RELATIONSHIP BETWEEN TEACHERS' AND STUDENTS' PERCEPTION OF TEACHERS' COMPETENCE AT THE POST-BASIC LEVEL OF EDUCATION IN ASABA METROPOLIS, DELTA STATE

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Abstract

Teachers' competence has been found in several research findings to be partly responsible for poor academic performance among students. However, while most teachers do not share this view, students think otherwise. This study was therefore designed to find out the relationship between teachers' and students' perception of teachers' competence in post basic schools in Asaba metropolis, Delta State. The population of the study comprised teachers and SS 2 students in post basic schools in Asaba metropolis, Delta State. The sample of the study consisted of two hundred students and fifty teachers. The sample of the study was drawn from ten secondary schools using simple random sampling technique. The research instrument used was a questionnaire titled Teachers' and Students' Perception of Teachers' Competence Questionnaire" (TSPTCQ). Data collected was analyzed using Pearson correlation statistics. The study found that there exists a negative relationship between the perception of teachers and students as regards their perception of the teacher's competence. Based on the findings, it was recommended that federal and state government education authorities likewise secondary school management should set up proper monitoring, supervision, evaluation of teachers as well as checks and balance measures like student's observational reports on teachers among others in order to get to the root of teachers claim that they teach competently yet poor performances are still recorded.

Keywords: Teacher competence, Perception, Academic performance, Post-basic education

Introduction

n Nigeria, the issue of students' academic performance in secondary schools has _always generated much interest among stakeholders in the field of education. The quality of a student's academic performance depends to a large extent on the quality of the teacher as reflected in the discharge of their (competence). Many studies have duties reported that student academic performance is dependent and affected by a number of other independent, moderate, and intervening variables. Nevertheless, these studies are in agreement that a teacher's role has been very pivotal when it comes to the academic performance of students (Murnane & Steele, 1991). Edozie (2016) sums it up by stating that teachers are the major stakeholders when it comes to the implementation of curriculum objectives in the classroom.

Accordingly, Nwangwu (2007) noted that what is learnt both formally and informally in a bid to develop effective citizens, determines the individual's ability to contribute to national development. Ajao (2001) however reported that over the years, teachers competence has become a yardstick used to determine students' academic performance in both internal and external examinations. This was buttressed by Ogunsaju (2004) and lately Gaji (2014) that the academic standard of students in Nigeria educational institutions has fallen considerably below societal expectations. Howbeit, studies still maintain that teachers competence have been found to be the single most important factor influencing students' academic performance (Kaplan & Owings, 2002; Lasely, Siedentop & Yinger, 2006).

Teacher's competence refers to the skills and knowledge that enables a teacher to be

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successful. It can also be referred to as the skill and personality of a teacher in handling the instructional process with the help of various instructional methods and teaching resources. By way of definition, Akiri and Ugborugbo (2009) defined teachers' competence as a multidimensional concept that measures interrelated aspects of sharing knowledge with learners which includes communication and teaching skills, subject matter expertise, teacher attendance, teaching attitude and teachers method of teaching. A teacher's competence is therefore imperative since in practice the competence of a teacher is directly measured by students' academic performance (Adediwura & Tayo, 2007; Adu & Olatundun, 2007 and Zubair & Athar, 2014).

In addition, a teacher's competence in this 21st century according to UNESCO (2008) implies having a firm knowledge of the curriculum of his or her subject and to use technology effectively in the attainment of curriculum objectives. Thus, the formal system of education depends on three components which are the curriculum, students and teachers. The main role of a teacher is to impart knowledge which of course helps in building the society. An individual is like a unit that makes the society and society in turn makes the nation. Every society has an established set of values called virtues that takes conscious measures at various levels to promote the virtues and eliminate the vices. These sets of values are transferred from generation to generation through formal informal education. The teacher therefore, whether in the formal or informal setting prepares citizens in different subjects for a future of personal and professional high quality education. In addition, different subject areas require different competencies for effective teaching learning to take place.

In line with Akiri and Ugborugbo (2009) definition of teacher competence, four distinct factors are identified as being constituents of the concept of teacher competence. These are teaching skills, subject knowledge, teachers' class attendance, teachers' attitude and teachers' teaching methodology. Teaching skills are an essential part of classroom teaching. Its special function is to importantly develop some special

skills in the learner. Ozumah (2013) reported that teachers teaching skills significantly influences the academic performance of students. These skills include: instructing skills, critical thinking, skill of recognizing attending behaviour, skill of use of illustrations and examples, monitoring skills, active learning skills and time management skills among others.

