



AN INVESTIGATION OF THE MAJOR CHALLENGES THAT ENCOUNTER SCIENCE AND MATHEMATICS STUDENT TEACHERS IN THE IMPLEMENTATION OF TEACHING PRACTICE EXERCISE IN MOROGORO MUNICIPALITY

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Voice of Research

Volume 6, Issue 1

June 2017

ISSN 2277-7733

Abstract

This paper investigated the major challenges that encounter science and mathematics student teachers during the implementation of teaching practice exercise in Morogoro Municipality. Morogoro Teachers college, Lupanga practicing school and Morogoro secondary school were used in the data collection. Despite the experiences that science and mathematics student teachers enrich during teaching practice exercise, they also encounter some challenges which in one way or another can hamper their ability to derive maximum benefit in becoming effective and competent science and mathematics teachers through teaching practice exercise. The study employed qualitative approach with a case study design where Key informant interview, observation focus group discussion and documentary review were the main methods of data collection. The 34 respondents were purposively involved in data collection. Content analysis was used to analyze data thematically. The major challenges revealed by the study were the lack of raking of practicing schools and improper allocation of science and mathematics student teachers, improper time frame to start teaching practice, inadequate funds, lack of teaching and learning resources, lack of cooperation and support as well as lack of the involvement in extra co-curricular activities. The researcher recommend the Ministry of education, teachers' colleges and practicing secondary schools to be aware of the challenges that hamper science and mathematics student teachers to achieve their desired outcome that is to become effective and competent science and mathematics teachers through teaching practice exercise.

Keywords: Teaching Practice, Challenges, Implementation, Science and Mathematics Student Teachers, Teachers' Colleges, Practicing Schools.

Teaching Practice (TP) is a school experience or a practice component of becoming a teacher as it exposes student teachers in the actual teaching and learning environment (Perry, 2004). During teaching practice, a student teacher is given the opportunity to try the art of teaching before actually getting into the real world of the teaching profession (Kiggundu and Nayimuli 2009). Despite the experiences that science and mathematics student teachers enrich during teaching practice exercise, they also encounter some challenges which in one way or another can hamper their ability to derive maximum benefit from the teaching practice exercise (Foncha, Abongdia & Adu, 2015).

An understanding of the science and mathematics student teachers' challenges that they encounter during teaching practice, teacher training colleges can develop awareness of the challenges that induce a negative attitude towards teaching profession as they are real exposed to the working environment that they could work after graduation (Kabilan and Izzaham 2008). In this regard, it is needful for teacher training colleges in Tanzania to reconsider and review the ways of overcoming these challenges to the science and mathematics student teachers so as to enable them to achieve their desired outcomes in the teaching profession.

Major Challenges That Encounter Science and Mathematics Student Teachers during Implementation of the Teaching Practice Exercise

In this study the major challenges faced by science and mathematics student teachers in the implementation of teaching practice are explained by different scholars in different countries as follows hereunder.

Lack of laboratories in practicing schools, Daluba (2012) argued that the allocation of the student teacher is not fairly conducted as most of the science and mathematics teachers are allocated in the schools with no science laboratories hence it becomes difficult to learn and practice science practical. This makes them to end up with theoretical teaching during teaching practice that is contrary to what they are supposed to do in teaching

and learning process. This is also supported by Christopher (2010) who conducted his study on teaching science in Tanzania and revealed that one of the challenges for science teachers is the lack of conducting science practical in schools due to the lack of laboratories in schools.

The improper time frame for attending teaching practice and duration to stay in the field, In case of time, it is like a tradition that the student teachers go to the teaching practice exercise at the same time for all colleges. This brings a scramble in the schools especially on how to accommodate them in the same school. The study conducted by Gujjar, Naoreen, Saifi & Bajwa (2010) in Pakistan revealed that 41.69 % of prospective teachers were assigned subjects which were not of their choices due to the large number of the student teachers who attended teaching practice at the same time. Also Azeem (2011) in Pakistan revealed that there was no proper planning for the teaching practice before its commencement, for example the orientation to teaching practice and the awareness to the student teachers on schools of their choices. In Tanzania the study conducted by Komba and Kira (2013) revealed that there was overcrowding of the student teachers in the practicing school due to the same period of teaching practice in all training colleges. These result to lack of the required load in teaching as the student teachers will scramble for the teaching periods. This has led to the student teachers to teach subjects which are not of their specialization.

