## ANALYSIS OF HOME BACKGROUND OF STUDENTS AND PREPARATORY PROGRAMME AS FACTORS AFFECTING MATHEMATICS STUDENT-TEACHERS' EFFICACYIN DELTA STATE

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### ABSTRACT

This study is on the analysis of home background of student and preparatory programme as factors affecting Mathematics student-teachers' efficacy in Delta State of Nigeria. To guide the study four research questions were raised and two hypotheses formulated. A descriptive survey research design was adopted for the study. The research instrument used for data collection was a questionnaire titled: "An analysis of factors affecting Mathematics student-teachers' efficacy". It is a 12 item questionnaire derived from students' home background factors and preparatory programme effectiveness. The auestionnaire was administered to a sample of 97 mathematics education students at 300 and 400 level, department of curriculum and instructional technology, Delta state university, Abraka. The instrument was validated by three experts from the Faculty of Education, university of Benin, Edo State. To determine the reliability of the instruments, the split half method was used to administer the instrument to twenty (20) students that were drawn from 300 and 400 level mathematics education students, university of Benin, Benin-city. Cronbach's alpha coefficient was used to determine the internal consistency of the instrument and 0.739 r-value was obtained which show that the instrument is reliable. The data were analysed using simple percentage and t-test statistical tool. It was discovered that home background of students that Mathematics student-teachers meet during teaching practice was the major factor affecting their efficacy. The study also revealed that the preparatory programme was effective but what affected them is embedded in the teaching practice. It was recommended that one way to avoid low efficacy of Mathematics student-teachers is for parents to be fully involved in the education of their children through provision of learning materials, checking of their books after school, organizing extra coaching, to mention but few.

## Keywords: Mathematics student-teachers' efficacy, Students' home background and preparatory programme effectiveness.

#### **INTRODUCTION**

Teachers are very crucial to the development of any society and the success of its educational system. The first goal of education is to produce highly motivated, conscientious and efficient classroom teachers. Thus anything that will hamper the successful journey into the profession of would-be teachers needs to be addressed early enough in-order to achieve this noble goal. Realizing an efficient education and training individuals up to the desire level in Mathematics depend on teachers who are well grounded in mathematical teaching method. In fact, the quality of any educational system is a reflection of the quality of its teachers in terms of experience, competency, commitment and level of dedication to their core roles. As no educational system can rise above the quality of its teachers, that prompted the federal government to always emphasized the training and retraining of teachers in different subject areas at all level of education (FRN, 2013). These subject areas includes: Mathematics, English language, Arts, Chemistry, Physics, Biology and others.

Mathematics as a discipline is generally seen as a language of science. Both pure and applied sciences could not have developed without Mathematics. Hence, Mathematics is referred to, as the queen of all subjects, such as Physics, Chemistry, Biology, Accounting, Economics etc. Mathematics is a highly structured subject with interrelated simple and complex concepts, principles and skills arranged in such ways that for the treatment of complex contents, all the simple content related to it must be understood first. Moreover, operations of Mathematics are abstract and speculative so that discoveries in Mathematics are hardly embraced, understood and accepted by the users easily (Ezenweani, 2006). It is a subject that involved the use of symbols and letters as variables or constants essentially for clarity of meaning often lead to confusion rather than providing clarification to the users. The understanding of mathematical processes and application of problem solving approaches in mathematics is time consuming. Consequently, due to its nature, the teaching of Mathematics requires an efficacious teacher. An effective Mathematics teacher is the one who provides the conducive social atmosphere to enable the learners interact in a social setting with human and non-human resources and to manipulate the tangible content of mathematics with a view to internalize the virtue of mathematical knowledge and skills.

Teachers' efficacy is the beliefs a teacher has about his perceived capability in undertaking certain teaching tasks. It is the belief a teacher has about his or her ability to accomplish a particular teaching task. Teachers' efficacy is the set of beliefs a teacher holds regarding his or her abilities and competencies to teach and influence student behavior and achievement regardless of outside influences or obstacle. It is the teacher's belief related to efficacy on managing and operating successful teaching through instructional strategies, classroom management and students engagement which will be reflected in students achievement.

