

ASSESSMENT OF THE IMPACT OF MICROTEACHING ON PRE-SERVICE SCIENCE TEACHERS' PREPARATION FOR TEACHING PRACTICE IN COLLEGES OF EDUCATION IN OYO STATE, NIGERIA

<sup>1</sup>SABITU, KAMORU ABIODUN, <sup>2</sup>AMOO, JELILI OLALEKAN AND

<sup>3</sup>AJOBIEWE, DAMILOLA NNAMAKA

<sup>1</sup>DEPARTMENT OF GENERAL STUDIES EDUCATION SCHOOL OF GENERAL EDUCATION; <sup>2&3</sup>DEPARTMENT OF COMPUTER SCIENCE, SCHOOL OF SECONDARY EDUCATION (SCIENCE PROGRAMMES) FEDERAL COLLEGE OF EDUCATION (SPECIAL), OYO

**ABSTRACT**

*The purpose of this study is to assess the impact of microteaching on pre-service science teachers' preparation for teaching practice in selected Colleges of Education in Oyo State Nigeria using Federal College of Education (Special) Oyo, as a case study. The study adopted survey research method. The sample comprised of one hundred and fifty (150) pre-service teachers in second and third year teacher training programme in School of Secondary Education (Science Programmes) through the use of simple random sampling techniques. A self-structured questionnaire was used to collect data from respondents in the study. A test- retest method was used to determine the reliability of the instrument and reliability co-efficient of 0.91 was obtained on the instrument. The data collected were analysed through the use of descriptive statistics. The results of the study showed that 54% of pre-service teachers were adequately exposed to microteaching in the college. The study also revealed that pre-service teachers are averagely prepared for teaching practice in Colleges of Education in Oyo State. It was recommended among others that professionalism should be emphasized in teacher education in order to ensure that prospective teachers are professionally initiated by teachers who themselves are professionals.*

**Keywords: Microteaching, Pre-Service, Science Teachers, and Teaching Practice**

**INTRODUCTION**

Education is the backbone in the development of a society and teacher has a pivotal role in the education system. The National policy on Education (2004) of the Federal Republic of Nigeria asserted that since no education system may rise above the quality of its teachers, education shall continue to be given major emphasis in the national planning and development. Teaching practice is a major component of a teacher education programme (Adeleke, 2011).

The purpose of teacher education is to produce effective practicing teachers (Kalande, 2006). The question of how trainees can best be prepared to become an effective classroom practitioner has been in the minds of teacher educators worldwide for many years (Gorge, 2000). Review of literature about teacher education and classroom practice shows that, so far, there is very little known about how teacher education affects practices (Alhassan, 2012).

Microteaching is an effective device for modifying the behaviours of teachers under training as it is a highly individualized type of teacher training techniques. Moreover, it is useful for pre-service and in-service teacher training where teachers can improve their competencies. In the same vein, Syed and Zaid (2005) states that microteaching is a stimulated social skill development process aimed at providing feedback to teachers for

modification of their behaviour. He concludes that it is a clinical teaching programme organized for providing teachers with miniature encounters.

Microteaching as an essential part of formal education training for teachers has its objectives which include enabling teacher trainees gain confidence in teaching by mastering a number of skills on a smaller group of students; providing teacher trainees with an environment for practice-based teaching and through this instil some self-evaluative skills. The objectives of microteaching reveal that it is a field or branch of teacher education essential for teachers in training because through it, they imbibe the qualities of effective teaching, avoid mistakes often made by teachers and equip themselves with adequate mastery skills and techniques of good teaching (Goodlad, 2010).

In micro teaching, teacher candidates find opportunities to develop skills in drawing learners' attention, asking questions, using and managing time effectively and bringing the lesson to a conclusion. Also, through microteaching, the teachers' class management skills improve. They acquire the skills to choose appropriate learner activities, use teaching goals, and overcome difficulties encountered during the process. During learner learning, on the other hand, the teacher candidates improve their skills in giving feedback and measurement and evaluation. Furthermore, by observing the presentation of their friends they find a chance to observe and evaluate different teaching strategies (Abdurrahman, 2010).

Microteaching helps to develop skills to prepare lesson plans, choose teaching goals, speak in front of a group, and to ask questions and use evaluation techniques.

