EFFECT OF GENDER ON STUDENT-TEACHERS’ VTR TECHNIQUE ACQUISITION FOR MASTERING VERBAL COMMUNICATION SKILL IN MICROTEACHING

Dr. Sabina Nwana

Abstract
This study is an experimental study. The purpose was to determine the effect of gender on student-teachers’ acquisition of verbal communication skills using Video Tape Recorder (VTR) technique of microteaching. Eighty (80) student-teachers were sampled out of a population of 120. A self-developed instrument (RASOVECS) on verbal skills was used for data collection. The reliability coefficient of the instrument stood at 0.94 Mean(x) scores were used to answer the research question while the Analysis of Covariance (ANCOVA) was used to test the null hypothesis at 0.05 level of probability. It was found that, gender had no significant effect on student-teachers’ acquisition of verbal skills through VTR evaluation. Based on the findings, recommendations were made.

Introduction
Microteaching is a very important technique in teacher education institutions. The idea of microteaching was conceived by Dwight Allen with a team of researchers at the Stanford University in 1963. It was primarily aimed at identifying teacher behaviours that will enhance effective teaching. Those behaviours identified were called skills. They include: set induction, use of examples, stimulus variation, planned repetitions, questioning, communication skills, reinforcement and closure (Allen and Ryan, 1969; Brown, 1975; and Eze, 1992). The skills were practised by the student-teachers under a controlled laboratory condition. This is to reduce the complexities of actual classroom teaching viz: class size, content, time etc; and for the practice of one or a combination of skills for acquisition (Turney, 1970; Brown, 1975; Miltiz 1975; and Maduewesi, 1992).

According to Farant (1981), microteaching has been generally defined as “a scaled-down teaching encounter”. There are the Stirling and the Stanford models of microteaching. The Stirling model was developed in 1968. Ideally, microteaching involves the use of Video Tape Recorder (VTR), a short lesson of 5-10 minutes duration, playing it back (video-play-back), making a critique of it and repeating the operation to improve certain components of the micro lesson (Brown, 1975; and Wallace, 1979). The microteaching cycle has six stages namely:

i. Study/Re-study the skill
ii. Observe/Re-observe the skill
iii. Plan a micro lesson with the skill
iv. Teach/Re-teach the skill
v. Critique (Feedback/Re-critique)
vi. Replan.

As indicated in Brown (1975), the rating scale and the values assigned to it for the evaluation of the skills in a microteaching session are as follows:

- 1, 2, 3, 4, = Poor
- 5, - - = Average
- 6, - - = Fairly Good
- 7, - - = Good
- 8 & 9 - = Excellent

An indispensable component of microteaching is clinical supervision. It is the diagnosis of the teaching problems of the student-teacher by the supervisor. It is done with mutual understanding of both the supervisor and the student-teacher. To carry out diagnosis, there is a video-play-back of the student’s performance. Two of them are jointly involved in the clinical session. This brings in the concept of joint accountability for the success or failure of the practicum.

Goldhammer (1969) identified four (4) stages model of clinical supervision as follows:
1. Pre-Observation Conference
2. Observation in the classroom
3. Analysis and Strategies
4. Post-Observation Conference

Communication is the information exchange between two or more persons. In education, “communication refers to the information transmitted from the teacher to the pupils” (ADEWOYIN, 1991). Verbal communication is the use of spoken word (Burgoon & Ruffiner, 1978). In the words of Bellack (1996), “the verbal actions perform pedagogical functions in classroom discourse”.

According to Farant (1981), the teaching skills related to verbal communication in the classroom have been identified as follows:

- Class control, encouraging the flow of pupils’ ideas, encouraging effort, explaining difficulties, helping to clarify pupils’ ideas, reading aloud, story telling and using pupils’ ideas (Farant, 1981).

The problem of this study lies on the gender effect on VTR evaluation technique of microteaching. Research reports indicate that, the male students recorded a higher mean (x) score than the females (Lovegrove, 1975; and Anikweze, (1998). The problem is that if the males at all times perform better than the females in microteaching sessions, then an academic problem already exists which means, that, there is need for further research so as to work out strategies for improvement. It is against this background that the present study is carried out to determine effect of gender on VTR technique in microteaching using verbal communication skills.
The purpose of this study is to determine the effect of gender on VTR technique in microteaching.

