

Mathematics and Science Student Teachers' Perception of Their Teaching Practice: A Case of Copperbelt University Students, Zambia

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Abstract

Teaching practice is an obligatory component of all teacher training programmes in Zambia. It prepares student teachers for a professional teaching career in a school. At the Copperbelt University, it prepares student teachers to teach Mathematics or Science in secondary schools. The implementation of teaching practice in Zambia involves the university lecturers as supervisors, school teachers as mentors and student teachers as participants. But the focus in this research was to get the perceptions of student teachers on their teaching practice. Questionnaires, student teachers' reports and a focus group discussion were used to collect data from the participants. The findings reveal that all student teachers regard teaching practice as important element in the training process. Student teachers stated that they were adequately prepared before they left for teaching practice. When student teachers went for teaching practice, they were welcomed at the schools, they taught well, learned more about teaching and classroom management skills. In addition, they appreciated the guidance given to them by their mentors and the supervisors. On the other hand, they faced challenge of a short teaching practice. They also faced challenges in the delivery of the subject matter because schools lacked teaching aids, laboratory equipment. Some student teachers in Mathematics, failed to adjust their teaching to lower classes in the school. To some extent the supervision was also a challenge because some supervisors were irregular in their supervision. Despite these challenges, at the end of the teaching exercise, students teachers felt confident, competent and experienced a sense of growth in their profession.

Key Words: Teaching practice, Student teachers, Pedagogy skills, challenges.

1. Introduction

Teaching practice or practicum can be defined as a phase in the teacher training curriculum when a student teacher under the guidance of a lecturer and an experienced school teacher is given a practical chance to demonstrate the teaching skills in their respective schools. In order for this training to be successful, a student teacher is first taught the theoretical knowledge of the various subjects considered necessary at the university then the student is offered a chance to develop their teaching skills and knowledge in a classroom setting (Groottenboer, 2005). For this the reason all teacher training institutions consider the period student teachers spend in schools gaining practical experience in teaching as critical in the training of teachers (Quazi, Rawat & Thomas, 2012 ;Beck & Kosnik 2012.; Haigh, Pinder & Donald 2006). Mentors, supervisors and students teachers, who are involved in the training process, also recognize its importance (Beck & Kosnik, 2002).

Teaching practice is important and has many positive aspects to a student teacher. Specifically, it gives student teachers a chance to practice in real classroom situations. In addition student teachers become proficient in the subject matter and skilled in the delivery of lessons to learners (Atputhasamy, 2005).

A study conducted by Smith and Lev-Ari (2005) reported in Haig, Pinder and Donald (2005) shows that student teachers learn more about content and knowledge of the subject during teaching practice. Other important aspects they learn are classroom management; dealing with challenges, using the right pedagogy when delivering a lesson and behaving like a professional teacher while at school (Liu, 2012). In the end teaching practice does not only allow student teachers to put their theory into practice, but also helps them to confirm that they have chosen the right career (Gan, 2013)

However, in their quest to demonstrate their teaching skills and perfect their pedagogy to become professional teachers, student teachers reveal challenges that seem to affect their teaching performance. Some of the challenges which emerge in literature are that student teachers have difficulties in the delivery of content and use of correct pedagogy as well as challenges in classroom management, organization of class work (Yourn in Goh & Mattes 2011). In addition, student teachers lack teaching aids and other teaching materials when they are in schools. They may also face a large class which may be difficult to manage and teach. This situation is further compounded with a short period of teaching practice (Wambugu, Barmao & Ng'eno, 2013). Other aspects which could disturb a student teacher during teaching practice are whether they are welcome at the school where they are undertaking teaching practice (Thomson & Wendt, 1985) and whether their practice would help them develop competence and grow professionally while on teaching practice. These are among the many challenges student teachers face when they undertake teaching practice. These challenges are assumed mitigated through regular monitoring by the supervisors and the mentors at the school where teaching practice is being conducted.

Since student teachers are at the center during this period, it is important to concentrate on their perception of teaching practice if the training process is to be improved. Tubbs and Holliday (2009) observe that student teachers' perceptions of teaching practice experience are the most important if we want to keep on improving teaching practice. However, despite the importance of examining student teachers' perceptions, Cliff & Barry in Ralph and Walker (2007) say that policy makers and programme administrators miss a point when they ignore student teachers perceptions and just look at the strengths and weaknesses of the programme. If done properly, an examination of student teachers' perceptions could be a source of information about how teaching practice programme is conducted. This could also help in the eliminating of some the challenges which student teachers face during teaching practice (Gol & Mathew, 2011)

It is important to focus on the perceptions of student teachers about teaching practice so that they are incorporated in curriculum development for the benefit of other students in future. If more is known about the challenges student teachers faced during teaching practice then the delivery of the curriculum would be better (Goh & Mathews, 2011). Furthermore, incorporating the views and experiences of the student teachers in training would not only be considered worthwhile but also satisfying to the student teachers during the course of instruction.

