Examining the Relationship between Teaching Practice Exercise (TPE) and Teachers’ Competency (TC)

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Abstract: The study examined the relationship between teaching practice exercise and teachers competency. This study adopted a correlational research design of survey method. The population of this study involved all mathematics teachers in the Public secondary schools in Afijio Local Government Area, Oyo State, Nigeria. The Local Government under study comprises of twenty eight (28) public secondary schools with at least two (2) mathematics teachers in each of the schools. The twenty-eight (28) Public secondary schools were chosen as sample schools while two (2) mathematics teachers were purposely selected from each schools as respondents to make fifty-six (56) respondents. The instrument used for this study was a self-structured questionnaire tagged “Teaching Practice Exercise and Teachers Competencies (TPETC). Three hypotheses were stated and tested at 0.05 level of significance. The instrument was validated by experts. The instrument has the reliability coefficient of 0.83. Data collected were analysed using Pearson Product Moment Correlation (PPMC). The findings showed that there is a relationship between teaching practice exercise and teachers’ academic competence among Mathematics Teachers; there is a relationship between teaching practice exercise and teachers’ professional competence among Mathematics Teachers and there is a relationship between teaching practice exercise and teachers’ personal competence among Mathematics Teachers in Afijio Local Government Area. Based on the findings of the study, it was recommended among others that adequate orientation should be provided to the pre-service teachers to know that the competencies are important and integral part of their career and personal lives.

Keywords: Teaching Practice Exercise and Teachers’ Competency

A person who teaches is engaging in an activity with the goal of fostering learning. Teaching is a challenging, fascinating, and rewarding profession. Teaching necessitates that the practitioners have a thorough understanding of what needs to be done to ensure that the learners learn the material in the most desirable way and are highly skilled in the abilities required to carry out this activity. Since teachers prepare people for numerous occupations, their contribution to sustainable development cannot be measured. Nwankezi, Okoli, and Mezieobi (2021) contend that the teacher must receive the proper education and training for professional competency, academic competency, and personal competency with a positive attitude in order to complete the training properly and emerge well-prepared for the classroom.

A significant role in teacher education programme is played by teaching practice. It is a
crucial component of the teacher education curriculum that is designed to prepare new teachers for teaching as a profession. Teaching practice exercise is to acquaint teachers-in-training with the teaching and learning process practical knowledge to include preparation of note of lessons, class presentation, class management and control, communication and evaluation skills (Afolabi, 2019). According to Nwanekezi, Okoli, and Mezieobi (2021), teaching practice refers to the process of preparing “who be” teachers for the classroom through the hands-on experience. Nearly everywhere in the world, colleges of education have been founded to provide professional training for teachers (Azeem, 2021). In Nigeria, there are programmes for training teachers at various levels.

The following are the set objectives of establishing teaching practice as a mandatory component of pre-service teacher training, these are to;

1. expose pre-service teachers to real life classroom experiences under the supervision of qualified and professional teachers.
2. provide the a forum for pre-service teachers to translate educational theories and principles learned in the classroom into practice.
3. enable pre-service teachers discover their own strengths and weaknesses in classroom teaching (practical sense) and provide opportunities to enable them address it.
4. familiarize pre-service teachers with real school environment as their future work place.
5. provide pre-service teachers with an opportunity for further acquisition of professional skills, competencies, personal characteristics and experience.
6. help pre-service teachers develop a positive and right attitude towards the teaching profession.
7. serve as a means of assessing the quality of training being provided by teacher training institutions (NUC, 2007; NCCE, 2015).

Competency can be seen as the quality of a teacher to manage the learning process with the use of resources and instructional methods. Competency is "a set of knowledge, skills, and proficiency in creating a meaningful experience when organizing an activity," according to Selvi (2019). As a professional, a teacher must establish and manage school programs, conduct research, guide and train students, evaluate the learning process and outcomes, and demonstrate professional competency. Competence is the capacity of a person to perform a task effectively. A competency is a group of specified behaviors that provide a formal framework for identifying, assessing, and developing the behaviors in specific personnel. Academic, professional, and personal competencies are all examples of competence.

Academic competency comprises the ability to generalize, understanding of the teacher's area of expertise, and awareness of the research techniques used in that area. Teachers must be academically competent. It encompasses the teacher's cognitive and instructional comprehension abilities as well as their subject-matter expertise (Medley, 2020). The concepts of research competence and lifelong learning are also considered as vital aspects of teacher’s academic competence (Benedick & Molnar, 2022; Selvi, 2019).

Planning techniques, instructional tactics, and mechanisms for their implementation are all part of professional competency. It involves applying teaching and learning theories to various learning contexts while increasing student motivation to learn, motivating them to put in the necessary effort, and utilizing a variety of learning materials based on the social and psychological needs of the student. Professional competency describes the methods of instruction used in the classroom. It comprises classroom management, expertise in integrating technology into lesson planning and implementation, and support for students’ learning based on
the course's learning objectives. The teacher's job is to provide opportunities for pupils to participate in professional learning, engage them in it, and ensure that they are learning in a conducive setting. (Akinsolu, 2020).