Teachers' self confidence grows in a comfortable environment. It provides an opportunity to learn multiple skills that are important for teaching in a short time. It is a useful experience to learn how to realize teaching goals through planning a model lesson. It shows how preparation, organization, and presentation are important in learners' learning. Choosing activities, putting them in a logical order, maintaining improvement make it possible to become a whole with the content. Receiving immediate feedback is a means to determine productivity and using teaching strategies. By asking appropriate questions strong learning environment can be established. Also, it allows for asking questions at various difficulty levels. Also, it makes it possible to create an environment that involves thinking differently and interaction (Gee, 2002).

### STATEMENT OF THE PROBLEM

The teacher is assumed to be 'everything' to the learner as well as the character model to the society, as it is commonly expected, his training must be such that not only comprehensive but well articulated. Such training must be based on sound conceptual understanding and reasoning that have been developed within the matrix of practice and experience. The aim of the microteaching practice research is to prepare pre-service teachers (student teachers) better by themselves in teaching practice lesson. As a result of the process of preparation, pre-service teachers prepare and present the lesson with less anxiety and feeling comfortable are the feelings that are expected to be observed in the class. The main purpose of this study is to examine the impact of micro teaching practices in preparing pre-service science teachers in their teaching practicum and how it has improved their classroom instructional delivery particularly in Oyo State, Nigeria.

### RESEARCH QUESTIONS

The following research questions guided there study;

1. What is the level of adequacy of microteaching pre-service teachers are exposed to in the Colleges of Education?
2. To what extent has the microteaching prepared pre-service teachers in the Colleges of Education for teaching practice exercise?
3. To what extent has the microteaching influenced instructional delivery of preservice teachers in the teaching practice exercise?
4. To what extent has microteaching motivated the pre-service teachers to become professional teachers?
5. How can microteaching be improved to enhance pre-service teacher's preparation?

### SIGNIFICANCE OF THE STUDY

Education is the backbone in the development of any society and a teacher has a pivotal role in the education system. This result of this research work will serve as a reliable facts for teacher trainees and lecturers in education to assess the extent to which the curriculum of teacher education as helped in shaping the knowledge of preservice teachers in terms of instructional strategies and their competences in delivering classrom intructions. It will also stand as a tool for professional bodies like Science Teachers Association of Nigeria (STAN), Nigerian Union of Teachers(NUT) Teachers regulatory agencies like Teachers Registration Council of Nigeria (TRCN) and Misnistry of Education to measure the standard of teachers qualifications in Nigeria. Furthermore, it will enable researchers to see the level of microteaching programme pre-service teachers (student teachers) are exposed to and if there will be need to improve on the existing methods used in assessing pre-service (student teachers) teachers during microteaching exercise and it will contribute to the existing literatures.

### METHODOLOGY

The research is a descriptive survey study in which questionnaire was used to collect data from student teachers (respondents) in Federal College of education (special), Oyo, Oyo State States, Nigeria. Surveys are used extensively to assess attitudes and characteristics of a wide range of subjects. Surveys can be useful when a researcher wants to collect data on phenomena that cannot be directly observed.

The population of the study consists of pre-service teachers in second and third year teacher training programme comprising of teaching practice students offering Mathematics, Biology, Chemistry, Computer Science, Physics and Integrated Science in Federal College of education (special),Oyo, Oyo State States, Nigeria.

The sample consists of one hundred and fifty respondents (student teachers) offering science courses. Fifty participants were selected from School of Secondary Education

The research instrument for this study is questionnaire designed by the researcher. It is titled Questionnaire on Microteaching and Pre-service Teachers' Performance (QMPTP). It has Six (6) sections as follows:- **Section A:** deals with bio data of the respondents.

**Section B:** it deals with the statements student teachers' responded to on the adequacy level of Microteaching

**Section C:** it deals with the statements student teachers' responded to on influence of Microteaching on teaching practice.

**Section D:** it deals with the statements student teachers' responded to on the influence of Microteaching and instructional delivery.

**Section E:** it deals with the statements student teachers' responded to on influence Microteaching on professionalism.

**Section F:** it deals with the statements student teachers' responded to on the ways of improving Microteaching.

The instrument was validated by two experts in the field of measurement and evaluation from educational psychology, Federal College of Education (Special), Oyo, Oyo State, Nigeria.