Context of the study

At the Copperbelt University, teaching practice is a mandatory requirement for all students pursuing secondary school teaching in Mathematics or Science Education. At the end of their third year of study, all student teachers are supposed go for teaching practice at a particular school for a period of 12 weeks. While at school student teachers are under the guidance of a mentor and lecturers go round to supervise them. However, due to challenges, the period for teaching practice may be reduced to less than 12 weeks as stipulated by the university authorities. In this way, the period for teaching practice is compromised.

Despite the importance attached to teaching practice, the Copperbelt University, through the Department of Mathematics and Science Education has not carried out any study to find out how student teachers perceive their teaching practice. Student teachers' perceptions on teaching practice should be given more attention because this may enable trainers to reduce challenges encountered by student teachers and also enable better preparation of new teachers for the future.

Purpose of Study

The purpose of this study, therefore, is to find out student teachers' perceptions of their teaching practice. The information gathered from this study will lead to restructuring the way teaching practice is organized and delivered to student teachers.

Research questions

- 1.1 Do student teachers perceive teaching practice an important aspect in their teacher education programme?
- 1.2 What do student teachers perceive to be the benefits of teaching practice?
- 1.3 What challenges do student teachers face during teaching practice?

2 Methodology

Research design

This study used a mixed method research design. A mixed method is a third research approach complementing the qualitative and quantitative methods (Johnson, Onwuegbuzie, & Turner, 2007). It’s an approach of research where both qualitative and quantitative data are collected to better understand the problem. In this study, qualitative data was collected through focus group interview and student teachers reflective reports while quantitative data was collected using a likert scale instrument.

Research participants

The participants were drawn 112 student teachers who were enrolled in as student teachers in Mathematics and Science Education at the Copperbelt University in Zambia. These included the 2013-2014 and 2014- 2015 cohorts of the Mathematics and Science student teachers. From this sample 100 student teachers responded to a likert scaled questionnaire and 12 participants were randomly selected to participate in a focus group discussion.

Data collection Instrument

Data collection instruments included a questionnaire, an interview protocol and student teachers’ reflective reports. Participants were asked to complete a likert scale questionnaire which asked them to rate their perception of school teaching practice. Furthermore, some participants were asked to write reflective reports after completing their teaching practice. In order to triangulate the data, some participants participated in a focus group interview where they were asked questions concerning their views about school teaching practice. All the data collection instruments were prepared by the researchers and were validated through peer review.

Data analysis

Data from the questionnaires were analyzed descriptively using SPSS. Specifically, means and frequencies were computed. Data from the focus group interview and reflective reports were analysed qualitatively. The focus group interview was audio-recorded. The audio-recorded interview was transcribed verbatim and analysed. Qualitative analysis involved coding the data and identifying emerging themes which formed categories.

3 Presentation of the Findings

3.1 Importance of teaching practice

All student teachers unanimously agreed that teaching practice is important. The results are shown in table 1.

Table 1. Importance of teaching practice

	Strongly agree		Agree		Total
	Freq	%	Freq	%	Freq
Teaching practice is important	89	91.8	8	8.2	97

During focus group discussion one student teacher said, *“Teaching practice is a platform to our career, most of the things done at university are theory, we don't have the practical aspect of teaching but when we go out in the field we face the real life experience about teaching.* Another student indicated that, *“It gives us practice in teaching.”*

In their teaching practice reports student teachers also revealed that teaching practice is an important portion of their training through comments like: *“We learnt a lot during teaching practice”.* *“Though we had challenges here and there, we did not count them because of the benefits and lessons we learnt from both teachers and pupils.”* Another student teacher wrote, *“We really appreciate the importance of this exercise as it exposed us to teaching and classroom environment.”* While another student teacher simply said *“I got insights into professional practice.”*

The findings shows that student teachers recognize teaching practice as an important aspect of their training.

3.2 The length of teaching practice

Despite the importance attached to teaching practice, 68.1 % of the students teachers said that the length of teaching practice is not adequate compared to 25.8 % who said it was adequate while 6.2 % were not sure as shown in Table 2:

Table 2. The length of teaching practice is adequate to practice my skills

Strongly agree		Agree		Not sure		Disagree		Strongly Disagree		Total
Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
10	10.3	15	15.5	6	6.2	44	45.4	22	22.7	97

In their focus group discussion and teaching practice reports, some student teachers echoed the same thing that teaching practice is given a short time: *“to me, teaching practice appeared short”* Another said: *“They say practice makes perfect so it can be more professional to be sending student teachers twice on teaching practice not once.”* Another student teacher said *“I recommend that the school teaching practice should be done in a full term.”* A participant reflected in the teaching practice report that *“the time given was not adequate enough.”* One more student teacher said, *“Though teaching practice was satisfying the time allocated for teaching practice was not enough.”*

Most of the student teachers agreed that the time given for teaching practice was not enough.