Research Question
Has gender (male and female) any effect on VTR technique of microteaching on the mastery of verbal communication skills.

Hypothesis
There is no significant difference between the mean (x) VTR scores of male and female student-teachers on their mastery of verbal communication skill (P<0.05).

Method
The study is an experimental study. The Area of the study is college of Education, Nsugbe. The Population of the study comprised 120 student-teachers of Education/Economics made up of 40 males and 80 females. A sample of 40 females was drawn out of the 80 females through simple random sampling by balloting while all the 40 male student-teachers were involved in the study. That is, 40 males and 40 females giving a total of 80 which is considered adequate for generalization of findings.

The Instrument for data collection was a rating scale on verbal communication skill (RASOVECS) of microteaching developed by the researcher. It has two sections. Section A deals with personal data of the student-teachers while Section B deals with the items on collection of data with respect to verbal communication skill. It has fifteen (15) items which were rated on 5-point scale of:

1 = Poor
2 = Fair
3 = Good
4 = Very Good
5 = Excellent (maximum mark)

Validation of the Instrument: The instrument has both face and content validity. The face validity was determined by presenting draft copies of the RASOVECS to five experts as follows: three microteaching supervisors in the NCE programme; I in curriculum; and I in measurement and evaluation. The comments of these experts were used to modify the instrument. The content validity of the instrument was established by giving the items of verbal communication skill to five content specialists.

Reliability of the Instrument: This was determined using test-retest method. The reliability coefficient was computed using the formula.
\[ R = \frac{S_x^2 + S_y^2 - S_d^2}{2S_x} \]

Source: Dowine and Heath (2008:97)
Where: \( S_x^2 \) = Variance of first test
\( S_y^2 \) = Variance of second test
\( S_d^2 \) = Variance of difference

The reliability coefficient of the instrument stood at 0.94

Experimental Procedure
The researcher adopted three-phase systematic procedure as follows:
1. Pre-test (pre-treatment) phase
2. Training and practice sessions (Treatment phase)
3. Post-test (post-treatment) phase

Method of Data Analysis: The pre-test and post-test scores of male and female student-teachers on their mastery of verbal communication skill were used for analysis. A score of three-point five (3.50) and above was regarded as a demonstration of mastery in the practice of verbal skill. The various mean (x) scores were subjected to Analysis of Covariance (ANCOVA). The research hypothesis was tested at 0.05 alpha level using ANCOVA.

Results
Research Question 1
Has gender (male and female) any effect on the VTR technique of microteaching on student-teachers mastery of verbal communication skills?

Table 1
Mean (x) VTR scores of Male and Female Student-teachers on their Mastery of Verbal Communication Skills.

<table>
<thead>
<tr>
<th>Item No</th>
<th>x1: Female</th>
<th>x2: Male</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>D1 Female</td>
<td>D2 Male</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3.76</td>
<td>4.72</td>
<td>** Mastery</td>
</tr>
<tr>
<td>2</td>
<td>4.13</td>
<td>4.69</td>
<td>**</td>
</tr>
<tr>
<td>3</td>
<td>3.44</td>
<td>4.76</td>
<td>*Non-mastery</td>
</tr>
<tr>
<td>4</td>
<td>3.89</td>
<td>4.61</td>
<td>**</td>
</tr>
<tr>
<td>5</td>
<td>3.39</td>
<td>3.47</td>
<td>*</td>
</tr>
<tr>
<td>6</td>
<td>3.85</td>
<td>4.57</td>
<td>**</td>
</tr>
<tr>
<td>7</td>
<td>4.06</td>
<td>4.82</td>
<td>**</td>
</tr>
<tr>
<td>8</td>
<td>3.99</td>
<td>4.60</td>
<td>**</td>
</tr>
<tr>
<td>9</td>
<td>3.95</td>
<td>4.71</td>
<td>**</td>
</tr>
</tbody>
</table>
Effect of Gender on Student-Teachers’ VTR Technique Acquisition for Mastering