According to Eggen and Kauchak (2002), there are three dimensions under which a teachers knowledge of subject matter can be namely content knowledge, assessed: pedagogical knowledge of content, and general knowledge. Subject knowledge of a teacher has a very important role to play because high quality teaching rests on teachers understanding the subjects they are teaching. Wilber (2016) carried out a study on teachers' perception on the impact of teacher knowledge on student's academic performance. The study did not find a significant correlation between the student's academic performance and teacher subject knowledge. Wilber however, suggested that there may be more that impacts students' performance than just teacher's subject knowledge.

The teaching-learning process is always initiated by the teacher. In order words, teaching cannot exist in the absence of the teacher. Dorward, Hawkins and Smith (2000) conducted a study on this and found that teacher absenteeism has a direct impact on student achievement. Jacobs and Kristonis (2007) also conducted a study on absenteeism and found students who recorded the performances had teachers who recorded the highest levels of absenteeism. In consonance, Moloko (2015) also conducted a study on teachers' perception of the impact of class attendance on students' academic performance and reported that significant differences exist between class attendance and student performance.

Similarly, the attitude of a teacher is an integral part of the learning process. Attitude refers to the consistent tendency of the teacher to react in a particular way. Eggen and Kauchak (2002) found out that positive teacher attitudes are fundamental to effective teaching and students' performance. In this regard, Philip,

Oluwatolani and Adeniran (2010) conducted a study and its findings also showed that teacher attitude impacts student performance greatly.

regards teacher's As teaching methodology, several studies have pointed out that students have the perception that the methodology influences teacher's their performance in a high way. In support of this, Molola (2014) conducted a study on the relevance of teaching methods to students' achievement in secondary schools in Ibadan. He reported that there is a significant relationship between a teacher's method of teaching and students' achievement.

Despite the significance of teachers' competence in the teaching-learning process, poor academic performance by numerous students in Nigerian secondary schools has been reported in research findings over the years. Ajayi (2002), Nwokocha and Amadike (2005), Adeyemi (2008), WAEC (2009) and Ashikhia (2010) have all shown the extent of poor performances of students in public examinations and blamed this level of performance on the teacher. Though Agba, Ikoh and Noah (2010) also blamed this level of performance on the teacher, the authors however, stated that the inability of government at all levels to effectively sponsor education and motivate teacher productivity is the major reason behind the teacher's failure.

On the contrary, teachers do not share the view of researchers that they are solely to blame for students' poor academic performance. William (2014) for instance posited that there is between responsibility difference accountability. While teachers are accountable for what and how they teach, the students are responsible for their interest and how they study for their examinations. Wilber (2016) supported this position when he reported that there was no significant correlation between the student's academic performance and teacher knowledge of the subject matter. On the other hand, Xuehui, Emily and Tanja (2008) reported that perceived that students their teacher's competence is closely linked to performance. In addition, significant positive effects were seen for students who reported that teacher's care for students, treating students fairly and encouraging questions in class helped them improve. Despite the controversy in opinion, it is obvious that teachers are at the core of the educational system and the quality of the teacher in the school system reflects and impacts the overall quality of the school system and the potential of the students within the system (Hickman, Bartholomew, Mathwig, & Heinrich, 2008; Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009 & Edozie, 2016).

Consequent on the above, there exists a problem of poor student academic performance. This is so because research findings have shown that the teacher is an influential figure in the classroom and how he/she handles instruction determines to a large extent the degree of learning outcomes. Teachers however, are of the opinion that they are not solely responsible for students' poor performance while students on the other hand perceive that their teachers' competence goes a long way to enhance their performance. This controversy thus leads to a secondary problem because if teachers do not agree that they are responsible for students' poor academic performance, then the primary of poor academic performance problem remains. Although, various studies have looked at many factors affecting students' academic performance at the senior secondary school level, teachers' competence as a factor in line with teachers and students perception has not been adequately explored. This study was therefore carried out to examine the relationship between teachers' and students' perception of teachers' competence at the post basic education level of education in Asaba metropolis, Delta State.

Research Questions

The following research questions were raised to guide the study:

1. What is the relationship between teachers' and students' perception of teachers' subject knowledge at the post basic level?