3.3 Preparation for Teaching Practice

Student teachers’ responses as to whether they were adequately prepared by the university lecturers before undertaking teaching practice are summarized in Table 3. Most participants 75.3% said that the university adequately prepared them, 92.8% said peer teaching prepared them for teaching practice and 79.4 said lecturers provided sufficient information about teaching practice. However, 54.1 % said that topics covered during lectures were relevant to teaching during teaching practice and 39.8% said they were not.

Table 3. Preparation for teaching practice

	Strongly agree		Agree		Not sure		Disagree		Strongly disagree		total
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq
University has adequately prepared me	22	22.7	51	52.6	5	5.2	18	18.6	1	1.0	97
Peer teaching is helpful in preparing for my teaching practice	54	55.7	36	37.1	2	2.1	5	5.2			97
Lecturers provided sufficient information about teaching practice	20	20.6	57	58.8	10	10.3	6	6.2	4	4.1	97
Topics covered during lectures were relevant to teaching during teaching practice.	18	18.4	35	35.7	6	6.1	16	16.3	23	23.5	98

Comments such as the following were typical in the focus group discussion *“We were prepared adequately to actually go and do the teaching.”* Another student teacher reported that *“The most important thing is how we are prepared in Science Education methods.”*

In their reflection reports some student teacher wrote *“We had to revise, the mathematics that we used when we were in grade 12, because the mathematics that we do here I can't teach to any of the pupils.”* *“I found it difficult to teach the grade 8 pupils.”* Another reported that *“I found it easy to teach the grade 11s than the grade 8s. I couldn't come down ...managed to come down after difficulties.”* Another student teacher commented that *“In the University we learnt things of higher level that will not be taught at school.”*

While the student teachers were prepared well, according to their views in table 4 and in the focus group discussion, about 40% mathematics student teachers said that the topics covered during lectures were not relevant to teaching during teaching practice

3.4 The School Environment

Items shown in Table 4 elicited views from student teachers about interactions in the school environment. Out of 97 student teachers 59.8 % said that they adapted to the school environment, 82.7 % said they were allowed to observe teachers teaching, 82.2% said they were recognized as members of staff. More than 95% said that teaching practice enhanced their interpersonal relationships.

Table 4. The school environment

	Strongly agree		Agree		Not sure		Disagree		Strongly disagree		total
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
Student teachers easily adapt to the school environment	11	11.3	47	48.5	12	12.4	22	22.7	5	5.2	97
Student teachers were not allowed to observe teachers teaching	9	9.2	7	7.1	1	1.0	39	39.8	42	42.9	98
Student teachers are recognized by pupils as members of staff	25	26.0	54	56.2	8	8.3	5	5.2	4	4.2	96
Enhanced interpersonal relationships due to teaching practice	62	63.9	32	33.0	3	3.1	0	0	0	0	97

During focus group discussion some of the views were: *“they welcomed us”, “it was a real family welcome for me from the members of staff.”, “We were incorporated into the system.” “We were treated just like ordinary teachers.”*

More or less, the same sentiments of welcome where expressed in the teaching practice reflection reports: *“The teachers were cooperative.”* Another student teacher said *“We were given an opportunity to observe the lessons from the teachers there”, “a class teacher helped me prepare my class timetable, “we interacted with pupils.”* One student teacher summed his stay as follows: *“another thing that I enjoyed was a conducive and mutual relation that was belt between me and the member of the staff, especially the science department.”* Most of the student teachers agreed that teaching practice was conducted in a conducive environment.

3.5 Teaching skills Improved

Table 5 highlights the frequency and percentages of items meant to find if teaching practice improved student teachers teaching skills or not. The student teachers agreed by 99% that teaching practice increased their confidence, 89.7% said teaching practice had improve their understanding of the subject matter, while 96.9 % said it had helped to improve their lesson planning and 96% observed that teaching requires proper planning and research of content.

