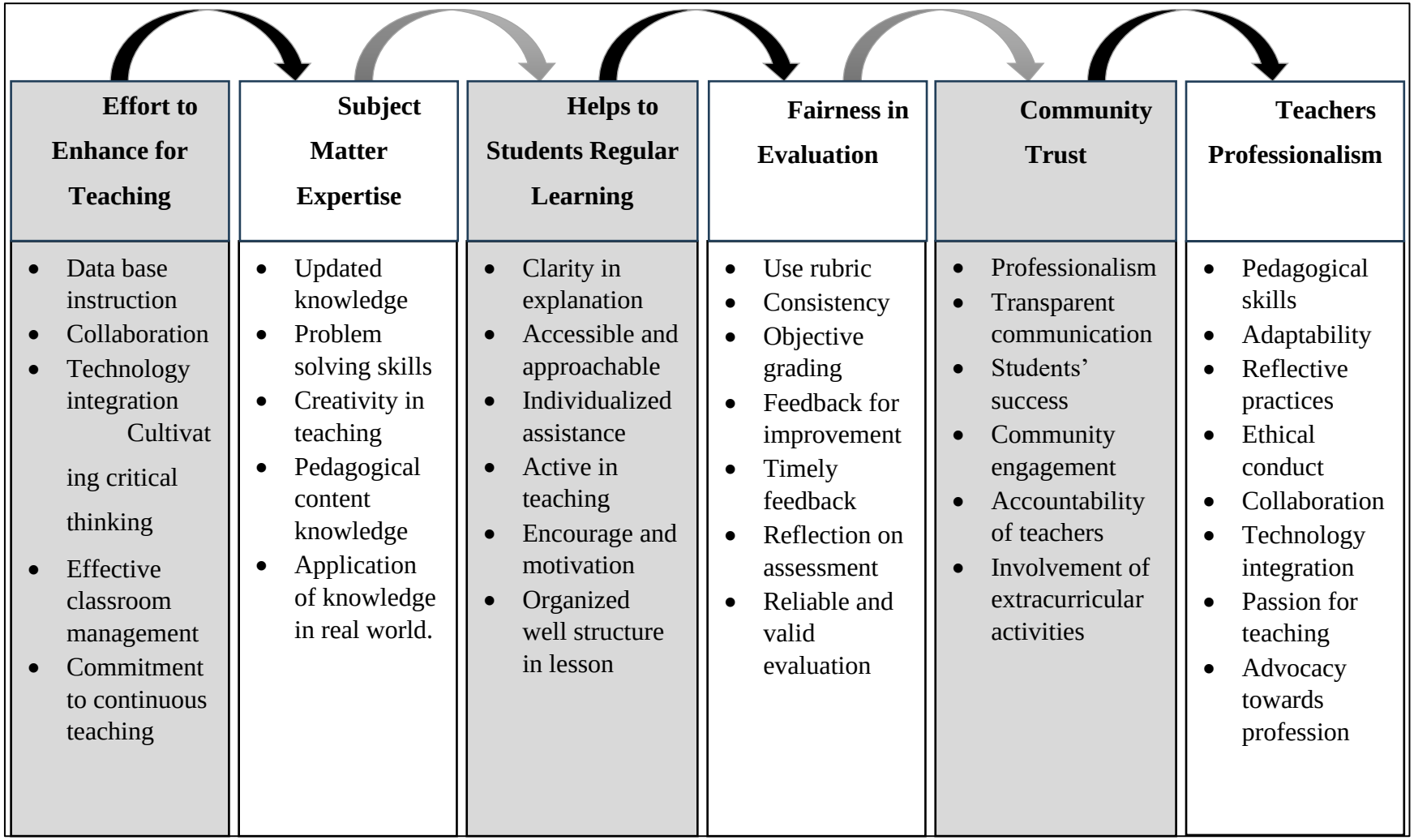
Social capital theory highlights the value established in social networks and relationships within a community. It was developed by James S. Coleman and is based on the writings of sociologist Pierre Bourdieu. Social capital theory offers a prism through which to view how teacher accountability affects students' performance in mathematics. Good relationships between teachers and students can be a sign of bonding social capital in the classroom, which fosters an environment that is ideal for learning. Through encouraging cooperation and communication between educators, parents, and the larger educational community, teacher accountability practices can have an impact on bridging social capital.