- 2. What is the relationship between teachers' and students' perception of teachers teaching skills at the post basic level?
- 3. What is the relationship between teachers' and students' perception of teachers' competence in the area of class attendance at the post basic level?
- 4. What is the relationship between teachers' and students' perception of teachers' methodology at the post basic level?
- 5. What is the relationship between teachers' and students' perception of teachers' competence in the area of teachers' attitude at the post basic level?

Methodology

The study adopted a descriptive research design of the correlational study type. Descriptive research could be case study, survey study, developmental study or correlational study. In all the listed cases, a given phenomenon or variables are described, as they exist as at the time of the study. This type of study seeks to establish the relationship that exists between two or more variables. The study was carried out in Asaba metropolis, Delta State, Nigeria. The population comprised SS2 teachers and SS 2 students in public secondary schools in Asaba metropolis. There are about twenty (20) public secondary schools in Asaba metropolis and the estimated number of 74 teachers in these schools with an estimated number of 920 students at the SS2 level. The sample therefore, consisted of two hundred and fifty (250) respondents who were selected using simple random sampling technique. This sample was composed of fifty (50) teachers and two hundred (200) students. The sample was selected from ten (10) secondary schools out of the twenty (20) public secondary schools in Asaba metropolis also using simple random sampling technique.

The main instrument used in the data collection exercise was a questionnaire tagged "Teachers and Students' Perception of Teachers' Competence Questionnaire" (TSPTCQ). The questionnaire was made up of six (6) sections. Section A focused on the personal data of the respondents while Section

B was designed to elicit responses on teachers' and students perception of teachers' subject knowledge. Section C was designed to find out perception of teachers' teaching skills while Section D sought responses on perception of teachers' competence in the area teachers' class attendance. Section E was designed to draw responses on teachers' methodology while Section F sought responses on perception of teachers' attitude. The questionnaire contained 20 items which were rated on a four point modified Likert scale of Strongly Agree, Agree, Disagree and Strongly Disagree. To ensure the content validity of the instrument, educational research experts were consulted and their observation integrated in the final copy that was administered. A reliability co-efficient of 0.82 was obtained using Cronbach alpha analysis to test for reliability of the instrument. The researchers administered the questionnaire by directly distributing it to the teachers and students (respondents) in their various schools. The questionnaires were administered and collected on the same day. In cases where it could not be collected on the same day (especially on the part of the teachers), the researcher returned to such schools following day to collect the questionnaires. All questionnaires distributed were filled and collected. Thus, a hundred per cent return rate was recorded.

Data obtained for the study was analysed on the basis of the stated research questions that guided the study using inferential statistics of Pearson Moment Correlation Coefficient. The decision rule according to Davis (1977) for determining the existence and strength of a relationship among students' and teachers' perception of teachers' competence is as follows:

Correlation Coefficient

Decision

+.70 to + 1.00

High Very Strong Positive Relationship (HVSPR)

+.50 to +.69

High Substantial Positive Relationship (HSPR)

+.30 to +.49

Moderate Positive Relationship (MPR)

+.10 to +.29

Low Positive Relationship (LPR)

+.01 to +.09

Negligible Positive Relationship (NPR)

00

No Relationship (NR)

- .01 to - .09

Negligible Negative Relationship (NMR)

- .10 to - .29

Low Negative Relationship (LNR)

- .30 to - .49

Moderate Negative Relationship (MNR)

- .50 to - .69

High Substantial Negative Relationship (HSNR)

-.70 to - 1.00

High Very Strong Negative Relationship (HVSNR)

Results

RQ 1: What is the relationship between teachers' and students' perception of teachers' subject knowledge at the post basic level?

Table 1: Relationship between Teachers' and Students' Perception of Teachers Subject Knowledge

Teacher Subject	Mean	N	SD	Pearson's R	Decision
Knowledge					
Teachers' Perception	13.6000	50	1.76126	369	MNR
Students' Perception	10.4000	200	3.50735		
TOTAL	11.0400	250	3.47660		

MNR: Moderate Negative Relationship

Table 1 shows that there is a negative relationship between teachers' and students' perception of teachers' subject knowledge at the post basic level of education. This implies that while teachers' opine that they are competent in their subject knowledge, the students they teach

think otherwise. However, the strength of this negativity is moderate.

RQ 2: What is the relationship between teachers' and students' perception of teachers teaching skills at the post basic level?

