

Investigating the Relationship between Teacher Quality and Students' Academic Performance with Empowerment as a Mediator

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Abstract

Empowerment is the delegation of power to teachers for sustainability of education system. When teachers are empowered, students' academic performance will improve. The study investigated the relationship between teacher quality and students' academic performance with empowerment as a mediator. About 379 teachers were selected randomly from public secondary schools, Kwara state, Nigeria. Structural equation model was utilized to test the hypothesized model. Based on the result of the study, teacher quality was positively related to students' academic performance which meant that quality of teachers determine the success of students. Insignificant relationship was found between teacher quality and principal empowerment practices which showed that the relationship did not exist. Also, the relationship between principal empowerment practices and students' academic performance was tested of which the results revealed as insignificant. Lastly, the mediating role of principal empowerment practices was tested on the relationship between teacher quality and students' academic performance which accounted for partial mediator. To be more specific, the empowerment process should be internalized to complement the qualities of teachers in the schools. Synergy should exist between school heads and teachers for the purpose of students achieving educational objectives.

Keywords: Empowerment; Mediator; Structural equation model; Qualities of teachers

INTRODUCTION

Quality education in a country determines the level of development of that country. In fact, quality of teaching is one of the factors that increase students' academic performance. Fafunwa (1991) pointed out that higher education relies upon solid foundation of secondary school education. The quality of teachers has been the focus of the Nigerian government for a long time (Fasoyiro, 2016). This is why, Nigeria has been a member to international collaboration focusing on the improvement of quality education and continuous training of its teachers (Abdullahi & Abdullah, 2014; Omede Andrew & Damian, 2016; Fasoyiro, 2016). Sincerely, for quality education to occur in secondary schools, the teachers to be recruited must be qualified to train students. Growing bodies of studies have emphasized that the teachers with experience and commitment to the teaching job determine the quality of students to be produced (Fasoyiro, 2016). As teacher is an important factor in the education and students' learning process, they are expected to perform their jobs in an excellent way. Based on this, if the teachers in the teaching profession failed to perform this job the way as expected by society, the quality of education is doomed (Tai, Omar, Mohamad Sahari & Khuan, 2017). These are concerted efforts of policy makers and school

principals to see that the teachers to be recruited to teaching students should possess the quality the school deserved.

On the other hand, creating empowerment practices for teachers coupled with quality they already possessed will facilitate holistic transformation in the educational system. The principals of secondary schools should consider teacher empowerment as another factor that can complement the quality of teachers. Maniam, Lope Pihie & Basri (2017) noted that empowerment creation in the school would improve the quality of job performance of the teachers. Principals should understand about the influence empowerment creation has on the relationship between teacher quality and students' academic performance. Empowerment serves as modern strategies to assist teachers to double their efforts to enhance effective teaching and students' learning (Boey, 2010; Ashoro et al., 2012).

In the context of transformation, teachers see empowerment as a thing that can improve productivity for them. Although the qualities the teachers possess is not adequately enough to teach students in the classroom (Taiwo, 1980; Musa, Jimba, & Ogundele, 2015; Iwu, Ezeuduji, Iwu, Ikebuaku, & Tengeh, 2018), it is teachers who know the problems facing their students when they are in the classroom. The policy makers and principal do not know what is going on between teacher and students but they decide for the teachers. As teacher empowerment plays a crucial role, the teachers should be included in whatever decisions they want to formulate for education. As suggested by Kauter (1993) and Maniam et al. (2017), empowerment in the school environment consists of decision making, professional development, self-efficacy, autonomy, impact and status. These six empowerment processes can assist teachers in the school context.

The Nigeria government spent about 7.6% to 9% of national income for education. Schools in Nigeria have witnessed modern classes and laboratory equipment provided by the government for the purpose of improving the quality of education. Based on results made available by West African Examination Council, majority of these students failed in Mathematics and English. These two subjects determine the admission of these students to universities, colleges of education as well as polytechnics. As a result of this poor performance of students in the two subjects, some of these students' could not get admission to tertiary institutions. This called the attention of government to point an accusing finger on teachers that teachers are not performing their jobs as expected. Although, drastic efforts have been taken by the government to improve the situation but they have yet to yield practical results.