Conceptual Framework

A conceptual framework for a study on teachers' accountability's impact on students' mathematics performance was typically created through a visual representation, often using a system dynamics diagram to illustrate interactions among components over time. The diagram highlights six primary areas—the effort to improve teaching, subject matter competence, supporting students with consistent learning, fairness in evaluation, community trust, and teachers' professionalism that are crucial to mathematics teacher responsibility and professionalism. Every topic is covered in detail, including particular procedures for utilizing technology, encouraging critical thinking, keeping up with current information, employing rubrics for uniform grading, interacting with the community, and respecting moral behavior. When taken as a whole, these components highlight the varied roles that teachers play in

guaranteeing quality and fair education, encouraging professional and academic development, and establishing trust in the classroom. The conceptual framework is given below.

Figure1. *Conceptual Framework of Teachers' Accountability for Students' Learning Performance*



Methodology

The methodical and controlled process of studying and analyzing numerical data to find trends, connections, and patterns within a certain phenomenon is known as quantitative research design (Cohen et al., 2010). Often through surveys, experiments, or observations, this research method gathers and analyzes data using measurable variables and statistical tools. It focusses on numerical data, statistical analysis may be applied, allowing researchers to reach objective and broadly applicable conclusions (Tayler & Medina, 2013). We prepared Likert-type scale questionnaires based on an extensive literature review and the research problems identified in my study. To ensure the reliability of the scale, we calculated Cronbach's alpha, which helped assess the internal consistency of the items. For validity, we required feedback from various experts at Tribhuvan University (TU), who reviewed the questionnaires to ensure they accurately measured the intended concepts. Based on their suggestions, we made the necessary revisions and finalized the questionnaires, ensuring they were both reliable and valid for data collection. We chose participants using random sampling techniques and one sample t- test was used to analyze the collected data over quantitative approach.

Results and Discussion

In this section, we used Cronbach's Alpha to calculate the survey's reliability based on the data. We had employed Likert-scales with five points. We discovered that the teacher's perception Cronbach Alpha rating was 0.802 out of 50 items. A reliability coefficient of more than 0.6 indicated a high level of reliability. The values of Cronbach's Alpha are provided in Table 1 below.

Initially, we calculated the mean and standard deviation of the descriptive statistics as well as the one-sample t-test to determine the significance for each component item. We performed a Null hypothesis test to see if there were any significant differences between the perspectives of the teachers **Influences of Teachers' Accountability on Students**

Mathematics Performance

In order to compare the neutral value (test value = 3), which was based on the average value of five points on Likert scales, descriptive statistics (mean and standard deviation) were computed for each of the six components. A one-sample t-test was performed to determine whether or not the mean differences were significant at the significance level.

Table 5. *Cronbach's Alpha Value*

Reliability Statistics			
Category	Cronbach's Alpha	No of items	Sample Size
Teachers	0.802	50	71

After evaluating six distinct elbows with eigenvalues greater than one, we were able to conclude that there may be six alternative combinations of components, nine of which would have out-of-layer items and just 41 loaded items overall. The scree plots are shown in *Figure 2 below*.