Table 2: Relationship between Teachers' and Students' Perception of Teachers' Teaching Skills

Teacher Skills	Mean	N	SD	Pearson's R	Decision
Teachers' Perception	13.5000	50	3.00510	379	MNR
Students' Perception	10.3000	200	3.17180		
TOTAL	10.9400	250	3.38559		

MNR: Moderate Negative Relationship

Table 2 shows that there is a negative relationship between teachers' and students' perception of teachers' teaching skills at the

post basic level of education. This implies that while teachers' opine that are competent in the area of teaching skills, the students they teach think otherwise. However, the strength of this negativity is moderate.

competence in the area of class attendance at the post basic level?

RQ 3: What is the relationship between teachers' and students' perception of teachers'

Table 3: Relationship between Teachers' and Students' Perception of Class Attendance

Class Attendance	Mean	N	SD	Pearson's R	Decision
Teachers' Perception	12.5000	50	3.75934	349	MNR
Students' Perception	9.5500	200	3.01545		
TOTAL	10.1400	250	3.38322		

MNR: Moderate Negative Relationship

Table 3 shows that there is a negative relationship between teachers' and students' perception of teachers' competence in the area of class attendance at the post basic level of education. This implies that while teachers' opine that are competent in the area of class attendance, the students they teach think

otherwise. However, the strength of this negativity is moderate.

RQ 4: What is the relationship between teachers' and students' perception of teachers' methodology at the post basic level?

Table 4: Relationship between Teachers' and Students' Perception of Teachers' Methodology

Teachers' Methodology Mean		N	SD	Pearson's R	Decision
Teachers' Perception	12.2000	50	3.34420	305	MNR
Students' Perception	9.5500	200	3.31700		
TOTAL	10.0800	250	3.48168		

MNR: Moderate Negative Relationship

Table 4 shows that there is a negative relationship between teachers' and students' perception of teachers' competence in the area of teachers' methodology at the post basic level of education. This implies that while teachers' opine that are competent in teaching methodology, the students they teach think

otherwise. However, the strength of this negativity is moderate.

RQ 5: What is the relationship between teachers' and students' perception of teachers' competence in the area of teachers' attitude at the post basic level?

Table 5: Relationship between Teachers' and Students' Perception of Teachers' Attitude

Teachers' Attitude	Mean	N	SD	Pearson's R	Decision
Teachers' Perception	12.2000	50	3.69224	226	LNR
Students' Perception	10.3000	200	3.18760		
TOTAL	10.0800	250	3.37389		

LNR: Low Negative Relationship

Table 5 shows that there is a negative relationship between teachers' and students' perception of teachers' attitude at the post basic level of education. This implies that while teachers' opine that are competent in the area of teachers' attitude, the students they teach think otherwise. However, the strength of this negativity is low.

Discussion of Findings

The study showed that there is a negative relationship between teachers' and students' perception of teachers' subject knowledge at the post basic level of education. This implies that while teachers are of the opinion that their subject knowledge level is adequate and not responsible for students' poor performance, students on the other hand, think otherwise. This perception of teachers and students is in negates that of Wilber (2016) but aligns with that of Emmanuel and Ariyo (2014). While Wilber (2016) found that there was no significant correlation between the student's academic performance and teachers' subject knowledge and suggested that there may be more that impacts students' performance than teacher knowledge of the subject. just Emmanuel and Ariyo (2014) found that students the perception that their teacher's had knowledge influenced their performance to a very high extent.

The study also showed that a negative relationship exists between teachers' and students' perception of teachers' teaching skills at the post basic level of education. This implies that teachers were of the opinion that the teaching skill possessed by the teacher was not responsible for students' poor academic performance. On the other hand, students were

of a different perception. This perception of teachers is not in agreement with Ozumah (2013) who found that teachers' teaching skills significantly influence academic performance of students.

Furthermore, the study showed that there is a negative relationship between teachers' and students' perception of teachers' competence in the area of class attendance at the post basic level of education. This implies that while teachers are of the opinion that teacher class attendance was not responsible for students' poor academic performance, students perceived otherwise. The perception of teachers in this study is not in agreement with that of Moloko (2015) who carried out a study on teachers' perception of the impact of class attendance on students' academic performance and found that teachers' class attendance had significant impact on students' performance.