In case of the time to stay in the teaching practice, Ranjan (2013) in India, Kiggundu and Nayimuli (2009) and Quick and Sieborger (2005) in South Africa revealed that there was no enough time for observing student teachers whether they had improved their teaching after getting first and second assessment as they needed to be seen several times for more improvement. Also they argued that time for the teaching practice is not enough to cover all skills in teaching, as during TP student teachers are doing two things as they have to plan the lesson and teach while they have assignments for the fulfilment of their academic qualifications. In Tanzania,



Mahende and Mabula (2014) in their study revealed that majority of student teachers had a difficult in classroom management and organization, classroom control, student-teacher interaction, selection and effective use of teaching methods, useful and timely use of teaching materials and confidence. Hence, it was recommended that teaching practice should be changed to internship due to the shortage of time in practicing schools.

Lack of funds /resources to support teaching practice implementations. The study conducted in Pakistan on teaching practice by Azeem (2011) revealed that there was a shortage of working tools such as lesson plan books as well as teaching and learning materials due to the limited funds. The study conducted in Zimbabwe by Mapfumo, Chitsiko and Chireshe (2012) and in Tanzania by Kileo (2008); Komba and Kira (2013) on teaching practice revealed that during teaching practice there was problem of fund and which result to low allowance for student teachers which resulted to stay few days in the field.

Challenges in classroom activities and adaptation have also been pointed out by different scholars in their studies. The study conducted by Mau (1997) in Singapore revealed that during teaching practice exercise the student teachers were lacking varieties of classroom activities which can draw attention and motivate the learners in learning. The study conducted in Nigeria by Afe (2002) revealed that during teaching practice the attention was devoted to only teaching as if that is all there is to prepare teachers for the internship period. Other extra-curricular activities were not catered for and this makes the present approach in teaching practice to be very far from the ideal. The study conducted by Mbunda (1992) revealed that during teaching most of the student teachers in Tanzania were not creative in designing the classroom activities after teaching. The study conducted by Mahende and Mabula (2014) in Tanzania also revealed that most of student teachers lack the classroom interaction with students when teaching.

The other challenge that face science and mathematics teachers is the supervision part which might affect the intended outcome of the Teaching practice exercise. The study conducted by Mau (1997) in Singapore and in Tanzania by Komba and Kira (2013) revealed that during teaching practice exercise the supervisors were not flexible enough to guide, advise and discuss with the student teachers on the strengths and weaknesses revealed during the teaching. This is a problem as the student teachers need a constructive feedback on what went on in the classroom during teaching for example how they start the lesson, mastery of subject matter, how the objectives were stated and other skills observed by the supervisor that will improve their teaching. Apart from that supervisors lack the same orientation in the assessment during teaching practice (Yusuf & Ajidagba, 2010). In view of these Jekayinfa (2000) in Nigeria argued that irrespective of their occupational status supervisors should have the same orientation and similar disposition to matters bordering on teaching and learning. In additional to that, the study conducted by Jekayinfa, Yahaya, Yusuf, Ajidagba, Onyie, Oniyangi and Ibraheem (2012) in Nigeria revealed that most of the supervisors do not assess the subjects of their specialization which could be difficult to assess the subject

matter knowledge of the student teachers especially for the ones specializing in science and mathematics.

Lack of support and cooperation from the practicing schools and teachers colleges is also a challenge facing science and mathematics teachers during practice. The study conducted by Mau (1997) in Singapore revealed that during teaching practice exercise there is very limited support and cooperation from the subject teachers in the practicing school to the student teachers. Similarly Ajayi (2007) and Okebukola (2007) in Nigeria as well as Ranjan (2013) in India revealed that during teaching practice there is inadequate cooperation both from the practicing schools management and the teacher training institutions themselves. In Tanzania Mahende and Mabula (2014) and Mchomvu (2004) observed that during teaching practice most of subject and class teachers do not cooperate with the student teachers as well as the training institutions. These suggested that there is a need for strengthening the teaching practice exercise specifically the collaboration between training institution teaching practice office and the practicing schools so as to minimize the challenges emanating from miscommunication during the teaching practice exercise.