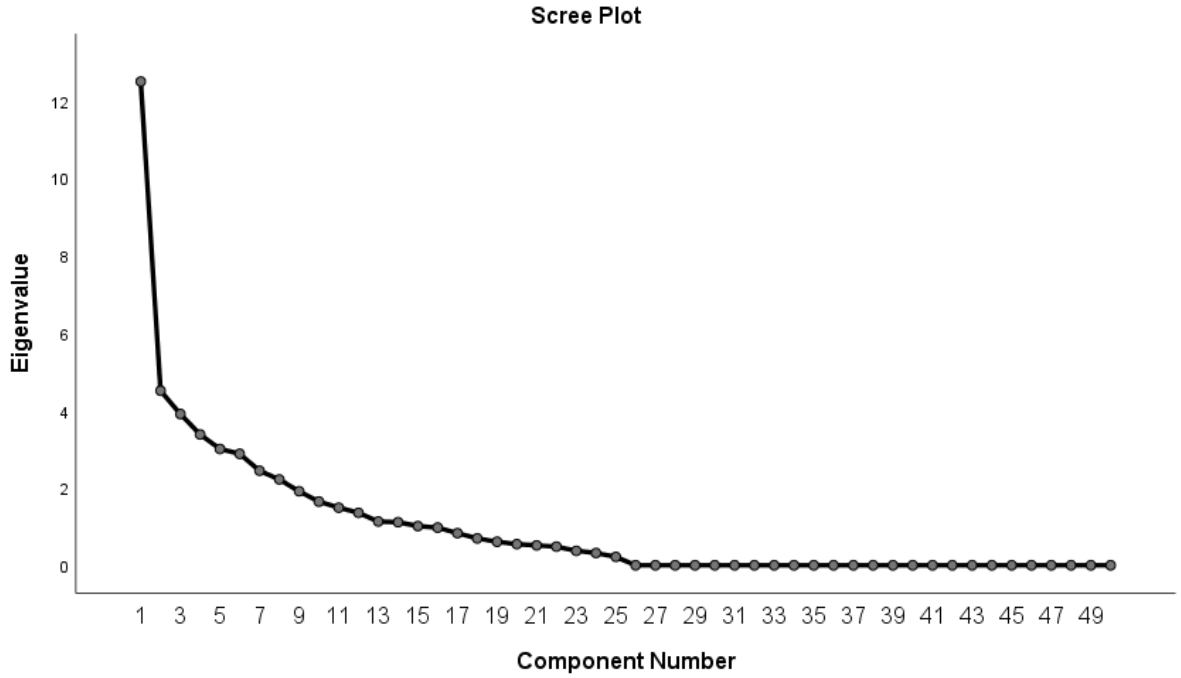


Figure 2. *Scree Plot of the component number*

We listed all six components in Table 2 together with factor loading and reliabilities values (Cronbach's Alpha) for each component related to the influences of teachers' accountability on students' mathematics performance.

Table 6. *Principal Component Analysis of Use of Influences of Teachers' Accountability on Students Mathematics Performance*

Factor Loading from Rotated Components		
Rotated Component Matrix Items	Factor Loading	Components
The math teacher constantly displays a great desire to improve	0.*731*	Factor-1

their methods of instruction.		
The teacher proactively pursues chances for professional growth to enhance their abilities in instructing mathematics.	0.*728*	*Effort to Enhance for Teaching*
The teacher consciously tries to modify their methods of instruction to accommodate the various learning styles of their math students.	0.708	*(*Cronbach*'*s Alpha=0.829*)*
The teacher employs a range of tools and resources of improve the quality of instruction in the mathematics classroom,	0.656	
The teacher consistently evaluates their methods and looks for novel approaches to teaching mathematics.	0.*638*	
The teacher actively uses technology to improve the efficiency of teaching mathematics.	0.*611*	
The teacher works extra hard to help students who are having trouble understanding mathematical concepts.	0.*601*	
When students demonstrate a deeper comprehension of mathematical concepts, and gives them more resources for challenging assignments.	0.*582*	
The teacher's responsibility is to ensure that students understanding and their learning.	0.*440*	
The teacher keeps in regular contact with students regarding methods of teaching.	0.424	
The math teacher shows comprehension of their skill when he/she is teaching.	0.708	
The teacher simplifies difficult mathematical ideas to the class in an efficient manner.		
When teaching math classes, the teacher is organized and well-prepared for teaching.	0.690	Factor 2: *Subject Matter Expertise* Cronbach's Alpha = 0.750
The teacher keeps well-informed of the most recent advancements and studies in the field of teaching mathematics.	0.595	
The ability to modify instructional strategies allows the teacher to meet the different understanding levels of the students.	0.592	
The teacher skillfully illustrates and reinforces mathematical concepts with examples from everyday life.	0.589	
When studying mathematics, the teacher helps critical thinking and problem-solving techniques.	0.514	
Math teacher makes difficult concepts easier for students to understand by giving concise explanations.	0.*679*	Factor-3 *Help to Students for Regular Learning* *(*Cronbach*'*s Alpha=0.746*)*
The teacher actively promotes queries and dialogues to bolster my consistent mathematical learning.	0.*629*	
The teacher provides helpful criticism on students' math assignments, which helps them get better.	0.*552*	

