

by ignoring them through non-reinforcement. It implies using reinforcement to bring about change in behaviour. The practice of shaping which is also known as “successive approximation” is not a method for managing inappropriate behavior. Instead, it is a method that assists one in setting goals for the behaviour of a certain individual.

Shaping technique will provide guidance and direction for behaviour change, and will help one assess its effectiveness. It can assist in changing an aberrant behaviour or creating an appropriate behaviour that is not yet in the student’s repertoire. Shaping technique is also used when an existing behaviour needs to be changed into a more appropriate or new behaviour or skill. The technique involves the use of reinforcement of successive approximations of a desired behaviour. Specifically, when using a shaping technique, each approximate desired behaviour that is demonstrated is reinforced, while behaviours that are not approximations of the desired behaviour are not reinforced.

Shaping is a technique propounded by B. F. Skinner of operant conditioning. Shaping is a behavioural term that refers to gradually moulding or training an organism to perform a specific response or behaviour by reinforcing any response that are similar to the desired responses (Michael, 2005). Michael (2005) also defined shaping as a technique in human behaviour therapy in which new behaviour is produced by providing reinforcement for progressively closer approximations of the final desired behaviour. Again Kohan (2005), states that shaping technique is used in operant conditioning in which the behaviour is modified by stepwise reinforcement of behaviour that produce progressively closer approximation to the desired behaviour.

Okoli (2002) affirmed this by saying that in using shaping technique, one does not have to wait until the desired behaviour is performed before reinforcing, rather successive steps to the final behaviour are reinforced according to an increasingly rigorous criterion. The individual being trained to acquire a new behaviour is reinforced each time he/she exhibits responses that are similar to the final goal, while those responses that are not

similar to the final goal are not reinforced and as such they get eliminated. The trainer therefore, reinforces each response emitted according to its level of closeness to the terminal behaviour. This simply means that if the first response is far from the desired behaviour than the second response, the amount of reinforcement in the second response will be higher or greater because the second response was closer to the final behaviour than the first response. It goes on in this way till the target behaviour is achieved.

According to the researcher, shaping technique can be defined as a process whereby the individual that is being trained to acquire a new behaviour is reinforced each time he/she exhibits responses that are similar to the final goal, while those responses that are not similar to the final goal are not reinforced and as such they get eliminated.

McAdams (2014) reported that students who have a shy personality may not get the benefits from communication-oriented classroom learning activities like group discussion, seminars or debates, which furthermore, apt to cause generalized social phobia or avoidant personality disorder. To say the least, shyness could lead to social phobia, avoidance communication and low self-esteem because of lack of confidence in public speaking. The most basic task for one's mental, emotional and social wellbeing, which starts from cradle to grave, is the construction of his/her self-esteem. The beliefs and evaluation they know about themselves determine who they are, what they can do and what they can become.

Anyanwu (2012) is of the opinion that students with shyness rely on coping strategies that are counter-productive such as withdrawal, lying, cheating, avoiding social situations as well as taking up necessary responsibilities. Although all students will display some of these behaviours at times, shyness is a strong indicator when these behaviours appear with regularity. Socially, shy students with can be over-anxious, withdrawn or isolated, and usually find it so difficult to have fun. They are more likely to yield to group pressure and more vulnerable to being bullied. At school they avoid trying new things for fear and will give up easily. They are more likely to experience social anxiety and low levels

of interpersonal confidence. These in turn make social interaction difficult as they feel awkward, incapable, conspicuous and lack adequate ability for self-expression when interacting with others. Crozier and Hostettler (2008) argued that life satisfaction, happiness, healthy behavioural practices, perceived efficacy and academic success and adjustment have been associated with healthy self-esteem and the reverse is the case for shy individuals. Undoubtedly, fear and anxiety can interfere with the shy person's attempt to interact with others. Furthermore, the embarrassment and sense of failure that accompany social interactions of the shy can lead to further avoidance.

METHOD

Research Design

The study adopted quasi-experimental research design, pre-test, post-test, control non-randomized groups. This design is suitable for adoption to approximate conditions of true experiment in situations that do not permit the control and manipulation of all relevant variables (Kpolovie, 2010). Nworgu (2015) argued that a quasi - experimental research design could be used in a school setting where it is not always possible to use pure experimental design which was considered as disruption of school activities.