There is a general opinion that the standard of education is falling. The blame has been shifted to the teachers. It therefore calls for proper education of would-be teachers. Mathematics student-teachers performance during course work is very encouraging but coming to teaching practice they perform poorly. Many researchers attributed the cause to many factors which could be grouped into internal and external factors (Guskey and Passaro, 1994; Erawan, 2011). External factors includes: student's home background, preparatory programme, to mention but few.

Students' home background connotes how they were brought up, their attitude to Mathematics learning, motivation from parents and effortthey put into school work. From the beginning, parents have been the major stakeholders in raising children in every society. Adekeyi (2002) accentuated this that it is through their efforts and abilities that children

are socialized to become productive citizen. Consequently, whenever parents possess the resources, skills and apply them effectively and joyfully in raising their children, the entire society benefit.

According to Ezewu (2003), the level of educational attainment of parents influence the academic achievement of their children; this in turn affect student-teachers' efficacy. For instance, in a family where both parents are educated, their children are always taken good care of in their academic activities, they supervised their children work; check their children progress after school or even employ a private tutor to teach them after school hour. By so doing they complement the effort of the teacher in school, this will lead to improvement in student academic achievement. On the other hand, uneducated parents may not see the need to supervise their children homework, check their progress in school, hence their children low performance in school. Therefore the teacher efficacy would be low, since efficacy judgment is also associated with students' academic achievement and control. No wonder Guskey and Passaro (1994) posited that the teacher cannot really do much since home background of the child affects his efficacy.From the above one can say that the students' home background is a strong factor that can affect Mathematics student-teachers' efficacy positively or negatively.

There is also the influence of preparatory programme on the student-teacher; his understanding of principles and their application in actual classroom situation. Woolfolk, Hoy and Spero (2005) investigated changes in teacher efficacy during the teacher preparation programme and in the early year of teaching experience. Findings indicated that student-teachers' efficacy belief inclined during teacher preparation and student learning but fall with actual experience as teachers during first year of teaching and efficacy belief of teachers are difficult to change as they are attained. Redmon (2007) researched on feelings of pre-service teachers' efficacy at three points in the programme (pre-course, mid-course and post-course). Results suggest that pre-service teachers' feelings of their efficacy do improve as a result of their preparatory in such programme. Lekeatch and Assan (2010) worked on the challenges and prospects for teacher education in the Northwest province, South Africa. Findings revealed that teaching practice for the 21<sup>st</sup> century is plagued by challenges that affect the success of the programme. Some of the challenges identified are:

1. Teacher trainees use wrong criteria to select practice schools.

2. Teacher trainees are not adequately prepared for teaching practice

3. Mentors are not sufficiently involved in teaching practice because they lack knowledge of mentorship the assessment and awarding of teaching practice marks are subjective.

Thus there is need to look at the preparatory programme of teachers since it has been said that no nation can rise above its educational system and by inference no educational system can rise above its teachers that prompted the federal government to always emphasized training and retraining of teachers. Ukeje (2005) asserted that: we need to produce good and indeed excellent teachers of the mathematical sciences for the survival of the Nigerian nation.

Thus the programme for the production of good mathematical science teachers of all level should include four components: general education, specialized education in Mathematics, professional education and practical teaching. What is not clear to the current researcher is the influence of the preparatory programme on Mathematics student-teachers. Therefore

the study sort to determine the influence of preparatory programme on Mathematics student teachers in Delta state.