LITERATURE REVIEW

Teacher Empowerment

Over two decades, growing bodies of research have emphasized that empowerment created in a school can facilitate effective teaching (Bartram & Casimir, 2007; Conger and Kanungo, 1988). The empowerment as a concept became important in educational setting in the last three decades (Sahar Ahadi, 2012). Empowerment had been used variously in different fields such as psychology, health, and business management. However, Kauter (1993) propounded a theory of

structural empowerment that better explains the relationship between teacher empowerment and students' academic performance. Empowerment, a new paradigm in the education context is used to motivate teachers for the realization of educational objectives. As empowerment is defined by Mwanja (2015) as all about the transferring of power and responsibilities and decision making to teachers with the aim of increasing their performance, Sweetland and Hoy (2000) pointed out that teacher empowerment remained the vital factor for the proper functioning of the school system. In the same vein, Maniam et al. (2017) posited that teacher's empowerment is the best mechanism that will allow teachers in the school to contribute their quota to the growth of the educational system. As mentioned earlier, the empowerment processes fall into six components (Short and Rinehart, 1992; Kauter, 1993; Schwarzer & Hallum, 2008; Boey, 2010; Mehrjoo & Noursina, 2013) which include professional growth, self-efficacy, decision making, status, autonomy and impact. Boey (2010) observed that for the purpose of achieving empowerment goals, teachers need to be in the center of any change, their participation and contribution should be recognized. Moye, Henkin and Egley (2005) states that teachers can feel that their job would have meaning if school administrators emphasize the significance of the individual roles of teachers in the school environment. Berry, Johnson & Montgomery (2005) buttressed by Elger (2007), stated that school principals should see empowerment transformational model as that of strengthening the professional development of teachers, improving student performance and assisting the growth of the school system. Lastly, empowerment should be used for teachers to improve students' academic performance.

The Relationship between Teacher Quality (TEQ) and Students' Academic Performance (SAP)

Teachers have been accorded with respect because of the crucial roles they play in the life of children (Goe, 2007; Akinfe, Olofinniyi, & Fashiku, 2012; Musa et al., 2015; Taiwo, 1980). Schools' atmosphere do well when teachers are actively participating in school. Based on the empirical researches on TEQ, the researchers found that TEQ has positive relationship with SAP. However, Oni (2014) investigated TEQ and SAP in basic technology in Nigeria. Simple random and stratified sampling technique were utilized to select 558 teachers and principals from selected schools. The findings of the study showed that TEQ was significantly related to students' academic achievement and professional experience. In another development, Nwokeocha (2017) examined the role of TEQ, development and motivation in north central, Nigeria. It was recommended that motivation should be established to increase TEQ. In fact, some notable scholars on TEQ (Rice, 2003; Goe, 2007; Heck, 2007; Akinfe et al., 2012; Adeyemi & Adu, 2012; Duze, & Ogbah, 2013; Edinyang, Opo & Odey, 2014; Fasasi & Ojo, 2014; Akpanobong & Asuquo, 2015; Daluba, 2015; Okoli, Ogbondah & Ekpefa-Abdullahi, 2015; Josiah & Oluwatoyin, 2017) found that TEQ has significant relationship with SAP. On top of this, school should build more on the quality of teachers so that students' performance can be improved (Ajeyalemi 2013; Adu, Akinloye & Adu, 2015; Josiah & Oluwatoyin, 2017; Tella, 2017; Iwu et al., 2018).

The Relationship among TEQ, SAP and Principal Empowerment Practice (PEP)

Empowerment is predominantly western-oriented and concerned with how to optimize teachers' relationship with the school in order to increase efficiency. According to Ofojebe & Chukwuma (2015), the agent of transformation in the school is the teacher because he or she plays a crucial role in making quality take place for students. As a result of the monumental role the teachers play in the lives of students, the principal of a school should compensate teachers with the creation of the empowerment processes. Previous studies on teacher empowerment indicated that empowerment can facilitate positive relations between TEQ and SAP (Bin Abdullah, Almadhoun & Ling, 2015, Mwanja, 2015).