In quasi-experimental design, samples are divided into experimental and control groups. In this study, one groups served as treatment group while other group served as the control group. The two groups were tagged Experimental Group I and Control Group. Participants in experimental group 1 were treated with shaping technique, while control group received conventional counselling with the school guidance counsellor.

Diagrammatical Structure of the Design of the Study

	Pre-test	Treatment	Post-test
E ₁	O ₁	X ₁	O ₂
C	O ₁	X	O ₂

Where :

E₁ = experimental group 1(shaping technique)

C= control group

X = conventional counselling

O₁ = pre test

O₂ = post test

Population of the Study

The population of this study was 327 students identified with shyness in JSS1 and JSS2. Available records showed there were 34 public co-educational junior secondary schools in Benin Metropolis of Edo State at the time of this study. 100 copies each of the SPS questionnaires were administered to the 34 public co-educational junior secondary schools, totally 3400 copies of the SPS questionnaires. The choice of public co-educational junior secondary school was to enable the researcher ascertain the effect of the techniques on male and female students in the same school setting. The choice of JSS1 and JSS2 students was also made in order to capture more participants and also to curb their shyness before they get to senior secondary school and tertiary institution. The JSS3 students were excluded on the account of their engagement with various lessons in preparation for their final examination which was to come up at the time of this study.

Sample and Sampling Technique

The sample for the study was 58 junior secondary school students who had the highest scores as identified through the pre-test instrument. This comprised of all the JSS1&2 students that were identified with shyness from the three co-educational secondary schools. The three schools were selected from the 34 public co-educational junior secondary schools that the researcher visited and administered the SPS questionnaires. Purposive sampling technique was used to select the three schools with the highest number of students with shyness. The students were used intact in their respective schools where each school served as a treatment group, comprising both male and female students. The first group served as experimental group1 with 32 students while the third group of 26 students served as the control group.

Instrument for Data Collection

The instrument that was used for this study on shyness was Shyness Personality Scale (SPS) developed and validated in Nigeria by Akinade (2012). The instrument is divided into 2 parts, initial part comprises of demographic information such as name of the respondent, class, address/school, date, age and sex of the respondents (i.e. male or female) and directions on how to fill the instrument. While the other part covers items of the instrument consisting of 50 items with 4 – point rating scale for each item to assess shyness of students. The instrument was used before and after the treatment sessions of shaping technique to the experimental group by the researcher with an interval of eight weeks between pre-test and post-test of the sampled groups in order to find out whether or not if there was an effect of independent variables upon the dependent variable. The control group received conventional counselling through the guidance counsellor.

Validation of the Instrument

Akinade Shyness Personality Scale (SPS) is a standardized instrument and was adopted by the researcher for this study. Akinade's shyness personality scale (SPS) has been found by psychometricians, counselling psychologists and psychologists to possess both face and construct validity.

Reliability of Instrument

The reliability of Shyness personality scale (SPS) was tested by Akinade (2012) who is the owner of the instrument by administering it to young people (sampled 30 students, 18 male and 12 female). SPS showed a test-retest reliability value of $r = 0.79$ after two weeks interval for young people. When compared with Sections D, E and H of Student Problem Inventory (SPI) it revealed $r = 0.77$. Having this fact in place, the SPS was found to be reliable for this study.

Method of Data Collection

The researcher sought the permission of the school principals to conduct the study in their respective schools. After the permission was granted, the researcher further requested for a conducive classroom where the experimental treatment was administered. The students were given copies of the instrument to respond to. The researcher with the help of her two research assistants gave an introduction and how to complete the questionnaire to the students. The nature of the students' response and the purpose for which it would serve were clearly explained to the students. The researcher and the research assistants guided the students on how to respond to the questionnaire. The copies of the instrument were collected from the students immediately they were through in responding to the items. The result of the exercise made up for the pretest scores.

Training of Research Assistants

Two research assistants were trained to participate in the study. The research assistants were regular counsellors in the particular schools. They were assigned to assist the researcher in conducting activities in the shaping and the control groups respectively.

The research assistants were informed of the purpose of the study and the method to be used. The materials used in facilitating the sessions in their groups were given to the research assistants one week before the commencement of the treatment. They were required to read through the materials before attending the training session. During the sessions, the researcher discussed the materials with the assistants and supplied answers to their questions.