Several researchers had reported the influence of school type and school location, on students' achievement in Mathematics. Alutu and Eraikhuemen,(1999) observed that there was appreciable difference in academic performance in favour of private schools in 1996 and 1998 for JS3 students in Egor Local Government Area of Edo State. Some researches revealed significant differences in Mathematics achievement of urban and rural schools and urban students outperformed their rural counterparts (Eraikhuemen 2003, Owoeye 2011). Eraikhuemen continued that there was an interactional influence of gender and school location on their achievement in Mathematics. On the other hand, Maliki, Ngban and Ibu (2009) posit that rural schools' students outperformed their urban schools counterpart in Mathematics. From the forgoing this study also sort to examine the influence of school type (private or public) and school location (urban or rural) on student-teachers' efficacy will further add to the existing literature.

#### **Statement of Problem**

Teachers 'efficacy is the hub of students' academic achievement both in internal and external examinations. A well-grounded teacher in mathematical principles is better disposed to produce knowledgeable and skilled students. Most student-teachers do not exhibit these qualities as a result of lack of teaching skills and confidence in teaching profession even if they did well in their course work. The reason for this is not known, because much research work have not been done in this field of study as regards factors affecting Mathematics student-teachers' efficacy.

The academics programme for the professional training of Mathematics teacher in Delta State shows a consistent high performance of students during coursework but during teaching practice they perform below expectation. The reason for this low performance is not known. With the status of poor performance of Mathematics student-teachers one begins to wonder how we can produce enough Mathematics teachers who would be qualified to teach the future generation since Mathematics is a core subject in schools also a requirement for admission into tertiary institutions and Mathematics has being a tool for national development, a vehicle through which doctors, engineers, accountants, mathematicians, scientists, teachers and other professionals are made.

What is therefore responsible for the poor performance of these Mathematics studentteachers? Could it be that the home backgrounds of students they meet during teaching practice constitute a factor? Orcould it be that the preparatory programme is ineffective? This research is therefore written to statistically prove the factors affecting mathematics student-teachers' efficacy.

#### **Purpose of the Study**

This study is aimed at analyzing the home background of students and preparatory programme as factors affecting Mathematics student-teachers' efficacy. Specifically, it is intended in this study to:

(i) Examine the influence of teaching practice school type on Mathematics student-teachers' efficacy.

(ii) Examine the influence of school location on Mathematics student-teachers' efficacy.

## **Research Question**

- 1. Do Mathematics student-teachers perceive the home background of students as a factor affecting their efficacy?
- 2. Do Mathematics student-teachers perceive their preparatory programmeas a factor affecting their efficacy?
- 3. Is there any difference between Mathematics student-teachers that serve in public schools and those of private schools with regard to factors affecting their efficacy?
- 4. Is there any difference between Mathematics student-teachers that serve in rural schools and those of urban schools with regard to factors affecting their efficacy?

## Hypotheses

- 1. There is no significant difference betweenpublic and private school Mathematics student-teachers in relation to factors affecting their efficacy.
- 2. There is no significant difference betweenrural and urban school Mathematics studentteachers in relation to factors affecting their efficacy.

#### Scope of the study

This study is intended to analyze the home background of student and preparatory programme as factors affecting Mathematics student-teachers' efficacy. The study is centred on Mathematics education undergraduate student in 300 and 400 level of Delta State University, Abraka. These undergraduates were chosen because of their teaching practice experience and their preparatory programme experiences.

## **Research Design**

This study adopted survey research design. A survey research is a systematic way of describing the characteristics of fact about the population of a study. This study is aimed at analyzing the factors affecting Mathematics student-teachers' efficacy. Specifically, it is intended in this study to:

(i) Examine the influence of teaching practice school type on Mathematics student-teachers' efficacy.

(i)Examine the influence of school location on Mathematics student-teachers' efficacy

## **Population of the Study**

The population for this study shall consist of all the 300 and 400 level mathematics education students in the Department of Curriculum Studies and Instructional Technology, Delta State University, Abraka.

## Sample and Sampling Techniques

The sample for this study consist of 97 students of 300 and 400 level Department of Curriculum Studies and Instructional Technology, Delta State University, Abraka.