Different literatures by different scholars in different countries have tried to explain the challenges that face student teachers during the implementation of teaching practice exercise in general. No particular study has been conducted specific for the science and mathematics student teachers to investigate the major challenges that encounter science and mathematics student teachers during the implementation of teaching practice in Morogoro Municipality. Therefore this study aimed to fill the gap.

General and Specific Objectives

The general purpose of this study was to investigate the major challenges that encounter science and mathematics student teachers in the implementation of teaching practice exercise. Specifically the study intended to investigate the major challenges that encounter science and mathematics student teachers in the implementation of teaching practice exercise in Morogoro Municipality. The specific objective followed by the key research question hereunder as follows.

What are the major challenges that science and mathematics student teachers encounter in the implementation of teaching practice exercise in Morogoro Municipality?

Methodology

Study Area: This study was conducted at Morogoro Municipality where Morogoro teachers' college, Lupanga practicing school and Morogoro secondary school were obtained through simple random sampling. Two heads of secondary schools, eight science and mathematics tutors and twenty four science and mathematics student teachers were purposively selected.

Research Design and Data Collection: The study employed a qualitative research approach with a case study design. Qualitative data on the major challenges that encounter science and mathematics student teachers during the implementation of teaching practice in Morogoro Municipality were collected by using key informant interviews, documentary review, observation and the focus group discussion.



Data Analysis: Data were analysed through content analysis. In depth descriptions of specific themes based on research objective and its related question was provided as most of the data were in form of words.

Results and Discussions

The study investigated the major challenges that encounter science and mathematics student teachers during the implementation of teaching practice in Morogoro Municipality. The major challenges revealed during teaching practices by science and mathematics student teachers were presented and discussed in details hereunder as follows.

Lack of Raking of Practicing Schools and Improper Allocation of Science and Mathematics Student Teachers: The allocation of student teachers in schools at Morogoro municipality is done haphazardly due to the lack of information from the practicing schools. The lack of information from teachers colleges to the practicing schools is because raking of schools is not conducted prior to teaching practice in order to see which schools will be fit for science and mathematics students for example the schools with science laboratories. Interviews with the heads of schools revealed that the coordinators from the teachers college do not conduct the raking always before the teaching practice so that the heads of schools can inform them of their requirements. They just use the previous information to send their student teachers which always results to overcrowding of student teachers, miscommunication and lack of shelter as there is no space in the staffroom and hence have to stay outside the school premises due to poor organization. In insisting on this, one head of the practising school said:

"...they have to inform us first that they will bring their student teachers because nowadays there are many colleges brings the student teachers at the same time, so we have to give them the limited number of student teachers that we can accommodate and mentor them in our school ..."

The quote implies that raking has to be conducted properly to give the TP coordinator a clear picture of the schools with science laboratories and that with no laboratories, these will make the heads of schools and heads of departments to prepare and receive well the student teachers. These findings are in line with the finding of Ranjan (2013) who conducted the study in India and revealed that there is always no good communication between the practicing school and the training colleges which always affects the performance of the student teachers in their TP as the school management and the staffs reject to be with them in their practices as they were not informed prior to teaching practice.

Improper Time Frame to Start Teaching Practice: During focus group discussion with science and mathematics student teachers, it was revealed that the time they used to go for their teaching practice is not appropriate as they go at the end of March something which make them to miss the best part of the school timetable and end up meeting with students doing their midterm tests, and ready to start midterm break and Easter holidays. This reduces the number of days for teaching practice that are practically reduced to three and half weeks from the planned eight weeks according to the teaching practice framework. Due to this the student teachers do not get enough time to practice teaching skills related to what they learnt in the

college so as to improve their teaching profession. Therefore, it can be said that there is no proportionality between theory learnt in the college and practice in the practicing schools due to few days that the student teachers have to stay in the schools during TP. Hence student teachers do not get enough time to practice science and mathematics teaching skills toward becoming competent in teaching science and mathematics. These findings are also supported by the documentary review of the teaching practice report of 2015 which argued that the teaching practice starts very late due to the late provision of funds by the Ministry of education which affects the whole planning process of conducting TP violating the timetable of both teachers colleges and practicing schools.