The instrument was field tested with ten (20) pre-service teacher from Emmanuel Alayande College of Education, Oyo that did not participate in the real study to determine reliability of the instrument. The respondents and school used for the field test did not participate in the final study. A T-test statistical method was used to determine the reliability of the instrument after the field testing. The reliability coefficient ( $r$ ) of the instrument is 0.91.

The researcher sought the permission of the Dean of the School and Head of Departments of under study. A total number of one hundred and fifty questionnaires were completed by the respondents and collected by the researchers on the spot the same day they were administered. The statistical techniques used for analysing the questionnaires was descriptive statistics

## RESULTS AND DISCUSSION

The data was analysed based on the research questions;

**Research Question One:** *What is the level of adequacy of microteaching preservice teachers are exposed to in the Colleges of Education in Oyo State?*

To answer this research question, the data collected in section B of the questionnaire were analysed through mean and percentages as show in table 2

**Table 1: Adequacy of Microteaching Courses**

S/ N	Statements	Maximum Obtainable mean score	Observed mean score	Level of Adequacy in Percent (%)
1	Have you offered courses in microteaching?	5	4.0	80
2	Are the credit units adequate for your need?	5	2.4	48

3	Are the courses adequately handled by the Tutors?	5	2.6	52
4	Are you involved in the class Projects for microteaching?	5	2.1	42
5	Do the courses enhance your performance during teaching practice exercise?	5	2.5	50
	<b>Overall Level of Adequacy</b>		<b>2.72</b>	<b>54.4</b>

An examination of Table 1 reveals that 54.4% of student-teachers sampled in the study perceived that the Microteaching Courses is adequate for their needs. However, the students were of opinion that the level of adequacy of Credit Units (48%) and handling of Microteaching Courses (42%) was not adequate. It therefore implies that overall level of adequacy of Microteaching student-teachers were exposed to in the Colleges of Education in the Oyo State is just on the average (54.4).

**Research Question two: *To what extent has the microteaching prepared preservice teachers in the Colleges of Education in the Oyo State States for teaching practice exercise?***

To answer the research question, the data collected in Section C of the Questionnaire were analysed through mean and percentage as shown in Table 2.

**Table 2: Microteaching and Teaching practice**

S/N	Statements	Maximum Obtainable mean score	Observed mean score	Level of preparedness in Percent (%)
6	Prepared me well for teaching practice exercise.	5	2.5	50
7	Strengthen my methodology during teaching practice.	5	3.1	62

8	Given me confidence to teach during teaching practice.	5	2.0	40
9	Empowered me on effective class management.	5	2.5	50
10	Improved my capacity to prepare documents for teaching.	5	2.9	58
	<b>Overall average preparedness</b>		<b>2.6</b>	<b>52</b>

An examination of Table 2 revealed that 52% of student-teachers sampled in the study perceived that the Microteaching Courses prepared sufficiently for their teaching practice exercise. The Table also showed that only 40% of the studentteachers agreed that their exposure to Microteaching course gave them confidence to teach effectively during the teaching practice. On the whole, this result indicates that the Microteaching course student-teachers were exposed to in the selected Colleges of Education in the Oyo State states averagely prepared them for their teaching practice exercise (52%).

**Research Question three: To what extent has the microteaching influenced instructional delivery of pre-service teachers in the teaching practice exercise?**

To answer the research question, the data collected in Section D of the Questionnaire were analysed through mean and percentage as shown in Table 3.

**Table 3: Microteaching and Instructional delivery**

S/N	Statements Microteaching prepared me to;	Maximum Obtainable mean score	Observed mean score	Level of influence in Percent (%)
11	Introduce my lesson effectively during teaching practice.	5	2.6	52
12	Present my lessons adequately during teaching practice.	5	2.4	48
13	Evaluate my lessons during teaching practice.	5	2.7	54

**ASSESSMENT OF THE IMPACT OF MICROTEACHING ON PRE-SERVICE SCIENCE TEACHERS' PREPARATION FOR TEACHING PRACTICE IN COLLEGES OF EDUCATION IN OYO STATE, NIGERIA**  
**WATARI: Journal of Science, Technology and Mathematics Education Volume 5 Number 1 (2021).**

ISSN: 2335-3345. <https://watarijournal.com>. Email: [bichisose@yahoo.com](mailto:bichisose@yahoo.com) TETFund sponsored

14	Summarise my lessons during teaching practice.	5	2.3	46
15	Manage my class for conducive teaching and learning.	5	2.6	52
	<b>Overall average influence</b>		<b>2.52</b>	<b>50.4</b>

An examination of Table 3 revealed that 50.4% of student-teachers sampled were of the opinion that the Microteaching Courses prepared sufficiently for instructional delivery during their teaching practice exercise. The Table also showed that less than 50% (46% and 48%) of the student-teachers agreed that their exposure to Microteaching course empowered them to present lessons appropriately during the teaching practice. On the whole, the result indicates that Microteaching course only prepared student-teachers in the selected Colleges of Education in the Oyo State marginally (50.4%) prepared them to deliver instructions during teaching practice exercise (50.4%).