Personal competency describes a teacher's character traits. From the Humanistic Based Teacher Education, the idea has developed. (HBTE). In HBTE, the student receives more attention than the teacher. HBTE is a subset of Humanistic Psychology, which Maslow first proposed in 1968. Humanistic psychology's foundational concept is dignity, and its primary goal is personal development. Korthagen (2020) came to the conclusion that this movement's emphasis on the teacher was crucial to the advancement of teacher education. Physical health, general knowledge, high morals, the capacity to innovate in language, the capacity to manage and make decisions, and the capacity to communicate in the needed manner are all considered to be personal traits of a teacher.

One of the ways to increase teachers' competency, particularly in mathematics, is to ensure that they are knowledgeable about the material covered in the subject's curriculum and adept at using a variety of teaching strategies and tools, all of which must have been learned in math classes and first put into practice during teaching practice. Effective math educators, according to Orstein (2019), are those who have a strong foundation in mathematical knowledge and abilities. He added that professors of mathematics benefit students' performance because of their extensive grasp of the curriculum's content and pedagogy. The effectiveness of a teaching session is significantly influenced by the teachers' competence in both teaching and learning. Students' active participation in learning will be directly impacted by their skill and knowledge in managing learning activities.

A school-based internship program called "teaching practice" has as its main objective introducing aspiring teachers to the classroom and its routine under the supervision of qualified and experienced professional teachers in order to develop their professional competencies, academic competencies, and personal competencies. As a result, the focus of this study is on how pre-service teachers' development of the aforementioned competences is related to teaching practice exercises.

**Purpose of the Study**

The main purpose of this study was to examining the relationship between teaching practice exercise (TPE) and teachers' competency (TC) among Mathematics teachers in. Specifically, the study examines the:

1. relationship between teaching practice exercise and teachers’ academic competence among Mathematics Teachers.
2. relationship between teaching practice exercise and teachers’ professional competence among Mathematics Teachers.
3. relationship between teaching practice exercise and teachers’ personal competence among Mathematics Teachers.

**Hypotheses**

The following stated null hypotheses were tested at 0.05 level of significant:

H₀₁: There is no relationship between teaching practice exercise and teachers’ academic competence among Mathematics Teachers in Afijio Local Government Area.

H₀₂: There is no relationship between teaching practice exercise and teachers’ professional competence among Mathematics Teachers in Afijio Local Government Area.

H₀₃: There is no relationship between teaching practice exercise and teachers’ personal
competence among Mathematics Teachers in Afijio Local Government Area.

Methodology
This study adopted a correlational research design of survey method. Population of this study involved all mathematics teachers in the Public secondary schools in Afijio Local Government Area in Oyo State, Nigeria. The local government under study comprises of twenty eight (28) secondary schools (Oyo State Ministry of Education, 2019) with at least two (2) mathematics teachers in each of the schools. The twenty-eight (28) Public secondary schools were purposely chosen as sample schools while two (2) mathematics teachers were selected each from the schools as respondents to make fifty-six (56) respondents regardless of their characters like gender, year of experience and others which are not the bases of this study.

The instrument used to carry out this study was a self-designed questionnaire to elicit information from the correspondents. The questionnaire was named “Teaching Practice Exercise and Teachers Competencies (TPETC)”. The questionnaire contains the items that measure the variables under consideration. The instrument was given to experts for face, context and content validity by three seasoned lecturers in Educational Psychology Department, Federal College of Education (Special), Oyo who are specialized in test and measurement.

A trial test was carried out to ascertain the reliability of the instrument. The instrument was administered to ten (10) Mathematics teachers in selected secondary schools from Ibadan outside the study area. The instrument gives a reliability coefficient of 0.83. This confirmed that “Teaching Practice Exercise and Teachers Competencies (TPETC)” was reliable for the study.

Research assistants administered the questionnaire to the 56 mathematics teachers in the selected secondary schools after due consultation with the school authority. The analysis was done using Pearson Product Moment Correlation (PPMC) with SPSS 23.0 version.

Results
The results are as follow:

Hypotheses One: There is no relationship between teaching practice exercise and teachers’ academic competence among Mathematics Teachers in Afijio Local Government Area.

Table 1: Pearson’s correlation of academic competence and students’ academic performance in mathematics

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>R</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>teaching practice exercise</td>
<td>56</td>
<td>0.51</td>
<td>0.076</td>
</tr>
<tr>
<td>Academic competence</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).

Table 1 shows that the calculated correlation value of \( r = 0.51 \) and \( p = 0.076 \) which is greater than 0.05 level of significant was obtained. Since the correlation value was 0.51, it implies that there is an average positive relationship between teaching practice exercise and teachers’ academic competence among Mathematics Teachers in Afijio Local Government Area. On this basis, the null hypothesis which stated that there is no significant relationship was therefore rejected.

Hypotheses Two: There is no relationship between teaching practice exercise and teachers’ professional competence among Mathematics Teachers in Afijio Local Government Area.