Table 5. Teaching skills improved

	Strongly agree		Agree		Not sure		Disagree		Strongly disagree		total
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq
Teaching practice increased confidence in my teaching strategies	47	48.0	50	51.0	1	1.0	0	0	0	0	98
Has improved my understanding of the subject matter	43	44.3	44	45.4	4	4.1	5	5.2	1	1.0	97
Teaching practice has helped me to improve lesson planning	56	57.1	39	39.8	1	1.0	1	1.0	1	1.0	98
I learnt that teaching is not easy it requires proper planning and research content	67	68.4	27	27.6	2	2.0	1	1.0	1	1	98

Some of the comments made by student teachers during focus group discussion were on improving teaching skills as follows: *“The main thing I learnt from my teaching practice is that, preparation is very important for a teacher to be effective and efficient.”* Another student teacher observed that *“although my classes consisted of those who were not picked into pure classes, they performed better than those who were in pure classes and in one class only one failed with 35%.”*

Other comments in from student teachers teaching reports were: *“the teaching experience did not only provide the opportunity to improve my teaching skills but also my communication skills and exposure.”* Another said *“I learnt more on preparation of lesson plans, schemes and how to record my work after teaching practice. A different student teacher said “I increased my knowledge on methodologies hence improving lesson delivery during teaching practice.”*

Since student teachers were able to improve on the writing of schemes of work, lesson plans, they understood the subject matter and understood that planning is important then can deduce that they increased their teaching skills.

3.6 Classroom management skills

Table 6 shows results of student teachers acquisition of classroom management skills during teaching practice. The results show that 95.8 % agreed that they acquired management skills, 88.7% disciplined pupils who were causing problems in class, 94.9% learnt how to manage class well and 94.9 % learnt the importance of time management during teaching practice. The results in Table 7 suggest that student teachers acquired class management skills

Table 6. Classroom management skills

	Strongly agree		Agree		Not sure		Disagree		Strongly disagree		Total Freq
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
Acquired management skills of the classroom during teaching practice	51	53.1	41	42.7	3	3.1	1	1.0			96
I disciplined pupils who were causing problem in the class	28	28.9	58	59.8	1	1.0	6	6.2	4	4.1	97
I learnt how to manage the class well during teaching practice	45	46.4	47	48.5	2	2.1	3	3.1			97
I learnt the importance of time management during teaching practice	63	63.3	31	31.6	1	1.0	2	2.0	1	1.0	98

The acquisition of classroom management skills was also reflected in the focus group discussion and student teachers' reports. One student teacher during focus group discussion said *"yes, it actually strengthened my class discipline skills. I chased one, two, pupils on three occasions. This silenced pupils and they started behaving."* A different student teacher stated that *"Normal aspects like being naughty in class, noise making, I was handling that because I had to show that I am in command of the class"*.

In the student teachers' teaching reports student teachers reflected that they had acquired management skills. For example one student teacher said *"despite my age and my, appearance, they could give me a kind of respect."* However there were some challenges in controlling large classes, as one student teacher reported *"I had challenges in controlling pupils because classrooms were having about 80 pupils and they were fully packed in such a way that, there was a small space between the board and the front desk."*

On the whole student teachers acquired classroom management skill during teaching practice.

3.7 Use of teaching aids

On the question of how frequently they used visual aids, 80.2 % of the student teachers said they frequently used visual aids while on teaching, 16.3 percent disagreed and 3.1 were not sure.

In their focus group discussion some student teachers said that *"it was up to us to improvise our own teaching aids."* Another student teacher said *"we found that the teachers there were not using teaching aids, they were just going to class so when it was my turn I just acclimatized."* The schools literary hard no teaching aids.

On the other hand, the following comments extracted from student teachers' reports about the science laboratory facilities and cannot be ignored. *"Experiments were not done due to lack equipment in laboratory."* *"Unfortunately the school has only one functioning lab, which is also used as a class"* *"The labs were turned into classrooms which made it difficult to conduct experiments and certain practical aspects of the lesson"*, *"the science laboratories did not have equipment."* *"The chemistry laboratory was even used as a kitchen as a result it was not a conducive environment to conduct experiments."*

In both focus group discussion and student teachers' reports students perceived that they had challenges in teaching because they lacked visual aids and laboratories where they could conduct experiments.

3.8 Teaching strategies often used, rarely used or did not use during teaching practice

Student teachers' response to the items on the strategies often used, rarely, used and did not use are summarized in Table 7.

Table 7. Teaching Strategies often used, rarely used or did not use during teaching practice

	Often used		Rarely used		Not used		Total
	Freq	%	Freq	%	Freq	%	Freq
Class discussion	70	75.3	19	20.4	3	3.2	93
Experiment method	28	30.4	30	32.6	34	37.0	92
Group discussion	64	68.8	25	26.9	4	4.3	93
Project method	6	6.8	16	18.2	66	75.0	88
Inquiry	47	55.3	24	28.2	14	16.5	85
Discovery method	31	36.5	31	36.5	23	27.1	85
Field trips	2	2.0	8	9.0	79	88.8	89
Role play	12	14.8	14	17.3	55	67.9	81
Lecture method	42	46.7	25	27.8	23	25.6	90
Problem solving	69	73.4	19	20.2	6	6.4	94
Problem based method	40	56.1	20	24.4	16	16.0	82

From the table, it can be said that student teachers were exposed to many strategies to a reasonable extent but the least used were: field trips, project method, role play and experimental method. The student teachers often used the following strategies: class discussion, problem solving, group discussion and problem based method. The reasons for using or not using certain strategies during teaching practice are summarized in Table 8.