**Research Question Four: *To what extent has microteaching motivated the preservice teachers to become professional teachers?***

To answer the research question, the data collected in Section E of the Questionnaire were analysed through mean and percentage as shown in Table 4.

**TABLE 4: Microteaching and Professionalism.**

S/N	Statements	Maximum Obtainable mean	Observed Mean implication	%age Yes
16	Through my exposure to microteaching course;			
	I want to be a committed teacher.	5	2.1	42
17	I want to be a professional teacher.	5	2.5	50
18	I want teacher profession to be my life career.	5	2.3	45
19	I am proud to present myself as a teacher anywhere.	5	2.0	40
20	I want to belong to teachers' professional associations.	5	2.4	48
	<b>Overall average</b>		<b>2.3</b>	<b>45</b>



An examination of Table 4 revealed that only 45% of student-teachers sampled were of the opinion that the Microteaching Courses has motivated them to become professional teachers. This result indicated that Microteaching course had not motivated the majority of pre-service teachers to be committed to teaching as a career.

**Research Question Five: *How can microteaching are improved to enhance pre-service teacher's preparation***

To answer this research question, the data collected in section F of the questionnaire were analysed through mean and percentages as show in table 5.

**Table 5**

S/N	Suggestions	Number of Respondent	Percentage of Respondent	Ranking
21	Tutors should be more devote handling the Course	60	40.0	1 <sup>st</sup>
22	Provision of adequate instructional F	30	20.0	2 <sup>nd</sup>
23	Students should be actively Involved development of Instructional media	25	16.7	3 <sup>rd</sup>
24	Allocating more time for microteachi Since it is practically oriented	20	13.3	4 <sup>th</sup>
25	Provision of conducive environment	15	10.0	5 <sup>th</sup>

Table 5 indicates suggestions of student teachers to the ways of improving Microteaching to enhance pre-service teacher's preparation. The following are the major suggestions to the way of improving the pre-service teacher's preparation in the order of ranking:

- i. Tutors should be more devoted when handling the courses 1<sup>st</sup>
- ii. Provision of adequate instructional facilities 2<sup>nd</sup>
- iii. Students should be actively involved in the development of instructional media 3<sup>rd</sup>
- iv. Allocating more time for microteaching since it is practically oriented 4<sup>th</sup>
- v. Provision of conducive environment 5<sup>th</sup>.

**DISCUSSION OF FINDINGS**

Table 1 above was used to determine the adequacy level of the microteaching preservice teachers' are exposed to. Table B above indicates the mean level of adequacy of the microteaching pre-service teachers' are exposed to in Oyo State. The mean level is 2.72 and the percentage adequacy level is 54.4 % which indicates that the level of microteaching pre-service teachers' are exposed to is averagely adequate. This finding



corroborates with the findings of Ahmad (2013) who observed that the role and importance of microteaching as an integral part of teacher education programme upon which the syllogisms regarding teaching and learning are built. Microteaching is the foundation of good delivery by the pre-service teacher and his/her attitude and general behaviour which is achieved through their active involvement in the exercise.

Table 2 above was used to determine the extent to which microteaching has prepared pre-service teachers' in Colleges of Education for their teaching practice exercise. Table 3 above indicates the mean level of the extent to which microteaching has prepared pre-service teachers' for teaching practice exercise. The mean level is 2.6 and the percentage level of preparedness of is 52%. This indicates that microteaching has averagely prepared pre-service teachers' for teaching practice exercise. This finding corroborates with the findings of Alhassan (2012) who observed that classroom management and poor lesson presentation by teaching practice students is a result of low exposure to microteaching and inadequate environment to rigorously practice teaching during microteaching exercise.