Basically, teachers' empowerment in school is important when the school wants to inject changes to academic performance of students. Further, Ofojebe & Chukwuma (2015) reiterated that the empowered teacher in decision making in the school is the beginning of shaping the lives of students. Although full empowerment practices are not possible to be fully implemented in Nigerian schools, teachers can still be consulted in areas like promotion, decision making, and salary. Truly, most of decisions formulated for teachers, none of them has ever meet teachers' expectation. Some high performing schools have democratic leadership which involve teachers in most of the decision making process concerning the school. Sincerely, allowing teachers in what is going on in the school is like giving them teacher leadership (Terry, 2000; Boey, 2010; Mwanja, 2015; Besieux, Driesen, Euwema, & Van Rompaey, 2015).

Drawing on the relationship among TEQ, SAP and PEP as expatiated above, the principal can establish a collegial environment that will make teachers contribute to the growth of the school. Society accorded respect to teachers when the students' performance is improved and vice versa. Researchers have suggested that school heads can involve teachers in curriculum design, the types of textbooks, decision making process, and professional development which tend to motivate teacher towards productivity (Short & Rinehart, 1992; Mok & Au-Yeung, 2002; Sidin, Syed Khalid Wafa & Bosi, 2014; Amzat & Valdez, 2017). Since teachers are part of the transformational development in the school system, if they are given consideration and allowed to hold some responsibilities in the school, students will do well.

The purpose of this study was to determine the relationship between teacher quality and students' academic performance using empowerment practices as mediator as stated below:

1. To determine the relationship between teacher quality and students' academic performance.
2. To determine the relationship between teacher quality and principal empowerment.
3. To determine the relationship between principal empowerment and students' academic performance.
4. To determine the effects of teacher quality on students' academic performance with the mediating role of principal empowerment.

As shown in Figure 1, research hypotheses include:

H1: Teacher quality has significant effect on students' academic performance.

H2: Teacher quality has significant effect on principal empowerment practices.

H3: Principal empowerment practices have significant effect on students' academic performance.

H4: Principal empowerment practices mediate the relationship between teacher quality and students' academic performance.

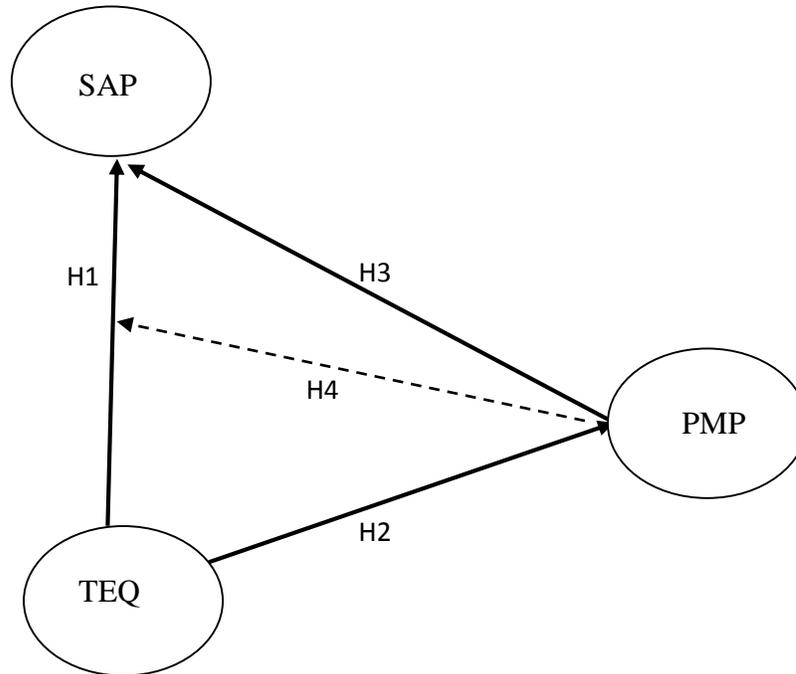


Figure 1: The conceptual framework with research hypotheses

Note: TEQ = Teacher Quality; PMP = Principal Empowerment Practice; SAP = Students' Academic Performance

METHODOLOGY

Survey technique

This present study is to collect data aptly for independent variables which are TEQ and PEP as well as dependent variable which is SAP. As a result of that, this study used survey technique. The survey technique is the unique method in gathering and analyzing huge amounts of data with the purpose of drawing inference. Presently, this study is to investigate the relationship between teacher quality and students' academic performance with empowerment as a mediator.

Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) was adopted using AMOS (Version 21) model-fitting program to test the research hypotheses. SEM has been a popular and comprehensive tool for analysis in education (Hair, Black, Babin, & Anderson, 2010). This is fundamental for the assessment of complex relationship among the variables to be used. It is advantageous for the researcher to test a set of regression equations at a time (Kline, 2005; Bryne, 2013) and as well as analyze multiple layers of the linkages among the variables at a period of time (Bullock, Harlow & Mulaik, 1994).

Population

The population for this study consisted of 29,420 teachers in Kwara state, Nigeria (Federal Ministry of Education, 2016). Most of the schools in Kwara state was established between 1960 and 1970. In some of these schools, experienced teachers can be found to answer the questionnaire to the expectation of the researcher. Teachers were selected from 16 local governments that exist in the state which included Asa (32), Baruten (21), Edu (24), Ekiti (11), Ifelodun (42), Ilorin East (27), Ilorin South (47), Ilorin West (45), Irepodun (37), Isin (12), Kaiama (8), Moro (15), Offa (25), Oke-ero (9), Oyun (12) and Patigi (12).

Sampling Procedure

The population for the study had been identified by the researcher. The total number of teachers available in Kwara state was 29,420 based on the information released by the Ministry of Education, Nigeria. To determine the actual sample size to be used for the study, the researcher made use of Krejcie and Morgan (1970) sample size. According to Krejcie and Morgan (1970) table of sample size, one should use 379 as sample size for a population of 29,420. Bartlett, Kotrlik, Higgins & Williams (2001) posited that the main aim of sample size is to know who would participate in the research process. Next, simple stratified random sampling technique was applied to select experienced teachers that would administer the questionnaire. However, for this study, 500 experienced teachers were used in this study in anticipation of incomplete responses from respondents.

Survey Instrument

TEQ was measured with teacher knowledge, communication skills, teacher commitment and classroom management. The study tested the theories propounded by Wolfgang and Glickman (1980); Shulman (1986); Meyer & Allen (1991); Kauter (1993); Mortimer and Scott (2002); Goe (2007); and Elger (2007). Similarly, TEQ questionnaire was adapted from existing questionnaires from Kauter (1993); Solomon (2007); Smith (2009); Ihmeideh, Al-Omari & Al-Dababneh (2010); Arinde (2010); Morgan et al. (2010); Adedoyin (2011); Kelly (2012); Sowell (2013); Hacıcaferoğlu

(2014); Anyieni (2014); Sono (2014) and Morgan & Piercy (2015). For the TEQ, there were four constructs used, SAP and PEP with one construct respectively. Therefore, the total number of items used for the whole questionnaire was 32.

DATA ANALYSIS

This study was assigned codes for variables such as gender, qualifications, years of experience, and age. They were entered into the SPSS software for screening of data. The cleaning and screening of data is one of the first techniques when it comes to analyzing the data. This stage assists in knowing if there are problems with information gathered and validating the data before the actual data analysis. The cleaning and screening of the data were performed by examining specific descriptive statistics as well as the frequency distribution. This is used to discover and note the inappropriate coded value, to identify missing responses, outliers, normality and linearity.

Demographic information

The respondents' characteristics used in this study are as shown in Table 1. Some of the characteristics of the respondents include gender, age, teaching experience and teaching qualifications. The total number of respondents used for the final study was 450. According to the analysis, the number of male respondents that participated in the study was 164 (36.4%) and female was 286 (63.6%). This indicated that female respondents were more than male respondents in the teaching profession. Concerning the age group, the analysis showed that most of the respondents are between 31- 40 years (N=191, 42.4%), age group between 41- 50 (N=103, 22.9%). The age group between 51-60 years had the lowest participation in the distribution.