In addition, the study found that there is a negative relationship between teachers' and students' perception of teachers' competence in the area of teachers' methodology at the post basic level of education. This implies that while teachers are of the opinion that teachers' methodology was not responsible for students' poor academic performance, students perceived otherwise. This perception of teachers is not in agreement with Molola (2014) who found that there is a significant relationship between teachers' method of teaching and student achievement.

Finally, the study showed that there is a negative relationship between teachers' and students' perception of teachers' competence in the area of teachers' attitude at the post basic level of education. This implies that while teachers are of the opinion that teachers' attitude is not responsible for students' poor

performance, students on the other hand, perceived otherwise. This perception of teachers is not in agreement with Philip, Oluwatolani and Adeniran (2010) who conducted a study on an evaluation of the impact of teachers' attitude on students' academic performance and found that the teachers' attitude impacts student performance greatly.

Conclusion

This study was carried out to determine if there is a relationship between teachers and students perception of teachers' competence at the postbasic level of education in Asaba metropolis, Delta State. From the findings of the study, it was shown that there exists a negative relationship between the perception of teachers and students as regards their perception of the teacher's competence. Teachers were of the view that they were competent on all the components of competence examined while the students they taught were of the view that their teachers were not competent. Furthermore, it should be noted that the strength of the negative relationship was moderate for components that made up teachers' competence in this study namely: teaching skills, class attendance, teacher's methodology and subject knowledge level. This implies that the margin in the negative relationship in perception was not very wide. However, this does not change the fact that students see their teachers in a different light and teachers do not seem to want to see or accept that they may be lagging behind in some areas especially in the face of poor performance recorded in both internal and external examinations.

Recommendations

Based on the findings of this study that there is a negative relationship between teachers and students on their perception of teachers' competence in terms of subject knowledge level, teaching skills, class attendance, teacher's methodology and teacher's attitude, it is therefore recommended that federal and state government education authorities likewise secondary school management should set up proper monitoring, supervision, evaluation of teachers as well as checks and balance measures like student's observational reports on teachers among others in order to get to the root of teachers claim that they teach competently yet poor performances are still recorded.

References

- Adediwura, A.A., & Tayo, B. (2007). Perception of teachers' knowledge, attitude and teaching skills as predictor of academic performance in Nigerian secondary schools. *Educational Research and Review*, 2(7), 165-171. Retrieved from http://www.academicjournals.org
- Adeyemi, T. O. (2008). Predicting students' performance in senior secondary certificate examinations from junior secondary certificate examinations in Ondo State, Nigeria. *Humanity and Social Science Journal*. 3(1): 26 36.
- Adu, E.O. & Olatunde, S.O. (2007). Teachers' perception of teaching as correlate of students' academic performance in Oyo State Nigeria. *Essay in Education*, 20:57-63.
- Agba, A.M.O., Ikoh, I.M., & Noah I.A. (2010). Teachers' leadership style, classroom variables and students' academic performance in Calabar metropolis, *Nigeria*. *Educational Research*, 1(6), 178-185.
- Ajao, W. (2001, December 27). Cadbury is determined to move education forward. Vanguard, 2001, p. 16.
- Ajayi, I. A. (2002). Resource factors as correlates of secondary school effectiveness in Ekiti State, Nigeria. *Journal of Counselling and Applied Psychology*, 1(1), 109-115.
- Akiri, A.A., and Ugborugbo, N.M. (2009). Teachers' effectiveness and students' academic performance in public secondary schools in Delta State. Nigeria. Study Home 107-113. Science. Communication 3(2), Retrieved from https://pdfs.semanticscholar.org/90a0/e3640e80 56e05571d56cf99e1f9c06a824d8.pdf
- Ashikhia, D. A. (2010). Students' and teachers' perceptions of the causes of poor academic performance in Ogun State Secondary Schools (Nigeria): Implication for counseling for national development. Retrieved from http://www.eurojournal.com/ejss