<table>
<thead>
<tr>
<th>Words</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>**</th>
<th>*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questioning</td>
<td>3.97</td>
<td>4.80</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Verbal reinforcement</td>
<td>3.43</td>
<td>3.37</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Fluency in presentation</td>
<td>3.83</td>
<td>4.58</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Explanations</td>
<td>3.77</td>
<td>4.86</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Use of action verbs</td>
<td>3.69</td>
<td>4.77</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Verbal mannerisms</td>
<td>4.00</td>
<td>4.81</td>
<td>**</td>
<td>**</td>
</tr>
</tbody>
</table>

NB: A Mean (x) rating score of 3.5 and above indicates mastery of skills.
** Stands for Mastery of the Verbal Communication skill
* Stands for Non-mastery of the Verbal Communication skill.

Table 1 indicates that the mean (x) scores of the female student-teachers on mastery of verbal communication skills ranged from 3.39 to 4.13. The female student-teachers showed mastery on 12 VC skills out of 15. The male student-teachers recorded mean (x) scores that ranged from 3.37 to 4.81. The male student-teachers showed mastery on 13 skills out of 15. Hence, only items 3, 5 and 11 with a corresponding mean (x) scores of 3.44, 3.39 and 3.43 indicated non-mastery by the female student-teachers. Also, only items 5, and 11 with a corresponding mean (x) scores of 3.47 and 3.37 indicated non-mastery by the male student-teachers.

Hypothesis

There is no significant difference between the mean (x) VTR scores of male and female student-teachers on their mastery of verbal communication skill (P<0.05).

The research hypothesis was tested using the analysis of covariance (ANCOVA) method. The dependent variables were the mean (x) scores labeled VC post-test scores that is, verbal communication post-test scores while the independent variable was Gender: Female labeled as I and Male labeled as 2. The VC pre-test scores, obtained from the ratings of three independent raters were used as the covariates. The results of the analysis were presented in table 2 as follows:

Table 2
Result of the Analysis of covariance (ANCOVA) of Gender (Male and Female) scores on verbal communication skills.
**Dr. Sabina Nwana**

**VC Post-test scores by Gender with VC Pre-test scores**

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>‘F’ Cal</th>
<th>‘F’ table (0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>0.335</td>
<td>2</td>
<td>0.167</td>
<td>1.332</td>
<td>3.23</td>
</tr>
<tr>
<td>Gender</td>
<td>0.017</td>
<td>1</td>
<td>0.017</td>
<td>0.137</td>
<td>4.08**</td>
</tr>
<tr>
<td>VC PRE (cover)</td>
<td>0.147</td>
<td>1</td>
<td>0.147</td>
<td>1.168</td>
<td>4.08</td>
</tr>
<tr>
<td>Residual</td>
<td>4.648</td>
<td>37</td>
<td>0.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4.982</td>
<td>39</td>
<td>0.128</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Decision: Null Hypothesis (Ho) Accepted.**

From table 2, the F-Cal. Value (0.137) is less than F-table value (4.08) at 0.05 level of probability. Hence, gender had no significant effect on the verbal communication post-test scores at 0.05 level of probability. There is no significant difference between the mean (x) (VTR) scores of male and female student-teachers on their mastery of the verbal communication skills. The summary of Multiple Classification Analysis (MCA) on Gender effect on VC skills is presented in table 3 as follows:

**Table 3**
Summary of Multiple Classification Analysis (MCA) of Gender Effect on VC Post-test scores.

**VC Post-test scores by Gender with VC Pre-test scores**

**Grand mean = 3.94**

<table>
<thead>
<tr>
<th>Variable category +</th>
<th>N</th>
<th>Unadjusted Deviation</th>
<th>Eta²</th>
<th>Adjusted for Independents + Covariates Deviation</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENDER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Female</td>
<td>33</td>
<td>0.03</td>
<td>0.19</td>
<td>0.01</td>
<td>0.07</td>
</tr>
<tr>
<td>2 = Male</td>
<td>7</td>
<td>-0.15</td>
<td></td>
<td>-0.06</td>
<td>0.067</td>
</tr>
<tr>
<td>Multiple R squared</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.359</td>
</tr>
<tr>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From table 3, the result of analysis shows that females performed better than the males but the difference was insignificant. The mean (x) for female after adjustment was higher than the mean for male. The mean (x) for female as can be calculated from the table is 3.94+0.01 = 3.95 while the mean (x) for make is 3.94–0.06 = 3.88. The Eta² is 0.19 and then 0.07 when adjusted showing that the strength of the relationship between adjusted VC Post-test scores and gender was weak. The multiple R² is 0.67% showing that the gender explained only 0.67% of
the variation in the Post-test scores. Since the $R^2$ is very low, gender had no significant effect on VC skills.

**Discussion of Findings**

The findings of the study were discussed based on the research question and the hypothesis stated in the study.

Based on the analysis in table 2, the F-Cal Value (0.137) was less than F-table value (4.08) at 0.05 level of probability. Thus, gender had no significant effect on the verbal communication post-test scores at 0.05 level of probability. Secondly the Multiple Classification Analysis (MCA) on gender effect on VC skills as presented in table 3 shows that gender has no significant difference. The mean ($x$) for the female after adjustment was higher than the mean for males yet, it shows no significant difference. This is because the mean ($x$) for female as can be calculated from the table is $3.94 + 0.01 = 3.95$ while the mean ($x$) for the males is $3.94 - 0.06 = 3.88$. The $\eta^2$ is 0.19 and 0.07 when adjusted showing that the strength of the relationship between the adjusted VC post-test scores and gender was weak. The multiple $R^2$ is 0.67% showing that gender explained only 0.67% of the variation in the post-test scores. Since the $R^2$ is very low, gender had no significant effect on the student-teachers’ mastery of verbal communication (VC) skills through VTR evaluation. This suggests that gender should not be considered when determining the things that affect VTR evaluation of VC skills.

The findings of this study that the female appear to have performed higher than the males in the VTR technique is contrary to that of Lovegrove (1975) that, the males performed higher (73:60) than the females (72.09); with standard deviation of 8.05 and 6.25 respectively. He pointed out that in the West African Sub-region, men seem to hold themselves in higher esteem hence, the tendency to score higher than the females. Anikweze (1998) observed in the study he conducted on gender effect, that the mean scores higher than the females. He reported that, the male students’ mean score of 76.20 was much higher than the female men scored of 67.03. This finding was not proved in the present study since gender was found to have no significant effect on the student-teachers’ mastery of verbal communication (VC) skills. However, the findings of the present study agrees with that of Ofoegbu (1984) that, sex as a variable has no significant effect on students’ acquisition of science process skills.

**Conclusion**

Microteaching is teaching on a small-scale. Its primary purpose is to help the student-teacher to acquire a repertoire of teaching skills under controlled laboratory conditions. Some of the teaching skills are: set induction, use of examples, planned repetitions, verbal and non-verbal communications to mention but a few. There are variables such as age, sex, family background, media resources, uncondusive environment, incompetent supervisors etc that may affect student-teachers’ acquisition of the teaching skills but in this study, sex was not a
factor. In the present study, the $R^2$ and $\eta^2$ values of 0.19 and 0.067 were low as indicated in the Multiple Classroom Analysis (MCA) on table 3. This explains that gender had no significant effect on student-teachers’ acquisition of verbal communication (VC) skills through VTR evaluation.

**Recommendations**

Based on the findings of the study, it is recommended as follows:

1. That gender should not be considered when determining the things that affect VTR evaluation of verbal communication (VC) skills. This is because in this study, gender had no significant effect on the student-teachers’ mastery of VC skills through VTR evaluation.

2. That more researches should be conducted on gender effect on the student-teachers’ acquisition of teaching skills because researches in this area are very rare and appear inconclusive.

3. That the government, school, colleagues, teachers, guidance counselors, microteaching supervisors and future researchers should use the findings of this study as a point of reference on nullity of gender in the acquisition of teaching skills.

**References**


**Effect of Gender on Student-Teachers’ VTR Technique Acquisition for Mastering**