#### **Research Instrument**

The instrument that was used for data collection was a questionnaire titled: "Analysis of factors affecting Mathematics student-teachers' efficacy". The instrument consists of

twelve (12) items which were derived from students' home background and preparatory programme factors affecting Mathematics student-teachers' efficacy.

Items 1-6 measures students' home background as it affects Mathematics student-teachers that was adapted fromGuskey and Passaro (1994) but was modified the researcher to reflect the topic.

Items 7-12 measures preparatory programme as it affects mathematics student-teachers that was adapted from Ozgun-koca (2002) but was modified by the researcher to captures input of preparatory programme to teaching practice.

## Validity of the Instrument

To validate the instrument, copies were given to three experts in the Department of Curriculum Studies and Instructional Technology, University of Benin, Benin-City. Their correction were effected before drafting the final copy. This is to ensure that the instrument contains the appropriate items in term of language and adequacy of the quality of the instrument to measure the research variables.

## **Reliability of the Instrument**

To determine the reliability of the instruments, the split half method was used. The researcher administered the instrument to twenty (20) students that were randomly selected from 300 and 400 level mathematics education unit, Department of Curriculum Studies and Instructional Technology, Delta State University, Abraka. Cronbach's Alpha Coefficient was used to determine the internal consistency of the instrument and 0.739 r-value was obtained which show that the instrument is reliable.

## **Method of Data Collection**

The researcher visited the school, having obtained permission from the head of the Department, the course adviser will introduce the researcher to the students and students needed for the study shall be selected. The questionnaires were administered to the students individually and collected on the spot.

## Method of Data Analysis

The data analysis centered on research questions and the hypotheses formulated for the study. The statistical tool which was used to analyze the responses relating to the personal issues of the respondents was the simple percentage. The test for differences as stated in the hypotheses on the factors affecting Mathematics student-teachers' efficacy scale (QFAMSTES) was done by the t-test statistical tool at 0.05 level of significance.

# RESULTS

This chapter presents the results of the analysis of data collected based on the research questions and the hypotheses formulated for the study. The hypotheses formulated for the Study were tested. The presentation is done inaccordance with the research questions and stated hypotheses

**Research Question 1:** Do Mathematics student-teachers perceive the home background of students as a factor affecting their efficacy?

Mat	hematicsstudent-teachers' efficacy.				
S/N	Items	SA	Α	D	SD
	Student home background factors	%	%	%	%
1	I am very limited in what I can achieve in Mathematics	63	28	5	1
	teaching because a student home environment is a large influence on his/her achievement.	(64.9)	(28.9)	(5.2)	(1.0)
2	If students are not discipline at home, they are not likely to	38	52	6	1
	accept any discipline in Mathematics.	(39.2)	(53.6)	(6.2)	(1.0)
3	The extent a student can learn Mathematics is primarily	46	23	16	12
	related to family background no matter the effort I put in.	(47.4)	(23.7)	(16.5)	(12.4)
4	The teacher really can't do much because most of a	20	55	21	1
	student's motivation and performance in Mathematics	(20.6)	(56.7)	(21.6)	(1.0)
	depend on his/her home environment				
5	The hours in my class have little influence on students	43	47	7	0
	compare to influence of their home environment.	(44.3)	(48.5)	(7.2)	(0.0)
6	If parents would do more for their children	53 (54.6)	41 (42.3)	3 (3.1)	0

Table 1: Analysis of students' home background as a factor affecting Mathematicsstudent-teachers' efficacy.

On the whole, the respondents agreed that they are limited in what they can achieve in Mathematics teaching because of the influence of home background of students they met during teaching practice. 63 respondents or 64.9% (strongly agreed); 28 respondents or 28.9% (agreed); 5 respondents or 5.2% (disagreed) and 1 respondent or 1.0% (strongly disagreed) . If students are not discipline at home, they

are not likely to accept discipline in Mathematics learning. 38 respondents or 39.2% (strongly agreed); 52 respondents or 53.6% (agreed); 6 respondents or 6.2% (disagreed) and 1 respondent or 1.0% (strongly disagreed). The extent a student can learn Mathematics is primarily related to family background no matter the effort I put in. 46 respondents or 47.4% (strongly agreed); 23 respondents or 23.7% (agreed); 16 respondents or 16.5% (disagreed) and 12 respondents or 12.4% (strongly disagreed).