Table 3 above was used to determine the extent to which microteaching has influenced the instructional delivery of pre-service teachers' in Colleges of Education during teaching practice exercise. Table 3 above indicates the mean level of the extent to which microteaching has influenced instructional delivery pre-service teachers' during teaching practice exercise. The mean level is 2.52 and the percentage level is 50.4%. This indicates that microteaching has marginally influenced the instructional delivery of pre-service teachers' during teaching practice exercise. This finding corroborates with the finding of Rosita (2013) who observed that microteaching will equip pre-service teachers with reflective skills for personal growth and also enhance their experience during teaching practice.

Table 4 was used to determine the extent to which microteaching has motivated preservice teachers' to become professional teachers in Colleges of Education during teaching practice exercise. Table 4 above indicates the mean level of the extent to which microteaching has motivated pre-service teachers' to become professional teachers during teaching practice exercise. The mean level is 2.3 and the percentage level is 45%. This result indicated that Microteaching course had not motivated the majority of pre-service teachers to be committed to teaching as a career. This finding is in line with the research conducted by Abdulwahab (2009) who observed that many teachers most especially in Nigeria chose teaching profession because they have no other alternatives and has soon as they secure another job they tend to resign from teaching profession despite their professional qualification as teachers. The fact is most of these teachers are not properly oriented during their teacher training programmes and more so in most developing countries today of which Nigeria is part do not take teaching as a serious profession and hence teachers are not well placed in the society. Hence this situation calls for an urgent review of educational policies in Nigeria.

Table 5 was used to determine suggestions to the ways of improving microteaching to enhance pre-service teachers' preparation for teaching practice in Colleges of Education in Oyo State States. The following are the major suggestions stated by the respondents to the ways of improving microteaching to enhance pre-service teacher's preparation for teaching practice in Colleges of Education; Tutors should be more devoted when handling the course, students should be actively Involved in the development of Instructional media, allocating more time for microteaching since it is practically oriented and provision of conducive environment for teaching and learning during the

exercise. This finding is in conformity with those of Rosita (2013) which reported that team teacher supervision and team peer supervision were identified by the respondents as being crucial to the effectiveness of microteaching and field experiences. There is a growing appreciation of the practice of team teaching, team teacher supervision and team peer supervision, among teachers, teachers' educators, educational researchers and educational practitioner in general. The importance of such practices lies in their potentialities to offer check and balance in educational decisions or judgment in a manner that is capable of facilitating the attainment of an appreciable level of objectivity, validity and reliability in educational accountability. There is no gainsaying that such practices are capable of enhancing the quality of teacher education in Nigeria and other parts of the world. Furthermore, Adetunji (2010) suggest that to adequately supervise the teaching of a student, emphasis should not be on how far, but how well the supervision is done. In view of this, a reasonable length of time should be spent with the student during microteaching to be able to follow every facet of the lesson for the purpose of giving adequate guidance. It is suggested that a supervisor should stay with the student for the entire period of the lesson or at least for 30 minutes from the beginning with an additional 10 to 15 minutes to discuss, with the student, his strength and weakness.

### SUMMARY OF FINDINGS

This study assessed the impact of microteaching on pre-service teachers' preparation for teaching practice in Colleges of Education in Oyo State of Nigeria.

Relevant literature and researches carried out by some eminent scholars and researchers reviewed on the problems investigated on this study. However, the study adopted descriptive type of research design to describe the phenomenon as it relates to the area of study for generalization. The study generally reveals as summarized below:

- i. The level of adequacy of microteaching preserves teachers were exposed to in selected Colleges of Education in the Oyo State is 54.4%.
- ii. The extent to which microteaching prepared pre-service teachers for teaching practice in the Oyo State is 52%.
- iii. Exposure of pre-service teachers to Microteaching averagely (50.4%) influenced their instructional delivery during teaching practice exercise.
- iv. Less than 50% of pre-service teachers were motivated by the microteaching course to become professionals.

### CONCLUSION

This research has demonstrated that microteaching is an essential programme that should not be made to have an insignificant existence because of the role it plays as the foundation for all forms of success in teaching-learning process. Microteaching appears not to function very well because of mystification that has befallen teacher education institutions as a result of inadequacy of facilities and personnel to ensure adequate assessment and thorough teaching. Moreover microteaching appears not to function well because of non-provision of avenue for discussing cases encountered during microteaching and field experiences. Much should be done to ensure this particularly in areas of facilities, personnel and even methodology. It is believed that this programme remains the pride of the educational status as all professional bodies have one form of professional internship period or the other.