These results indicated that respondents with 5-15 years of teaching experience were found to be the highest number in the distribution while 26-30 years were the smallest group. Likewise, the results of teaching qualification revealed that most of the respondents had Bachelor in Education (Bed) (N=285, 63.3%) while respondents with Diploma had the lowest frequency in the distribution.

Table 1: Demographic characteristics of respondents

Demographic	Category	Frequency	Percentage
Gender	Male	164	36.4
	Female	286	63.6
Age	20-30 Yrs	130	28.9
	31-40 Yrs	191	42.4
	41-50 Yrs	103	22.9
	51-60 Yrs	26	5.8
Teaching Experience	5- 15 Yrs	372	82.7
	16-25 Yrs	41	9.1
	26-30 Yrs	37	8.2
Teaching Qualification	Diploma	14	3.1
	NCE	83	18.4
	B.Ed	285	63.3
	M.Sc	41	9.1
	M.Ed	27	6.0

Note: NCE - Nigeria Certificate in Education

FINDINGS

The structural equation analysis was used to hypothesize to investigate the relationship between teacher quality and students' academic performance using empowerment as a mediating variable. The SEM results indicated that the hypothesized model met acceptable value with strong loading (Hair et al., 2010). The results of the model are $\chi^2= 694.226$, $\chi^2/df=2.845$, $TLI=.902$, $CFI=.913$ and $RMSEA=.064$. This results show that the model fit the data accurately. In the same vein, the findings proved that TEQ was significantly and positively related to SAP. Concerning, the relationship between TEQ and PMP, insignificant relationship was found between TEQ and PMP. This means that TEQ cannot influence PMP in the model. Looking at the previous constructs, the relationship between PMP and SAP was also insignificant, strongly signifying that there was no relationship between PMP and SAP as shown in Figure 2.