In the same vein, a teacher really cannot because most of student's motivation and performance in Mathematics depends on his/her home environment which affects teacher's efficacy. 20 respondent or 20.6% (strongly agreed); 55 respondents or 56.7% (agreed); 21 respondents or 21.6% (disagreed) and 1 respondent or 1.0% (strongly disagreed). The hours in my class have little influence on student compare to influence of home environment. 43 respondents or 44.3% (strongly agreed); 47 respondents or 48.5% (agreed); 7 respondents or 7.2% (disagreed) and no respondent (strongly disagreed). Also, if parents would do more for their children, teachers could do more in teaching of Mathematics. 53 respondents or 54.6% (strongly agreed); 41 respondents or 42.3% (agreed); 3 respondents or 3.1% (disagreed) and no respondent (strongly disagreed).

From the above analysis, it is obvious that home background of students, student-teachers met during teaching practice have a prevailing effect on their efficacy as a total of 45.2% respondents as strongly agreed and 42.3% of the total respondents agreed.

**Research Question 2:** Do mathematics student-teachers perceive theirs preparatory programme as a factor affecting their efficacy?

S/N	Items	SA	Α	D	SD
	Preparatory Programme factors	%	%	%	%
7	The Mathematics I learned at the University has	38	51	7	1
	prepared to teach Mathematics to students	(39.2)	(52.6)	(7.2)	(1.0)
8	The content of the acquired Mathematics courses were	11	22	58	6
	unrelated to what I am going to teach	(11.3)	(22.7)	(59.8)	(6.2)
9	I was able to use theories learned in my programme to	22	70	5	0
	help students understand Mathematics	(22.7)	(72.2)	(5.2)	(0.0)
10	The pedagogical courses in my programme were not very	5	15	67	10
	useful during teaching practice	(5.2)	(15.5)	(69.1)	(10.3)
11	The knowledge gain from my Mathematics programme	40	53	2	2
	really aided my teaching of Mathematics	(41.2)	(54.6)	(2.1)	(2.1)
12	I can teach any student using the skills acquired in my	42	51	4	0
	programme	(43.3)	(52.6)	(4.1)	(0.0)

 Table 2: Analysis of preparatory programme as a factor affecting mathematics

 student-teachers' efficacy

Table 2 above showed the analysis of preparatory programme as a factor affecting studentteachers' efficacy. The Mathematics I learned at the University has prepared me to teach Mathematics to students had 38 respondents or 39.2% (strongly agreed); 51 respondents or 52.6% (agreed); 7 respondents or 7.2% (disagreed) and 1 respondent or 1.0% (strongly disagreed). The contents of the required Mathematics courses were unrelated to what I am going to teach had 11 respondents or 11.3% (strongly agreed); 22 respondents or 22.7% (agreed); 58 respondents or 59.8% (disagreed) and 6 respondents or 6.2% (strongly disagreed). Moreover, in response to I was able to use theories learned in my programmetohelp students understand Mathematics had 22 respondents or 22.7% (strongly agreed); 70 respondents or 72.2% (agreed); 5 respondents or 5.2% (disagreed) and no respondent (strongly disagreed). Pedagogical courses in my programme were not very useful during teaching practice had 5 respondents or 5.2% (strongly agreed); 15 respondents or 15.5% (agreed); 67 respondents or 69.1% (disagreed) and 10 respondents or 10.3% (strongly disagreed).