Inadequate Funds to Science and Mathematics Student Teachers: Science and mathematics student teachers get low funds to support them during TP something which lead to meagre allowances allocated in terms of transport, per diems and sometimes the students are given half of the amount on the start of TP with the pretence that they would be given the other half when the rest of the funds arrive. The remaining allowances are provided but not on time which demoralizes the student teachers during TP due to life difficulties when waiting for it.

During documentary review, the teaching practice report of 2015 also revealed that the allowances did not reach the student teachers on time which is one of the factors that has lowered the efficiency in teaching as student teachers are demoralized. Also the findings are in line with the findings of Kileo (2008) and Komba and Kira (2013) in their studies in Tanzania who revealed that the funds are always very low to support teaching practice exercise.

Lack of Teaching and Learning Resources in the Practicing Schools: During the interviews with tutors and the focus groups discussions with student teachers both categories indicated that in the teaching practice there were no teaching and learning resources especially for science student teachers such as laboratories to practice science skills and other materials such manila sheet and models. It could be better if these student teachers were creative enough to improvise local teaching and learning resources. These findings are in line with what Christopher (2010) in Tanzania who found out that one of the challenges in conducting science practical is the lack of laboratories in schools and the change of the curriculum/ examinations in having alternative to practical rather than having real practical. Also the findings are in line with those of Mapfumo *et al.*, (2012) who conducted the study in Zimbabwe and revealed that there was shortage of teaching and learning facilities in the practicing schools during teaching practice

Lack of Cooperation and Support in the Practicing Schools: During interview with tutors, it was revealed that student teachers in the practicing schools do not get any cooperation and support from the school teachers as they just give all periods to student teachers and leave them without mentoring. Focus group discussions and the researchers observation of the student teachers during teaching practice revealed that there were very poor support and cooperation from the host teachers as the student teachers were given periods to teach by subject teachers and left assuming that they were capable to teach like



experienced teachers. These findings concur with those of Mau (1997) who conducted the study in Singapore and revealed that during teaching practice exercise there was very limited support and cooperation from the subject teachers and heads of departments in the practicing school to the student teachers.

Lack of Involvement into Other Co-curricular Activities during Teaching Practice Exercise: The failure of the student to engage in other co-curricular activities during TP seems to be a challenge facing them as it is part and parcel of the teaching practice. Tutors' interview and student teachers' focus group discussions revealed that they did not involve into the other activities apart from classroom teaching as they were not involved by the school management. During observations the researcher did not see the student teachers involving themselves in extra-curricular activities such as being teacher on duty, counselling of student and involving in sports and games.

Conclusion and Recommendations

The teaching practice exercise for science and mathematics student teachers at Morogoro Municipality seemed to have a lot of challenges that hampered them to achieve the desired outcome during teaching practice exercise in the practicing secondary schools. The researcher recommends that the Ministry of education should allocate enough funds for the teaching practice exercise and on time to facilitate the exercise as well as allocating proper time frame for the teaching practice exercise. On top of that the teachers' college should conduct raking very early so as to identify the schools that will fit science and mathematics students for the practice and lastly the practicing schools should provide support and cooperation to the student teachers as well as involving them in different activities during teaching practice exercise. Lastly the science and mathematics tutors and the student teachers should be creative enough to construct teaching and learning resources in the difficult environment (Improvisation).