In order to accommodate varying learning styles in the mathematics classroom, the teacher modifies their teaching strategies.	0.*528*	
When a student requires more help with mathematics, the teacher offers extra materials.	0.*528*	
Outside of scheduled class hours, the teacher is accessible for additional assistance or clarification.	0.*514*	
The math teacher should use of modern technology to improve students' math learning.	0.*504*	
Students' interest in mathematics is flashed by the teacher's obvious enthusiasm for the material	0.470	
The math teacher evaluates students' work based on precise, dependable standards.	0.*844*	Factor-4 *Fairness in Evaluation (*Cronbach*'*s Alpha=*0.726)*
To help students understand their performance, the teacher gives timely and helpful feedback on assessments.	0.*784*	
When it comes to the evaluation process, the teacher is impartial and treats each student fairly.	0.*76*5	
When creating math assessments, the teacher takes into account the different learning styles of the students.	0.595	
The teacher is not willing to talk about and answer any queries regarding the assessment procedure.	0.*424*	
Students do not receive clear communication from the teacher regarding the expectations and evaluation criteria.	0.414	
The community is informed about curriculum and classroom activities in an open and honest manner by the math teacher.	0.*750*	Factor-5 *Community Trust (*Cronbach*'*s Alpha=*0.646)*
Teachers who are committed to helping students succeed academically in mathematics.	0.*743*	
The teacher actively solicits and appreciates feedback on mathematics instruction from parents and community members.	0.*663*	
Teachers regularly inform parents and the community about the progress their students are making in mathematics.	0.508	
A welcoming and inclusive learning atmosphere is not created by the teacher to encourage community involvement in mathematics.	0.*491*	
The mathematics teacher interacts with students and colleagues in a highly professional manner.	0.*644*	Factor: *6 Teachers' Professionalism* Cronbach's Alpha = *0.608*
When teaching mathematics, the teacher continuously supports moral principles.	0.*602*	
To improve their abilities in teaching mathematics, the teacher actively participates in ongoing professional development.	0.*542*	
When teacher comes in teaching mathematics, the teacher	0.*541*	

effectively communicates with parents, students, and other educators.	
Teachers are not interested in keeping up the developments in the field of mathematics teaching.	0.402

Effort for Teaching

The reliability value Cronbach's Alpha =0.829 which is significant because it is greater than 0.6 among the loaded ten items. All the rated items were above than the neutral value (test value=3). The highest rated value was 4.45, standard deviation was 0.58, mean difference was 1.45. (Mean=4.45, SD= 0.58, MD=1.45 and $p<0.05$). The lowest rated value was 3.18, standard deviation was 1.086 and mean difference was 0.18 (Mean=3.18, SD=1.086, MD= 0.18 and $p<0.05$). The average rated value of this component was 4.05, standard deviation was 0. 4919. The participant's response in all items were significant difference at level of significance 0.05($p<0.05$) except one item. It means respondents specifically agreed that the teaching approach should always be in close proximity to the effort to enhance for teaching. They agreed that about the statement teachers keep the regular contact with students regarding them teaching and learning activities and methods. Moreover, the participant's response in all items were significant difference at level of significance 0.05($p<0.05$) (Table 3).

Table 3. *Descriptive Statistics and One- Sample t-Test in Effort for Teaching*

	Test Value= 3						95% Confidence Interval	
Components	N	Mean	S D	t	df	Sig(two-tailed)	Mean Difference	Lower	Upper
ET1	71	4.14	.723	13.296	70	.000	1.141	.97	1.31
ET2	71	4.15	.768	12.670	70	.000	1.155	.97	1.34
ET3	71	4.23	.659	15.669	70	.000	1.225	1.07	1.38
ET4	71	4.42	.710	16.874	70	.000	1.423	1.25	1.59
ET5	71	3.94	.773	10.293	70	.000	.944	.76	1.13
ET6	71	4.45	.580	21.062	70	.000	1.451	1.31	1.59
ET7	71	4.32	.671	16.617	70	.000	1.324	1.17	1.48
ET8	71	3.99	.886	9.373	70	.000	.986	.78	1.20
ET9	71	3.68	.858	6.638	70	.000	.676	.47	.88
ET10	71	3.18	1.086	1.420	70	.160	.183	-.07	.44
Factor1	71	4.0507	.49190	17.998	70	.000	1.05070	.9343	1.1671

Moreover, mathematics teacher needs to fulfill personal goals of students academically. In order to increase student engagement and offer more resources for learning, promote the use of technology in the classroom (Sanahuja, 2020) to meet the diverse needs of their students, teachers are equipped with tools for varied teaching. In order to accommodate various learning styles, accountable teachers promote the use of a variety of teaching strategies in the classroom.