## RECOMMENDATIONS

Based on the findings, the following recommendations are made.

- i. The administrators in the Colleges of Educations should ensure that instructional materials (instructional media) such as video recordings and multimedia packages are provided for proper handling of Microteaching courses.
- ii. Teacher training institutions should seek for grants from Tertiary Education Trust fund for the capacity building of their lecturers in handling Microteaching effectively.
- iii. Professional associations such as Science Teachers Association of Nigeria, National Association of Educational Media and Technology, Mathematical Association of Nigeria (MAN) among others should organise seminars and workshops on how to improve the teaching of Microteaching.
- iv. Government at various levels should provide special grants that would motivate student teachers and their supervisors for effective teaching practice exercise.

## REFERENCES

- Abdurrahman, B. (2010). Teaching Practice for Student Teachers of B.Ed. Programme: Issues, Predicaments & Suggestions. *Turkish Online Journal of Distance Education*, 10(2), 101-108.  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8535.1976.tb00354.x/abstract>
- Abdulwahab, A T. (2009). Video Technology for Teacher Training: Microteaching and other Adventures. *Technology at Work. United State. Knowledge Enterprise.*  
[http://www.pixel-online.net/edu\\_future/common/download/Paper\\_pdf/SOE15-Chatzidimou.pdf](http://www.pixel-online.net/edu_future/common/download/Paper_pdf/SOE15-Chatzidimou.pdf)
- Adetunji, A.S. (2010). Management of Teaching Practice in the Preparation of Nigerian Certificate of Education (NCE) Teachers. *Journal of College Teaching and Learning*, 7(11).  
<http://www.academicjournals.org/err/PDF/Pdf%202011/Aug/Deniz.pdf> as on 29/09/20
- Adeleke, O. (2011). Comparison between Traditional teaching and Microteaching during School Experience of Student-teachers. *Eursian Journal of Educational Research*, 20(1), 1-13.  
<http://www.mendeley.com/research/learning-microteaching-lessonstudyteacher-preparation-4/>
- Ahmad, S.R., Igwe, O.R, Ngozi, E.U.(2013). Reflective Effects of Microteaching and Field Experiences on Pre-service Teachers in Nigeria. *Asia Journal of Education*, 5(1), 57-68.  
[http://findarticles.com/p/articles/mi\\_qa3673/is\\_2\\_127/ai\\_n29321093/pg\\_7/?tag=content;col1](http://findarticles.com/p/articles/mi_qa3673/is_2_127/ai_n29321093/pg_7/?tag=content;col1)
- Alhassan, Z. (2012).Rationale for and Application of Microteaching to Improve Teaching. *The Journal of Teacher Education*, 19(2), 145-157.

Federal Republic of Nigeria (FRN, 2004). *National Policy on Education* (6th Ed.). Lagos.NERDC Press

Gee, C. (2002). Developing a Better Understanding of Technology-Based Pedagogy. *Australasian Journal of Educational Technology*, 25(5), 714-730. <http://onlinelibrary.wiley.com/doi/10.1111/1467-8535.00215/abstract>

George, K. (2006). Changes in Student's Anxieties and Concerns After their First and Second teaching Practices, *Educational Research*, 39, 21-28. <http://www.gu.edu.pk/GUJR/PDF/PDF-June-2011/3%20Manzoor%202029%20Paper.pdf>

Goldlad, L. (2010). Critical Factors in On-Campus Clinical Experiences: Perceptions of Pre-service Teachers. *Teaching Education*, 5(2), 163-174. <http://www.jstor.org/stable/27536759> as on 29/09/20

Kalande, A. (2006). The Microteaching Experience: Student Perspective. *Education*, 121(4), 830-835. <http://www.gu.edu.pk/GUJR/PDF/PDF-June-2021/3%20Manzoor%2015-29%20Paper.pdf>

Rosita, M., (2013). Rationale for and Application of Microteaching to improve teaching. *Journal of Educational Research*, 4 (2), 27-31. <http://www.jstor.org/stable/27535939>

Sayed, A. and Zaid, A.N. (2012). Pre-service Teachers' Opinions about the Microteaching Method in Teaching Practice Classes. *Turkish Online Journal of Educational Technology*, 12(2), 34-39. <http://onlinelibrary.wiley.com/doi/10.1111/1467-8535.00215/abstract>