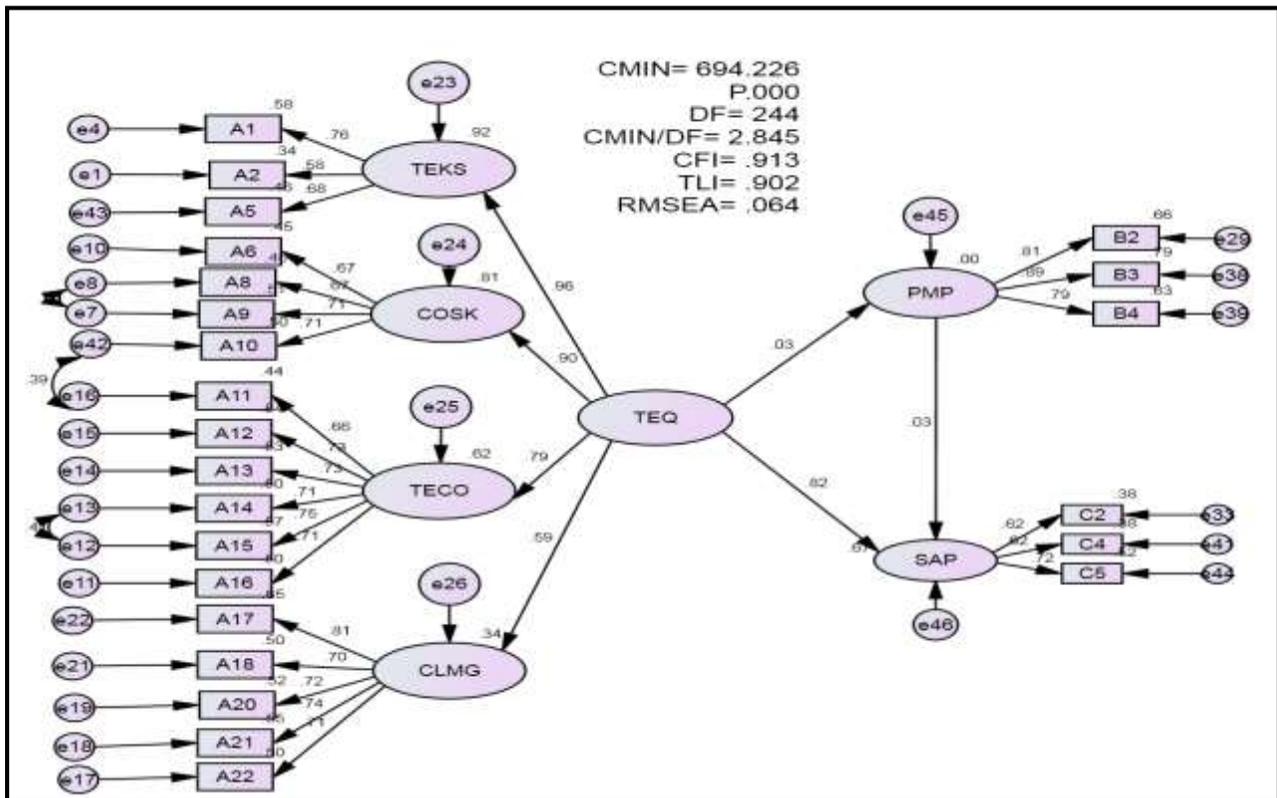


Figure 2: The Structural Analysis for TEQ, PMP and SAP

Note: TEQ= Teacher Quality, TEK= Teacher Knowledge, COSK= Communication Skills, TECO= Teacher Commitment, CLMG= Classroom Management, PMP= Principal Empowerment Practices, SAP= Students' Academic Performance

Further, the study also discovered that PMP partially mediated the relationship between TEQ and SAP in the model. The indirect effect of TEQ on SAP through PMP (TEQ→PMP →SAP) was .56 (.031 X .025) and the direct effect of TEQ on SAP was .81 as shown in Table 2. The indirect

effect between TEQ and PMP was 0.31 and PMP and SAP was 0.25. Therefore, mediation occurs since indirect effect was less than direct effect. This type of mediation is partial mediation because direct effect was still relevant and TEQ was still strong after mediator entered the model.

Table 2: Standardized Regression weights and its significance for each path

Construct	Path	Construct	Estimates	P-Value	Results
Teacher Quality	< --	Principal Empowerment Practices	.031	.567	Not Significant
Students' Academic Performance	< --	Teacher Quality	.816	0.001	Significant
Students' Academic Performance	< --	Principal Empowerment Practices	.025	.596	Not Significant

DISCUSSION

This study tested the direct relationship between TEQ and SAP using the structural analysis. The regression weight demonstrated that the hypothesis between TEQ and SAP was supported. The results revealed that teacher quality has a significant effect on students' academic performance. Teacher quality has been defined as the process where teachers are engaged in educational functions with essential qualities to teach and to facilitate students' interest in learning activities. Hence, the finding of this study was congruent with Wu (2013) who defined teacher quality into three groups: 1) the *moral* which means that the teacher must have the good conduct 2) The *knowledge* which means that the teacher must have knowledge to teach students 3) The *abilities* which mean the teacher must have qualities of teaching. Likewise, Goe (2007) viewed teacher quality as a set of inputs like college degrees, teacher test scores and certification that signify who will perform well in a class situation.

In fact, the findings also corroborated with the result of Fwu & Wang (2012) that the importance of the teaching activity is for the students to learn and the key to students' success is the teacher. This simply means that the teacher to be employed to perform the teaching job must be of quality. Lin, Xie, Jeng & Huang (2010) supported this result that teachers with good quality usually value improving teaching activity; sustain teaching quality; pursue the best way to teach; and increase students' academic performance. With utmost assurance teachers employed to teach students must have the qualities of teacher knowledge, communication skills, teacher commitment and classroom management for students' academic performance to be improved. The policy makers that decide on the tone schools should endeavour, need to recruit quality teacher into the teaching industry so that the lives of these students can be improved. Teachers are like mothers, fathers, guides, counselors, helpers and custodians to students. Harris & Sass (2011) asserted that it is good to identify the quality problem of the teachers and to provide a solution with the aim of improving them.