References

- Afe, J.O. (2002). *Reflections on becoming a teacher and the challenges of teacher education*. University of Benin Inaugural Lecture in NUC 2002. Nigeria Universities Inaugural Lecture Series Abuja: NUC pp/305-327.
- Ajayi, K. (2007). Emergent Issues in Teacher Education and Professionalization of Teaching in Nigeria. *African Journal of Historical Sciences in Education*, 3(1), 5-25.
- Azeem, M. (2011). Problem of prospective teachers during teaching practice. *Academic Research International*, 1(2), 308-316.
- Christopher, V. (2010). *The teaching of science in primary schools: Its relevance and application to pupils' lives in Tanzania. A case study of Kinondoni District*. Unpublished Masters of Education (Science Education) Dissertation, University of Dar es Salaam, Tanzania.
- Daluba, N.E. (2012). Evaluation of resource availability for teaching science in secondary schools: Implications for Vision 20:2020. *Journal of Emerging Trends in Educational Research and Policy Studies*, 3(3), 363-367.
- Foncha, J. W , Abongdia, J. F & Adu, E.O (2015). Challenges encountered by student teachers in teaching english language during teaching practice. *Int J Edu Sci*, 9(2), 127-134.
- Gujjar, A.A., Naoreen, B., Saifi, S., & Bajwa, J.M. (2010). Teaching practice: Problems and Issues in Pakistan. *International Online Journal of Educational Sciences*, 2(2), 339-361.
- Jekayinfa, A.A. (2000). *The essence of lesson presentation in teaching practice*. Nigeria: Ilorin Haytee and Publishing Co. Ltd.
- Jekayinfa, A.A., Yahaya L.A., Yusuph, A., Ajidagba, U.A., Onie, A.O., Oniyangi, S.O., & Ibraheem, T.O. (2012). Lecturers' assessment of teaching practice exercise in Nigerian universities. *Journal of Education and Practice*, 3(4), 79-85.
- Kabilan M. K, & Izzaham R.I. R.(2008). Challenges faced and the strategies adopted by a Malaysian English language teacher during teaching practice. *English Language Teaching* 1(1), 87-95.
- Kiggundu E., & Nayimuli, S. (2009). Teaching practice: A make or break phase for student teachers. *South African Journal of Education*, 29(3), 345-358.
- Kileo, O.I. (2008). *The quality of teacher preparation for teaching in primary schools*. Unpublished M.A. Dissertation, University of Dar es Salaam, Tanzania.
- Komba, S.C., & Kira E.S. (2013). The effectiveness of Teaching practice in improving student teachers' teaching skills in Tanzania. *Journal of Education Practice*, 4(1), 157-163.
- Mahende, G.A., & Mabula, N. (2014). Is teaching practice for grading or improvement? Examining student teachers' perception and experience at the University of Dar es Salaam, Tanzania. *African Education Research Journal*, 2(1), 1-11.
- Mapfumo, J.S., Natsirayi. C. N., & Chireshe, R. (2012). Teaching practice generated stressors and coping mechanisms among student teachers in Zimbabwe, *South African Journal of Education*, 32(2), 155-166.
- Mau, R. (1997). Concerns of student teachers: Implication of improving practicum. *Asia Pacific Journal of Teacher Education*, 25(1), 55-65.
- Mbunda, P. (1992). *Teaching practice report*. University of Dar es Salaam.
- Mchomvu, I.J. (2004). *Student teachers' perception on the value of teaching practice at the University of Dar es Salaam*. Unpublished Masters of Arts in Education Dissertation, University of Dar es Salaam, Tanzania.
- Okebukola, P. (2007). Innovation and best practice teacher education in Nigeria. A lead paper presented at the 1st International Conference on Teacher Education, Faculty of Education, University of Lagos, 25th June, 2007.
- Perry, R (2004). Teaching practice for early childhood: A guide for students. From < <http://www.Routledge.com/catalogues/0418114838.pdf>>.
- Quick, G., & Sieborger, R. (2005). What matters in practice teaching? The perceptions of schools and students. *South African Journal of Education*, 25(1), 1-4.
- Ranjan, R. (2013). A study of practice teaching programme: A transitional phase for student teachers. *Voice of Research*, 1(4), 24-28.
- Yusuf, A., & Ajidagba, U.A. (2010). Stakeholders' assessment of Millennium Development Goals (MDGs) capacity building of basic school teachers for the implementation of universal basic education in Nigeria. *African Journal of Historical Sciences in Education*, 6 (2), 80-91.