Subject Expertise

The reliability value Cronbach's Alpha = 0.750 which is significant because it is greater than 0.6 among the loaded seven items. All the rated items were above than the neutral value (test value=3). The highest rated value was 4.00, standard deviation was 1.231 and Mean difference is 1.00(, mean difference was 1.068(Mean=4.00, SD=1.231, MD=1.00 and $p<0.05$). The lowest rated average value was 3.21, standard deviation was 1.319 and mean difference was 0.211(Mean=3.21, SD= 1.319, MD=0.21 and $p<0.05$). The average rated value of this component was 3.52, standard deviation was 0.84 and mean difference was 0.52(Mean=3.52, SD=0.84, MD=0.52 and $p<0.05$).

Moreover, the respondents were agreed on all seven statements included in this component. The participant's response in 1,2,3, and 7 items were not significant difference at level of significance 0.05($p<0.05$, it means teachers view showed that their skills is explained difficult mathematical concepts. Teachers well preparedness in teaching helps to upgrade the students' performance, accountable teacher helps to the students for critical thinking in learning and items 4, 5 and 6 were not significantly difference at level of significance. Additionally, teacher keeps well- informed and most recent advancement in math teaching and accountable teacher illustrates and reinforces mathematical concepts with everyday life (Table 4).

Table 7. *Descriptive Statistics and One- Sample t-Test in Subject Expertise*

Test Value= 3								95% confidence Interval	
Components	N	Mean	S D	t	f	Sig(two-tailed)	Mean Difference	Lower	Upper
SE1	71	3.25	1.370	1.559	70	.124	.254	-.07	.58
SE2	71	3.27	1.362	1.655	70	.102	.268	-.05	.59
SE3	71	3.21	1.319	1.349	70	.182	.211	-.10	.52
SE4	71	4.00	1.231	6.847	70	.000	1.000	.71	1.29
SE5	71	3.87	1.403	5.243	70	.000	.873	.54	1.21
SE6	71	3.89	1.326	5.638	70	.000	.887	.57	1.20
SE7	71	3.27	1.330	1.695	70	.095	.268	-.05	.58
Factor 2	71	3.5372	.84047	5.386	70	.000	.53722	.3383	.7362

Help to Students

The reliability value Cronbach's Alpha = 0.746 which is significant because it is greater than 0.6 among the loaded eight items name as *Help to Students*. The six items were rated greater than average value and two items were rated lower than average value (test value=3). The highest rated value was 3.54, standard deviation was 1.433, mean difference was 0.54 (Mean=3.54, SD=1.433, MD=0.54 and $p<0.05$). The lowest rated value was 1.7746, standard deviation was 0.86 and mean difference was -1.22535 (Mean= 1.7746, SD= 0.86, MD=-1.22535 and $p<0.05$). The average rated value of this component was 2.8979, standard deviation was 0.79 and mean difference was -0.102(Mean=2.8979, SD=0.79, MD=-0.102 and $p<0.05$). The participant's response in 5,6,7, and 8 items were significant difference at level of significance 0.05($p<0.05$) and the participant's response in 1, 2, 3, and 4 items were not significant difference at level of significance 0.05($p<0.05$). Respondents disagreed about the statements mathematics teachers must use modern technology to improve math teaching similarly respondents rated lower value about the mathematics teacher should use the modern technology to spark students' interest in mathematics (*Table 5).*