Secondly, this study also tested the direct relationship between TEQ and PMP using the structural analysis. The regression weight demonstrated that the hypothesis between TEQ and PMP was not supported. The results revealed that teacher quality has a small significant relationship with principal empowerment practices. This does not mean that there was no relationship between TEQ and PMP but it contributed less. The processes of principal empowerment were described as: teacher status, self-efficacy, decision-making process, teacher impact, professional development, and teacher autonomy (Boey, 2010). In the school environment, principals can utilize the empowerment process coupled with the quality possessed by the teachers to improve students' academic performance. The result of the finding was buttressed by Moye et al. (2005) that in order to improve students' academic performance, the principal must foster the qualities of teachers which are related to empowerment practice. Teachers feel that their job would have meaning if school administrators emphasize the significance of the individual roles of teacher in the school environment. Teacher empowerment contributes greatly to the professional growth of teachers through the autonomy it created for teachers and influences the realization of educational aims and objectives. In the same vein, Mehrjoo & Noursina (2013) noted that despite the low quality of teachers, there is a need for them to participate in decision making in all the activities that influence their jobs.

In the school system, the principal of a school can incorporate teachers in what is going on within and outside the school. A teacher that is empowered by the principal will be able to devote his capacity to accomplish the school objectives. As Barsi, Ziglari & Abadi (2013) reported that empowerment is a modern way of improving performance of teachers to increase students' academic performance. Empowerment is a stimulus that fastens the relationship between the principal and teachers. In fact, by creating empowerment practices, teachers will be able to develop creativity and contribute to the teaching and learning of students.

Thirdly, this study tested the direct relationship between PMP and SAP using the structural analysis. The regression weight demonstrated that the relationship between PMP and SAP was insignificant. The results revealed that PMP has small significant effect on SAP. This does not mean that there was no relationship between PMP and SAP but it contributed less. In many researches done by scholars for instance Conger and Kanungo (1988); Mok and Au-Yeung (2002); as well as Bartram & Casmir (2007) found that empowerment could be used to increase teacher job satisfaction. With regards to this finding, empowerment was created for teachers to improve productivity on the job as well as to increase job performance of teachers on students. Short & Rinehart (1992) discovered that empowerment was to allow teachers to be part of the decision making process and to be the agent of change in the school system. The finding of Boey (2010) revealed that for students' performance to increase, the school principal needed to create more empowerment practices for teachers which would lead them to double their efforts for quality and students.

Fourthly, this study tested the mediating role of PMP on the relationship between TEQ and SAP. Accordingly, the mediator testing showed that the relationship between TEQ and SAP was explained through PMP. Most of the past studies only investigated the relationship between TEQ and SAP, PMP and SAP but they did not fully used empowerment as a mediator. Hence, the

result of this study revealed that principal empowerment practices partially mediated the relationship between TEQ and SAP. This finding was congruent with the assertion of Narenji & Nojabae (2015) that if teachers were allowed to decide on teaching and learning for example like determining the textbooks suitable for students, organizing instructional planning and scheduling the curriculum, students' performance would improve. Empowerment practices in school should be seen as a transformation process that would tie the relationship between the quality teachers possessed and boosting the improvement of students' academic performance in the school (Blasé & Blasé, 2001).

Likewise, Ashoro, Daniel & Benson (2012) found that schools that established empowerment mechanisms have the tendency of achieving the goals of education. Blasé & Blasé (2001) discovered in their study that one of the primary purposes of empowerment is to increase the teacher performance in producing quality students. The result in line with the findings found by notable scholars e.g. Ripley & Ripley (1992); Short & Rineheart (1992); Terry (2000); Spatz (2000) and Wu (2013) that the importance of empowerment practices in the school context by school heads is to make teachers more diligent at work. The finding also echoed the study done by Mwanja (2015) on the relationship among teachers' empowerment, job satisfaction and school commitment. As recognized by Terry (2000) that a school teacher that is motivated, catered for and holding some responsibility in the school would work tirelessly for students to do better in their studies.

CONCLUSION

Empowerment creation in a school system contributes to the productivity of teachers. Likewise, the quality of teachers determines students' academic performance. School heads should bear it in mind that collegiality with teachers can lead to the attainment of educational objectives. Therefore, policy makers should make sure that teachers are involved in many decisions in the school. These findings directly and indirectly inform the school heads about strategies to improve the productivity of teachers on students. It is even sensitizing the policy makers about their core responsibility to teachers to increase students' academic performance. Moreover, it is hope that the findings of this study will contribute immensely to the coming literature on teacher quality.

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