Furthermore, the knowledge gained from my Mathematics education programme really aided my teaching of Mathematics had 40 respondents or 41.2% (strongly agreed); 53 respondents or 54.6% (agreed); 2 respondents or 2.1% (disagreed) and 2 respondents or 2.1% (strongly disagreed). Similarly, I can teach any student using the skills acquired in my programme had 42 respondents or 43.3% (strongly agreed); 51 respondents or 52.6% (agreed); 4 respondents or 4.1% (disagreed) and no respondent for (strongly disagreed).

From the above analysis one can emphatically say that preparatory programme was considered effective by Mathematics student-teachers since about 87.3% of the total respondents attested to that as against 12.7% who objected to that.

**Hypothesis 1**: There is no significant difference betweenpublic and private school Mathematics student-teachers in relation to factors affecting their efficacy.

To test the hypothesis, the t- test statistical tool at 0.05 level of significance is used. The analysis is presented in Table 7.

Group	Ν	X	SD	Df	Calculated	Critical	Decision
					t – value	t-value	
Public School	51	71.82	4.44				Not
Mathematics				95	1.718	1.96	Significant
Student-teachers							
Private School	46	70.04	5.64				
Mathematics							
Student-teacher							

 Table 3: t-test Analysis of public and private school mathematics student-teachers opinion of factors affecting their efficacy.

The table 3 above showed the t-test analysis of significant difference between Mathematics student-teachers opinion that practice in publicschools and their counterparts in private schools. The mean for public schools Mathematics student-teachers was 71.82 while that of private schools was 70.04. The calculated t-value was 1.718 while the critical t-value was 1.96. Since the critical t-value was greater than the calculated t-value, the null hypothesis is therefore retained. The result revealed that the opinion of Mathematics student-teachers who practice in public schools differ significantly from their counterparts in private schools. For instance, if students are not disciplined at home, they are not likely to accept any discipline in Mathematics teaching was a factor, it would be a factor to Mathematics student-teachers who practice in public schools and those who practice in private schools because indiscipline is everywhere the same no matter how we try to paint it.

1. **Hypothesis Two**: There is no significant difference betweenrural and urban school Mathematics student-teachers in relation to factors affecting their efficacy.

Using the t-test for the two independent variables, the hypothesis wastested and the result is presented in table 8.

Ν	X	SD	Df	Calculated	Critical	Decision
				t – value	t-value	
56	71.54	5.85				Not
			95	1.104	1.96	Significant
41	70.39	3.36				
	N 56 41	N         X           56         71.54           41         70.39	N         X         SD           56         71.54         5.85           41         70.39         3.36	N         X         SD         Df           56         71.54         5.85         95           41         70.39         3.36         95	N         X         SD         Df         Calculated t - value           56         71.54         5.85         95         1.104           41         70.39         3.36         95         1.104	NXSDDfCalculated t - valueCritical t-value5671.545.85951.1041.964170.393.36951.1041.96

Table 4: T-test Analysis of difference between urban and rural Mathematics student
teachers' opinion about factors affecting their efficacy.

P>0.05

The table 4 above showed the t-test analysis of significant difference between Mathematics student-teachers opinion that practice in urban and their counterparts in rural areas with reference to the factors affecting their efficacy. The mean of urban area Mathematics student-teachers was 71.54 while that of rural area was 70.39. The calculated t-value was 1.104 while the critical t-value was 1.96. Since the critical t-value was greater than the calculated t-value, the null hypothesis is therefore retained. The result revealed that the opinion of Mathematics student-teachers who practice in urban differ significantly from their counterparts in rural area with reference to factors affecting their efficacy. This was so because Mathematics teaching is everywhere the same in respective of location.

Hence the factors affecting both the urban and rural area Mathematics student-teachers are the same in Delta state.