Table 5. *Descriptive Statistics and One- Sample t-Test in Help to Students*

Test Value= 3								95% confidence Interval	
Components	N	Mean	S D	t	df	Sig(two-tailed)	Mean Difference	Lower	Upper
HS1	71	3.34	1.424	2.001	70	.049	.338	.00	.68
HS2	71	3.17	1.454	.980	70	.331	.169	-.18	.51
HS3	71	3.06	1.297	.366	70	.715	.056	-.25	.36
HS4	71	3.15	1.670	.782	70	.437	.155	-.24	.55
HS5	71	3.54	1.433	3.148	70	.002	.535	.20	.87
HS6	71	3.38	1.335	2.400	70	.019	.380	.06	.70
HS7	71	1.7746	.86515	11.934	70	.000	-1.22535	1.4301	1.0206
HS8	71	1.7746	.86515	11.934	70	.000	-1.22535	1.4301	1.0206
Factor3	71	2.8979	.79572	-1.081	70	0.283	-.10211	-.2905	.0862

In order to create a supportive and productive learning environment for students for upgrading the learning performance, there must be a relationship between accountability and assistance with regular learning (Brady, 2011). Students are more likely to take ownership of their academic success when they are aware that there is a support system available to them by teachers.

Fairness in Evaluation

The reliability value Cronbach's Alpha = 0.726 which is significant because it is greater than 0.6 among the loaded six items. Four items were rated above than the neutral value and remaining two items were rated lower than neutral value (test value=3). The highest rated value was 4.23, standard deviation was 0.865, mean difference was 1.23 (Mean=4.23, SD=0.865, MD=1.23 and $p<0.05$). The lowest rated value was 1.78, standard deviation was 0.87 and mean difference was-1.211(Mean= 1.78, SD= 0.865, MD=-1.211and $p<0.05$). The average rated value of this component was 3.36, standard deviation was 0.608 and mean difference was 0.36(Mean=3.36, SD=0.608, MD=- 1.211 and $p<0.05$). The participant's response in all items were significant difference at level of significance 0.05($p<0.05$) except one item students do not receive clear communication from the teacher regarding the expectations and evaluation criteria. Respondents disagreed on the statement the teacher is not willing to talk about and answer any queries regarding the assessment procedure (Table 6).

Table 6. *Descriptive Statistics and One- Sample t-Test in Fairness in Evaluation*

Test Value= 3								95% confidence Interval	
Components	N	Mean	S D	t	df	Sig(two-tailed)	Mean Difference	Lower	Upper
FE1	71	4.01	.870	9.821	70	.000	1.014	.81	1.22
FE2	71	4.23	.865	11.934	70	.000	1.225	1.02	1.43
FE3	71	4.01	.870	9.821	70	.000	1.014	.81	1.22
FE4	71	3.44	1.422	2.588	70	.012	.437	.10	.77
FE5	71	1.7887	.87693	11.639	70	.000	-1.21127	1.4188	1.0037
FE6	71	2.7042	1.48703	-1.676	70	.098	-.29577	-.6477	.0562
Factor 4	71	3.3638	.60835	5.040	70	.000	.36385	.2199	.5078

Fairness is a benefit to students as well as the general efficacy and legitimacy of the teaching system when teachers give it top priority in their evaluation procedures. Students' evaluations are conducted according to the same standards when teachers employ transparent and impartial assessment criteria. By doing this, bias is lessened and fairness in the evaluation process is encouraged. Fair evaluation practices are essential to teacher accountability so, teachers contribute to a fair and accountable educational experience for their students through the use of objective criteria, consistency in application, transparent communication, timely feedback, accommodation of diverse learning styles.

Community Trust

The reliability value Cronbach's Alpha = 0.646 which is significant because it is greater than 0.6 among the loaded five items. All the rated items were above than the neutral value (test value=3). The highest rated value was 4.10, standard deviation was 1.161, mean difference was 1.099(Mean=4.10, SD=1.161, MD=1.099 and $p<0.05$). The lowest rated value was 3.26, standard deviation was 1.28 and mean difference was 0.26 (Mean= 3.26, SD= 1.28, MD=0.26 and $p<0.05$). The average rated value of this component was 3.85, the standard deviation was 0.824, and the mean difference was 0.85 (Mean=3.85, SD=0.824, MD=0.85, and $p<0.05$). The participant's responses in all items was the significant difference at a level of significance 0.05 ($p<0.05$), except the item inclusive learning environment is not created by teachers for the encourage community involvement. They agreed in all items loaded in this component. It means respondents agreed about the accountable teachers helps the students to upgrade the performance through the community trust (Table 7).