Table 8 Reasons for using or not using certain strategies during teaching practice

		<i>Experi ment</i>	<i>Class discussi</i>	<i>Group Discussi</i>	<i>Project method</i>	<i>Inquiry method</i>	<i>Discove ry</i>	<i>Field trips</i>	<i>Role play</i>	<i>Lecture method</i>	<i>Proble m</i>	<i>Proble m based</i>
<i>appropriate method for the topic and encourages participation / expression ,creates critical thinking ,confidence booster, develop skills</i>	freq	26	65	57	13	50	34	3	12	35	71	44
	%	32.2	80.2	71.2	9.1	74.4	51.5	4.4	21.1	45.5	88.8	72.1
<i>in appropriate method , pupils are not experimental objects or topics</i>	freq	24	7	6	16	6	6	11	9	15	1	1
	%	27.9	8.6	7.5	23.5	8.5	6.1	4.3	36.8		2.5	11.5
<i>Lack of knowledge of how to use this method on topic in subject requiring experiment</i>	freq	1	0	0	9	6	4	3	21	0	2	7
	%	1.2	0	0	3.2	8.5	6.1	4.3	36.8	0	2.5	11.5
<i>lack of time and too involving</i>	freq	4	4	5	19	5	13	22	12	0	3	5
	%	4.7	4.9	6.2	27.9	7	19.7	31.4	21.1	1.3	3.8	8.2
<i>lack of teaching materials, no labs and absence of teaching resources</i>	freq	31	0	0	10	0	6	31	0		1	1
	%	36	0	0	14.7	0	9.1	43.3	0	1	1.2	1.6
<i>part of my research topic</i>	freq	0	2	5	0	1	0	31	0	0	0	2
	%	0	2	6.2	0	1.4	0	44.3	0	0	0	3.3
<i>class too big</i>	freq	0	3	7	1	2	1		3	1	1	1
	%	0	3.7	8.8	1.5	2.8	1.5		3.8	1.2	1.2	1.6
<i>Fast method</i>	freq	0	0	0	0	0	0	0	0	16	0	0
	%	0	0	0	0	0	0	0	0	28.8	0	0
<i>Boring method</i>	freq	0	0	0	0	0	0	0	0	7	0	0
	%	0	0	0	0	0	0	0	0	9.1	0	0
Total Frequency		86	81	80	68	71	66	70	57	77	80	61

The strategies most frequently used by student teachers were: problem solving, class discussion, Inquiry method and group discussion. On the other hand 36% could not do experiment methods because they lacked teaching materials and there were no laboratories. Some student teachers (21%) said they lacked knowledge in the use of role play.

However, during focus group discussion the student teachers said that *“the teachers they observed mainly used lecture method.”* Another student teacher said in the report that *“there were about 67 pupils in a class, the groups were just too big and we were forced to use the lecture method.”* Another student teacher simply said: *“There were no visual aids in school and no equipment in laboratories.”*

The student teachers wrote to say that they could not use certain *“strategies because they were too involving in the preparation e.g. field trips”*. Another student teacher wrote in the report that schools where they were conducting teaching practice had *“no teaching aids and that they lacked time for preparing these aids”*.

Student teachers faced challenges classroom delivery because they lacked visual aids, laboratory facilities and to some extent some classes were large. This situation restricted the choice of strategies student teachers could use in the classroom.

3.9 How student teachers perceived their mentors.

The table 9 reveals what student teachers said about mentors. More than 85 % asked for help form mentor’s, and got feedback given to them, while 74 % said that mentors provided guidance on teaching strategies and 76.5 said they were motivated by observing mentors teach.

Table 9 How student teachers perceived their mentors

	Strongly agree		Agree		Not sure		Disagree		Strongly disagree		total
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq
I asked for help from mentors during teaching practice	40	40.8	44	44.9	4	4.1	6	6.1	4	4.1	98
I value feedback from mentors	58	59.2	36	36.7	1	1.0	3	3.1	0	0	98
School mentors were helpful in providing guidance on teaching strategies	28	29.2	43	44.8	9	9.4	13	13.5	3	3.1	96
I was motivated after observing mentors teach	24	24.5	51	52.0	10	10.2	12	12.2	1	1.0	98

During focus group discussion student teachers acknowledge help rendered to them by the mentors through comments like: *“I was helped by my Head of Department very much. She corrected me and I was able to learn something.”* Another student teacher detailed that *“I was not so perfect in writing the lesson plans but afterwards he guided me.”* Another student teacher said, *“Teachers were very helpful; they will tell you how to manage your time because it was difficult to manage forty minute period.”*

In their teaching practice reports comments like the ones listed below were common: *“They helped me in lesson preparations and advised on how to handle my classes whenever I had problems.”* *“I was given advice of great value regarding teaching by teachers who had vast experience, which helped me to understand factors that make a good teacher.”*

In short student teachers appreciated the help rendered to them by the mentors in many aspects of teaching.