- Darling-Hammond, L., Wei, R. C., Andree, A., Richardson, N., & Orphanos, S. (2009). Professional learning in the learning profession: A status report on teacher professional development in the United States and abroad. Texas: National Staff Development Council. Retrieved from https://eric.ed. gov/?id =ED536383
- Dorward, J., Hawkins, A., & Smith, G. G. (2000). Substitute teacher availability, pay, and influence on teacher professional development: a national survey. *Spectrum*, 18, (3), 40-46.
- Edozie, G.C. (2016). Fundamentals of curriculum studies (2nd ed. Revised). Benin City: Ambik Press Ltd.
- Eggen, P. & Kauchak, D. (2002). Strategies for teachers: teaching content and thinking skills (4th ed.). Needham: Heights M.A. Allyn and Bacon
- Emmanuel, A. & Ariyo, O. (2014). Student perception of teachers' subject knowledge in chemistry and it effect on student performance. *Journal of Science Teachers Association of Nigeria.* 35 (12), 43 49.
- Gaji, M.A. (2014). Perception of the relationship between teacher quality and students' academic performance in senior secondary schools in Kano metropolis. (Unpublished Masters project), Ahmadu Bello University, Zaria, Nigeria.
- Hickman, G. P., Bartholomew, M., Mathwig, J., & Heinrich, R. S. (2008). Differential developmental pathways of high school dropouts and graduates. *Journal of Educational Research*, 102(1), 3-14.
- Jacob, K.D. and Kritsonis, W.A. (2007). An analysis of teacher and student absenteeism in urban schools: what the research says and recommendations for educational leaders. The Lamar University Journal of Student Research. Retrieved from https://www.academia.edu/31264366/The_effect_of_teachers_characteristics_on_students_academic_performance
- Kaplan, L. S., & Owings, W. A. (2002). The politics of teacher quality: implications and principals. *NASSP Bulletin*, 86(683), 22-42
- Lasley, T. J., Siedentop, D., & Yinger, R. (2006). A systematic approach to enhancing teacher quality: the Ohio model. *Journal of Teacher Education*, 57 (13), 13-21.

- Molola, C. (2014). The relevance of teaching method to students' achievement in chemistry in secondary schools in Ibadan, Nigeria. *Journal of Teacher Perspective (JOTEP)*, 2(1), 13-19
- Moloko, R.O. (2015). Teacher's perception of the impact of class attendance on students' academic performance in chemistry in secondary schools in River State. *Nigerian Journal Curriculum Studies*, 11 (2), 239-245.
- Murnane, R., & Steele, J. (1991). What is the problem? The challenge of providing effective teachers for all children. *Project Muse*, 17(1), 15-43.
- Nwangwu I.O. (2007). Higher education for self-reliance: an imperative for the Nigerian economy. In J.B. Babalola; G.O. Akpan, A.O.Ayeni and S.O. Adedeji (Eds), *Access equity and quality in higher education*. Nigeria: Nigerian Association for Education Administration and Planning.
- Nwokocha, A. C. & Amadike, N. N. F. (2005). A comparative study of academic performance in public and private secondary schools in River State. *Nigerian Journal of Educational Administration and Planning*, 5(2), 188-191.
- Ogunsaju, S. (2004). *A guide to school effectiveness in Nigeria*. Ibadan: Laville Publications
- Ozumah, S. (2015). The possible influence of teaching skills on effective teaching of chemistry curriculum in Enugu State. *Teaching and Teacher Education*, 27(2), 342-349.
- Philip, K.P., Oluwatolani, R & Adeniran ,T.A. (2010). An evaluation of the impact of teachers' attitude on students' academic performance in chemistry in secondary school in Edo State. Nigeria. *Journal of Teacher Education*, 3:2-8.
- UNESCO- Working Document (2008). Voluntary contributions by speakers on inclusive Education. Retrieved from http://www. ibe. unesco.org/fileadmin/user_upload/Policy_Dialo gue/48th_ICE
- West African Examination Certificate (2009). Press Release: WAEC May-June 2009 SSCE Results. (online). Retrieved from: http://www.waecnigeria.org/news.com
- Wilber, S.C. (2016). Teacher perception on the impact of teacher knowledge in chemistry subject on student's academic performance. *Teaching and Teacher Education*, 27(2), 390-398.

- Williams, J. (2014). It is students, not teachers that are responsible for their exam results. TES opinion. Retrieved from https://www.tes.com/news/school-news/breaking-views/it-students-not-teachers-are-responsible-their-exam-results
- Xuehui, A., Emily C. H. & Tanja, S. (2008). Teaching quality and student outcomes: academic achievement and educational engagement in rural northwest China, Gansu Survey of Children and Families Papers. Retrieved from https://files.eric.ed.gov/fulltext/EJ1078818.pdf
- Zubair, H & Athar, H. (2014). Relationship between teacher factors and student achievement: a correlational study of secondary schools. *US-China Education Review*, 4(7), 465-480.