#### DISCUSSION

# Students' Home Background as a factor affecting mathematics student-teachers efficacy

For effective and successful teaching practice, one of the factors affecting Mathematics student-teachers' efficacy is the home background of the students they met during teaching practice. I am very limited in what I can achieve in Mathematics teaching because a student home background is a large influence on his/her achievement had as much as 91 respondents or 93.8% (strongly agreed and agreed); if students are not disciplined at home, they are not likely to accept any discipline in Mathematics learning had as much as 90 respondents or 92.8% (strongly agreed and agreed). The extent a student can learn Mathematics is primarily related to family background no matter the effort I put in had 79 respondents or 81.4% (strongly agreed and agreed). The teacher really cannot do much because most of a student's motivation and performance in Mathematics depends on his/her home environment which affects students-teacher's efficacy had 75 respondents or 77.3% (strongly agreed and agreed); The hours in my class have little influence on students compare to their home environment had 90 respondents or 92.8% (strongly agreed and agreed). If parents would do more for their children, teachers could do more in teaching of Mathematics had 94 respondents or 96.9% (strongly agreed and agreed).

For effective learning to take place on the part of the students and for teachers to do their work effectively, parents have a lot to do for they are the first socializing agent of the family. The kind of support they give to their children during schooling will go a long way in helping teachers in their service delivery. The study has revealed to us that home background of students; student-teachers meet during teaching practice affect their efficacy. For instance, where students don't do homework given by student-teachers, no materials to use, cannot applied already taught principles, all of these will complicate the work of the student-teachers. If parents fail to discipline their children at home, fail to supervise their children' school work, check their books regularly, then student-teachers who are not fully operating as in-service teachers will be handicap. This was in line with Guskey and Passaro (1994) when they posited that when it comes right down to it, a teacher really cannot do much because most of student's motivation and performance depends on his/her home background.

**Preparatory programme as a factor affecting mathematics student-teachers' efficacy** Another factor that was analysed was Preparatory programme effectiveness which one can say does not affect them negatively. For instance, The Mathematics I learned at the University has prepared me to teach Mathematics to students had as much as 89 respondents or 91.6% (strongly agreed and agreed); The contents of the required Mathematics courses were unrelated to what I am going to teach had 64 respondents or 66% (strongly disagreed and disagreed); I was able to use theories learned in my programme to help students understand Mathematics had as much as 92 respondents or 94.9% (strongly agreed and agreed); Pedagogical courses in my programme were not very useful during teaching practice had 77 respondents or 79.4% (strongly disagreed and disagreed). Moreover, the knowledge gained from my Mathematics education programme really aided my teaching of Mathematics had as much as 93 respondents or 95.9% (strongly agreed and agreed). Similarly, I can teach any student using the skills acquired in my programme had as much as 93 respondents or 95.9% (strongly agreed and agreed). On the whole one can emphatically say that preparatory programme of Mathematics student-teachers is effective since about 87.3% of the total respondents attested to this confirming the effectiveness of the programme. This is in line with the work of Erawan (2011), who worked on "a path analysis of factors affecting pre-service teachers' teaching efficacy". He observed that preparatory programme effectiveness construction were the strongest predictor in the model. His result revealed that teacher preparatory programme influences the growth of teacher efficacy. Similarly, Redmon (2007) posited that this programme provides student-teachers with knowledge, skills and dispositions necessary to be successful teachers.

## Conclusion

The study analyzed the home background of students and preparatory programme as factors affecting mathematics student-teachersefficacy in Delta state university, Abraka and the following conclusions havebeen drawn:

1. For high efficacy of Mathematics student-teachers to be achieved during teaching practice, parents of students they meet during teaching practice should assist their children by providing them all resources needed, checking their school work, providing remedial service after school, discipline of their children mathematically at home to avoid low efficacy of Mathematics student-teachers.

2. It was also discovered that preparatory programme for training of teachers is effective enough to bring about the desired performance of Mathematics student-teachers but what affected them is embedded in the field during teaching practice.

#### Recommendation

From the foregoing therefore, the researcher wishes to recommend that:

1. Parents should complement the effort of teachers by motivating their children through providing necessary materials, checking their work after school, organizing extra coaching after school in-order to achieve the core aim of education in the state and the country in general.

2. Student-teachers should be empowered by the school authorities during teaching practice exercise inorder to get total control of students under their teaching.

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