3.10 How student teachers perceived their supervisors

According to the table 11, 66.3% student teachers said that they were listened to by their supervisors, 69% said that supervisors gave advice, 95.9% said the evaluation by the supervisor helped and 91.7% said supervisor spent adequate time with them.

Table 10 How student teachers perceived their supervisors,

	Strongly agree		Agree		Not sure		Disagree		Strongly disagree		Total
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq
Students are listened to when discussing with supervisors	11	11.6	52	54.7	22	23.2	8	8.4	2	2.1	95
Supervisors identified problems I had and gave advise	23	25.5	40	43.5	13	14.1	12	13.0	4	4.3	92
The evaluation after the observation by the supervisor helped	47	48.5	46	47.4	3	3.1	1	1.0	0	0	97
Supervisor spent adequate time with me after lesson observation to discuss teaching methods	52	53.6	37	38.1	1	1.0	6	6.2	1	1.0	97

During focus group discussion, student teachers recognized the importance of the supervisor. One student teacher said that *“the supervisor helped me with the writing of the objectives.”* Another student teacher said, *“We had a helpful discussion”*. On the other hand, some student teachers observed that *“some supervisors come late. They took time to come.”* Another student teacher said that *“We were almost towards the end of the teaching practice when they observed us.”*

The student teachers wrote in their teaching practice reflection reports how rewarding discussions with lecturers and the guidance given them were. But some of them still complained that supervisors were irregular in monitoring them: *“No one cameuntil Lecturers came in last week to observe use.* Another student teacher observed the following: *“We were about four, and no one came until we called them.. Actually it is the Head of Department told us to call.”*

Though supervisors gave support and guidance, some student teachers said they had challenges with the supervisor in terms of irregular observations.

3.11 How student teachers perceived their competence and professional growth after teaching practice

After teaching practice, student teachers reflected about teaching practice as follows: over 90% said teaching practice helped them develop more confidence in the subject while 89.8% said that they learnt how to behave professionally. In addition, 80.6 % said their interest increased after teaching practice and 88.5% said that they felt competent after teaching practice. On the whole, student teachers said that teaching practice had increased their competence and professional growth.

Table 11. How student teachers perceived their Competence and Professional growth after teaching practice

	Strongly agree		Agree		Not sure		Disagree		Strongly disagree		total
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
Developed more confidence in the subject content after teaching practice	59	60.2	34	34.7	1	1.0	2	2.0	2	2.0	98
I learnt how to behave professionally after teaching practice	46	46.9	42	42.9	1	1.0	7	7.1	2	2.0	98
The interest in teaching increased after teaching practice	46	46.9	33	33.7	6	6.1	7	7.1	6	6.1	98
I feel competent after teaching practice	36	37.5	49	51.0	8	8.3	2	2.1	1	1.0	98

During group discussion they felt that they had become more confident and more interested in the teaching career. As one student teacher put it, *“at least now I have the courage to stand in front of the pupils. I can face the crowd and deliver aha accordingly.”* Another said *“it gave us confidence to stand in front of people and it was really a good experience.”*

The same sentiments were found in the teaching practice reports that *“our teaching practice can be described as a success, as we were able to deliver to our level best”*. *“From the entire teaching practice, a lot of lessons were learnt from teaching practice.”* Two student teachers respectively said: *“The teaching practice was good to find out what my strengths and weaknesses are”* and *“despite some challenges it has positive impact in that student teachers developed their competence and professional growth.”* Another student teacher aptly said: *At last the teaching practice has given me new insights and motivation to pursue a career in education.*

The results revealed that student teachers became more competent and their professional growth was boosted during teaching practice.

4 Discussion Of Findings

4.1 Do student teachers perceive teaching practice an important aspect in their teacher education programme?

It was unanimously agreed by 100% that teaching practice was an essential part of their training because it provided many benefits to the student teachers. They said that even though they faced challenges during the practice, the benefits outweighed the challenges. In both their focus group discussion and teaching practice reports, student teachers appreciate the course because it exposed them to teaching in a classroom. This finding corroborates with many similar views of contemporary writers like Gol and Mathew (2011), Tubbs and Holiday (2009) Atputhasamy (2005) and Clive, Berck and Kosnik (2002) and others, who say that teaching practice is an important part of any teacher training process and training institution can do without it. Student teachers perceived teaching practice as an important part of their training process because it offered various benefits to them. The benefits which student teachers perceived during teaching practice are discussed below.