Table 2: Pearson’s correlation of the professional competence and students’ academic performance in mathematics

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>R</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Practice Exercise</td>
<td>56</td>
<td>0.87</td>
<td>0.067</td>
</tr>
<tr>
<td>Professional Competence</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Correlation is significant at the 0.05 level (2-tailed).

Table 2 shows that the calculated correlation value of $r = 0.87$ and $p = 0.067$ which is greater than 0.05 level of significant was obtained. Since the correlation value was 0.87, it implies that there is a high positive relationship between teaching practice exercise and teachers’ professional competence among Mathematics Teachers in Afijio Local Government Area. On this basis, the null hypothesis which stated that there is no significant relationship was therefore rejected.

**Hypotheses Three:** There is no relationship between teaching practice exercise and teachers’ personal competence among Mathematics Teachers in Afijio Local Government Area.

**Table 3: Pearson’s correlation of the personal competence and students’ academic performance in mathematics**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>R</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Practice Exercise</td>
<td>56</td>
<td>0.16</td>
<td>0.055</td>
</tr>
<tr>
<td>Personal Competence</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Correlation is significant at the 0.05 level (2-tailed).

Table 3 shows that the calculated correlation value of $r = 0.16$ and $p = 0.055$ which is greater than 0.05 level of significant was obtained. Since the correlation value was 0.16, it implies that there is a low positive relationship between teaching practice exercise and teachers’ personal competence among Mathematics Teachers in Afijio Local Government Area. On this basis, the null hypothesis which stated that there is no significant relationship was therefore rejected.

**Discussion of Results**

Table 1 revealed that there is an average positive relationship between teaching practice exercise and teachers’ academic competence among Mathematics Teachers in Afijio Local Government Area. Academic competency includes but not limited to teachers’ academic qualification and mastery of subject matter. This study clearly shows a moderate relationship between teaching practice exercise and teachers’ academic competence especially in mathematics. The implication is that pre-service teachers who undergo teaching practice exercise tends to be academically competent the students under his/her tutelage tend to gain more. This is in consonance with the opinions of Benedick & Molnar (2022) and (Selvi 2019) who reported that teaching practice exercise play vial role in the development of teachers’ academic competency and promotes students’ academic performance through such teacher mostly in mathematics.

Table 2 showed that there is a high positive relationship between teaching practice exercise and teachers’ professional competence among Mathematics Teachers in Afijio Local Government Area. Professional competency includes the ability of teachers to be able to plan his lessons, recognizes the characteristics of the learners and use of appropriate instructional materials in the classroom. The pre-service teachers are to learn from the professional teachers at their school of practice. This is learning by imitation. This result is tandem with the outcome of the study of Akinsolu (2020) which stated that a one of the greatest competence to be learnt during teaching practice exercise is professionalism. This act of professionalism separates qualified teachers from cheaters.

Table 3 revealed that there is a low positive relationship between teaching practice exercise and teachers’ personal competence among Mathematics Teachers in Afijio Local Government Area. Personal competency includes but not limited to teachers’ physical health, teachers’ general intelligence, teachers’ good morals, teachers’ ability to innovate and teachers’ ability to manage and take decisions, also, ability of teachers to be able to relate well with his co-teachers, school management and the students. All the aforementioned joined together definitely
makes a competent teacher. Pre-service teachers in teaching practice exercise are expected to relate well with aforementioned. The exercise is expected to prepare them for the real world. If mathematics teacher possess the competency, he/she tends to deliver a good and effective mathematics class and students will definitely achieve a lot in his/her classroom and perform better in mathematics. This result is in consonance with the work of Korthagen (2020) that teachers’ ability to relate well with his immediate environment will enhance his/her competencies and ability to deliver well. Most especially, mathematics teachers must possess personal competence to carry his/her students along during mathematics class and make them lovers of mathematics.

Conclusion

The study examined the relationship between teaching practice exercise (TPE) and teachers’ competency (TC) among Mathematics Teachers in Afijio Local Government Area of Oyo State, Nigeria. It was found out that there is an average positive relationship between teaching practice exercise and teachers’ academic competence among Mathematics Teachers; there is a high positive relationship between teaching practice exercise and teachers’ professional competence among Mathematics Teachers and there is a low positive relationship between teaching practice exercise and teachers’ personal competence among Mathematics Teachers in Afijio Local Government Area, Oyo State, Nigeria.

Recommendations

The following recommendations were made based on the findings of the study:

1. Importance of mathematics must be explicitly discussed with the pre-service mathematics teachers prior the time they embark on the exercise so that they will know how important they are to the society. This will make them to concentrate more on the competencies to become a better mathematics teacher.
2. Also, adequate orientation should be provided to know that the competencies are important and integral part of their career and personal lives.
3. In-service training for mathematics teachers that can improve on their competencies should be regularly provided by the Government and school owners in case of the private institutions.
4. Private school owners should give their staff especially, mathematics teachers the opportunity to join professional associations like Mathematical Association of Nigeria for Mathematics teachers, Science Teachers Association of Nigeria where new ideas and innovations are discussed to enhance their competences.

References