Table 7. *Descriptive Statistics and One- Sample t-Test in Community Trust*

Test Value= 3								95% confidence Interval	
Components	N	Mean	S D	t	df	Sig(two-tailed)	Mean Difference	Lower	Upper
CT1	71	4.01	1.165	7.335	70	.000	1.014	.74	1.29
CT2	71	4.10	1.161	7.975	70	.000	1.099	.82	1.37
CT3	71	3.97	1.276	6.418	70	.000	.972	.67	1.27
CT4	71	3.93	1.100	7.123	70	.000	.930	.67	1.19
CT5	71	3.2676	1.28683	1.752	70	.084	.26761	.0370	.5722
Factor5	71	3.8563	.82405	8.756	70	.000	.85634	.6613	1.0514

Community trust and a math teacher's accountability are intimately related. The degree to which parents and other community members trust a teacher and the useful system can be greatly influenced by the way in which the teacher exhibits accountability (Shrestha, 2008).

Teachers' Professionalism

The reliability value Cronbach's Alpha = 0.608 which is significant because it is greater than 0.6 among the loaded five items whose named as Teachers' professionalism. All the rated items were above than the neutral value (test value=3) except one item teachers are not interested in keeping up the developments in the field of mathematics teaching. The highest rated value was 3.56, standard deviation was 1.092, mean difference was 0.56 (Mean=3.56, SD=1.092, MD=0.56 and $p<0.05$). The lowest rated value was 2.46, the standard deviation was 1.31, and the mean difference was – 0.54 (Mean= 2.46, SD= 1.31, MD=-0.54 and $p<0.05$). The average rated value of this component was 3.24, the standard deviation was 0.739, and the mean difference was 0.24 (Mean=3.24, SD=0.739, MD=0.24, and $p<0.05$). The participant's responses in all items showed a significant difference at a level of significance 0.05($p<0.05$). They agreed on items1,2,3 and 4 loaded in this component, but they rated a lower value in item 5, which indicates the statement that teachers are not interested in keeping up with the developments in the field of mathematics teaching (See Table 8).

Table 8. *Descriptive Statistics and One- Sample t-Test in Teachers' Professionalism*

Test Value= 3								95% confidence Interval	
Components	N	Mean	S D	t	df	Sig(two-tailed)	Mean Difference	Lower	Upper
TP1	71	3.35	1.374	2.159	70	.034	.352	.03	.68
TP2	71	3.54	.923	4.885	70	.000	.535	.32	.75
TP3	71	3.56	1.092	4.347	70	.000	.563	.30	.82
TP4	71	3.30	1.164	2.142	70	.036	.296	.02	.57
TP5	71	2.4648	1.31834	3.421	70	.001	-.53521	.8473	.2232
Factor6	71	3.2423	.73982	2.759	70	.007	.24225	.0671	.4174

A teacher's dedication to upholding high standards, ongoing development, moral behavior, and capacity to accommodate the wide range of student needs are all parts of professionalism. Excellence in mathematics teaching is based on the combination of professionalism and accountability (Verger et al., 2019).

Conclusion

The relationship between the influence of teacher accountability and students' performance in mathematics is intricate and multidimensional, and it is a key factor in determining the direction of instruction. The investigation has examined the many facets of this relationship, informative the substantial influence that teacher accountability can have on students' academic performance. The understanding is that teachers, as important facilitators of the learning process, have a significant duty to create a supportive and productive learning environment, which is an effort to enhance teaching. The accountability imposed upon them—whether via curriculum implementation, standardized testing, or other assessment methods—acts as an effective incentive for professional development and commitment to the academic achievement of students by teaching subject matter effectively.

In fact, teachers can have a long-lasting effect on their students' success in math's by maintaining accountability and a dedication to comprehensive student development. Accountability of mathematics teaching and ethics go hand in hand in all areas of existence even in classroom teaching. The concept of ethical practice of mathematics teacher is closely related to professional accountability. Thus, teacher's professional life should be guided by a set of moral ideals known as ethics which influence the students' performance.

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