4.2 What do student teachers perceive to be the benefits of teaching practice?

4.2.1 Student teachers were prepared adequately for teaching practice

One huge advantage student teachers have before they go on teaching practice is the adequate preparation given to them in theory and other aspects of teaching. The findings revealed that student teachers were adequately prepared to go in the field and carry out their teaching practice. After teaching practice, student teachers reflected on how they were prepared for teaching practice by the university. They said lecturers provided sufficient information about teaching and peer teaching helped them in the preparation and the topics learnt at the university were relevant to their teaching practice.

In their preparation, lectures emphasize on the acquisition of theories and other knowledge about teaching and during teaching practice the student teachers must apply what they learnt at the university to demonstrate competence as teachers in a teaching environment (Lui, 2012).

4.2.2 Student teachers were exposed to the real teaching school environment

A further benefit from teaching practice was the exposure it gave the student teachers to practice teaching in the school environment. When they went for practice student teachers said they were received well at their various schools. They were welcomed and allowed to observe teachers teaching, they were recognized as teachers and they were able to adapt to the school environment. All these are tenants of a conducive atmosphere for teaching practice. However, if student teachers report at a new school and are not supported by local staff their performance will be affected negatively during teaching practice (Goh & Mathews, 2011). Teaching practice would be a daunting task for those student teachers. This is also observed by Thomson & Wendt (1985) when they say that one of the experiences that may impact negatively on student teachers during teaching practice is alienation. Pre-service student teachers found school environment to be non-supportive. Practicing to teach in a friendly environment is import and encourages student teachers to look forward to teaching.

4.2.3 Student teachers improved their teaching skills.

Student teachers benefited during teaching practice because they improve on their teaching skills. The results revealed that student teachers improved upon the writing of schemes of work, lesson plans, they understood the subject matter and understood that planning. From this it can be deduced that they increased their teaching skills. This finding is supported by Atputhansamy (2005) when he says during teaching practice student teachers augment their skills through practical experience of observing expert teachers, and receiving feedback). Similarly Quazi, Rawat & Thomas (2012) state that teaching practice plays an important role in enhancing teaching skills of student teachers, including their planning and preparation skills. Haigh, Pinder and Donal (2006) also report that during teaching practice student teachers find themselves shaping their views of classroom pedagogy and their role as teacher within the school.

4.2.4 Acquisition of classroom management skills

Furthermore, student teachers benefited from teaching practice because they acquired necessary classroom management skills. In their responses to the questionnaire, focus group discussion and their teaching practice reports they mentioned that they acquired classroom management skills necessary for teaching. Although fine management behavior does not assure effective instructions, it creates a good atmosphere where teaching is possible (Olive Wehby & Reschly, 2011). On the other hand a class not well managed does not support learning (Choy, 2013). It is also true to say that if a class is well behaved then the student teacher will concentrate on teaching rather than waste time by focusing on student discipline (Gan, 2013).

4.2.5 Student teachers appreciated the guidance by the mentors

Another important benefit was the guidance given to them by their mentor. Mentors are critical in the training of teachers because they correct the student teachers, give them feedback, advice them, and encourage them in their work (Tubbbs & Holliday, 2009). The findings of this research revealed that student teachers learned more from mentors about application of theories they learnt at school. However, it is worth noting that mentors are the closest to the student teachers in terms of monitoring, so they are a major influence on the student teacher (Haigh, Pinder & McDonald, 2006). Other writers like Atputhasamy (2005) also state that the most effective mentors provide clear specific feedback to their student teachers, provide rationales for suggestions given and exhibit self reflection.

4.2.6 Student teachers valued the role of the supervisor

Equally of benefit to the student teachers was the supervision from the supervisor, who is also a lecturer in the university. Supervisors are critical in that they monitor the quality and the experience the student teachers possess (Tubbbs & Holliday, 2009). The supervisor was appreciated by the student teachers because he/she listened to their problem and gave appropriate feedback and spent adequate time discussing the lesson observation and methods of delivery. As one student teacher said *'he helped me write objectives following blooms taxonomy'*. Furthermore, supervisors gave guidance in writing lesson plans, objectives, content, and pedagogy.

4.2.7 Competence and professional growth after teaching practice

The evidence gathered shows that the student teachers not only benefited because they become competent during teaching practice but they also grow professional. Gustafin and Rowell, Thomas (2012) recognize the fact that teaching practice has great influence on the professional development of student teachers. Similarly Goh and Mathew (2011) say teaching practice can also harness and encourage student teachers' growth in teaching. It is also true to say that for many student teachers, teaching practice was the time to reflect whether or not to pursue teaching as a career (Thomas, 2014). Teaching practice helps student teachers to develop competence and grow in their career.

4.3. What challenges did student teachers face during teaching practice?

4.3.1 Short Teaching Practice Period

Probably nothing posed of greater challenge than the short teaching practice student teachers faced. It is apparent that the period for teaching practice does not commensurate with the importance attached to teaching practice. Though the length of teaching practice varies from university to university (Endeley, 2014), teaching practice has a specific period in the teaching calendar unlike at the Copperbelt University where it is often shifted whenever there are challenges in the academic calendar. The consequences of these changes are that student teachers do a short period of teaching practice which does not give student teachers adequate teaching practice. Wambugu, Barmao and Ng'eno (2013) in Kenya also identified short teaching practice as one of the challenges student teachers were likely to face during teaching practice. A short teaching practice simply means student teachers have more theory at the expense of practicing these theories (Major & Tiro 2012). A longer teaching practice will give student teachers enough time to practice their skills. The longer the period the better (Furey in Endeley, 2014)

4.3.2 Student teachers' failure to adjust during lesson delivery

Another challenge student teachers faced was lack of adjustment when delivering in class. Though, most of the student teachers said that they were adequately prepared for teaching practice, the findings suggest that some student teachers doing mathematics had challenges in trying to adjust to teach pupils in the lower grades. They could not adjust simply because of the gap in the content between what is taught at the university and what is covered at secondary. When a student teachers acquire knowledge at the university, they should be able deliver it at the required level at secondary school. This view is also supported by Liu (2012) when he says that while it is important for student teachers to have an understanding of the theories and other knowledge about teaching; they must be capable of applying what they learnt at university in the classroom.

4.3.3 Irregular Supervisors' Visits

While the majority of student teachers appreciate the role played by supervisors during teaching practice, some student teachers stated that some supervisors were irregular when visiting students. Though the trend was not prevalent, some student teachers complained that supervisor came in the last week of the teaching exercise and others had to be called to come to school and observe them before the exercise came to an end. Supervisors are necessary in the training process because they monitor the quality and the knowledge the student teachers has acquired (Haciomeroglu, 2013). Therefore, supervisors must be regular to give student teachers the necessary feedback. This phenomenon of a lecturer not visiting student teachers often enough or not providing feedback on the student teachers' progress is also observed by Endeley (2014) in a research conducted in Cameroon.

4.3.4 Lack of teaching aids, and teaching equipment in the laboratory

No matter how well prepared a science student teacher is in teaching, the absence of teaching aids, equipment in laboratory is a challenge. Visual aids make a lesson more memorable, interesting and individual student teachers focus on the topic (Shabiralyani, Hassan Hamad Iqbal, 2015). Though student teachers said that they used visual aids during teaching practice, in their focus group discussion and reflective reports they stated that they did not have adequate teaching aids, laboratory and equipment to assist them in the teaching. The absence of these facilities is a big challenge to student teachers of mathematics and science education as it makes it difficult to prepare and deliver a lesson. For science students carrying a laboratory experiment is a vibrant way to deliver information so lack of facility and equipment has a negative effect on the student teacher (Gol and Mathew, 2011). Consequently, certain strategies could not be used in the absence of laboratories and equipment. That is why strategies like class discussion and group discussion became popular.

4.3.5 Use of Certain Strategies during Teaching Practice

Failure to use certain strategies during teaching practice was another challenge student teachers faced. Student teachers could not use certain strategies because of large classes, lacked laboratory facilities and other teaching material and in some cases lacked knowledge in the usage of some strategies. These findings support Liu's (2012) findings that student teachers are often not well prepared for teaching in their classroom due to limited understanding of the curriculum and little experience in applying appropriate teaching strategies. Gol and Mathews (2011) also observed that a lot of emphasis is put on student teachers developing knowledge but more attention should be laid on supporting their teaching in the selection and use of correct teaching strategies to insure successful teaching.

5 Conclusions

Student teachers, beyond any doubt, regard teaching practice as an important element in their training process. While on teaching practice student teachers perceived certain advantages from teaching practice and they also pointed out challenges they faced during that period. It must be noted that teacher training comprises a series of steps. If anything goes wrong in any step, then student teachers are less likely to benefit from the practice.

6 Recommendations

It is recommended that the benefits and challenges perceived by student teachers in this research should be communicated to future trainee teachers before they embarked on their teaching practice.

It is also hoped that this research will motivate other researchers beyond Zambia to use insights gained to conduct their research in a similar background to fill in the missing gaps.

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