Experimental Procedure

For the researcher to get the population of students with shyness, she visited 34 public co-educational junior secondary schools and administered 100 copies each of the SPS questionnaire. This was done with the help of the schools counsellors and trained research assistants. The researcher obtained the consent of the school principal to carry out the research. The experimental training took place in the schools during school hours.

The treatment program was held for eight weeks each for the two groups. The JSS students who were identified as having shyness formed the groups. Each school with the highest number of shy students constituted a group. The experimental groups 1 was exposed to shaping technique. Group 2 was exposed to conventional counselling. The sessions were held three times a week for eight consecutive weeks each for 30-35minutes. After the eight weeks each of treatment and the conventional counselling, the shy questionnaire was re-administered on all students in both the experimental and control groups and it was regarded as the post-test. The post test was collected by research assistants and given to the researcher for analysis. The researcher determined the statistical difference in scores between the experimental and control groups.

Control of Extraneous Variables

The researcher was very much aware of the possible effect of extraneous variables (gender, participation, mood, location, discrimination, method and time of the day) which if not well controlled could contaminate the study and possibly distort the findings. The researcher therefore adopted some measures to minimize and possibly control the distorting effects of such variables. Such measures to control the extraneous variables included:

1. The use of separate schools in the experimental treatment

2. The application of treatment to experimental groups and control group were held at different schools in order to guard against subject interaction contamination.
3. The application of analysis of co-variance (ANCOVA) because some extraneous variable may still remain uncontrolled.

Method of Data Analysis

The completed instrument was scored following the scoring instructions provided by shy questionnaire manual. The data relating to answering of the research questions were analyzed using the mean, while ANCOVA was used to test the null hypothesis at 0.05 level of significance.

The decision rule is that any student that scored above 125 which is the norm was regarded as being shy. The norm 125 was used in taking decisions. When the posttest mean score is below the norm, the treatment technique is said to be effective, but when the posttest mean score is above the norm, the technique is considered not effective. The treatment group with higher lost mean is said to be more effective.

Results

Research Question 1

What is the effect of shaping technique on shyness among junior secondary school students when compared with those treated with conventional counselling using their pre-test and post-test scores?

Table 1: Pre-test and Post-test shyness mean scores of junior students treated with shaping technique and those treated with conventional counselling (Norm = 125)

Source of Variation	N	Pretest Mean	Posttest Mean	Lost Mean	Remark
Shaping Technique	32	139.75	85.16	54.59	Effective
Conventional Couns	26	139.08	126.73	12.35	

In table 1, it was observed that the junior students treated with shaping technique had pre-test mean score of 139.75 and post-test mean score of 85.16 with lost mean 54.59 in their shyness, while those in the control group who received conventional counselling had pre-test mean score of 139.08 and post-test mean score of 126.73 with lost mean 12.35. With post-test mean score of 85.16 which is below the norm of 125.00 shaping technique is effective in reducing shyness among junior secondary school students.

Research Question 2

What are the differences in the effectiveness of shaping technique on the male and female secondary school students' shyness using their pre-test and post-test scores?

Table 2: Pre-test and Post-test shyness mean scores of male and female students treated with shaping technique

Source of Variation	N	Pretest Mean	Posttest Mean	Lost Mean	Remark
Male	12	136.25	88.50	47.75	
Female	20	141.85	83.15	58.70	More Effective

Table 2 indicates that the male students treated with shaping technique had pre-test mean score of 136.25 and post-test mean score of 88.50 with lost mean 47.75 in their shyness, while the female students treated with shaping technique had pre-test mean score of 141.85 and post-test mean score of 83.15 with lost mean 58.70. With lost mean score of 58.70 for females which is greater than lost mean score of 47.75 for males, shaping technique is more effective in reducing female secondary school students' shyness.

Testing the Null Hypotheses

Null hypothesis 1

The effect of shaping technique on the shyness scores of junior secondary school students will not be significant when compared with those treated with conventional counselling using their post-test mean scores.

Table 3: ANCOVA on the effect of shaping technique on students' shyness when compared with those who received conventional counselling

Source of variation	SS	df	MS	Cal. F	Pvalue	$P \leq 0.05$
Corrected Model	27826.562	2	13913.281			
Intercept	19.688 1	19.688				
Pretest	3032.379	1	3032.379			
Treatment groups	25335.026	1	25335.026	230.206	0.000	S
Error	6052.955	55	110.054			

Total	658714.000	58
Corrected Total	33879.517	57

Table 3 indicates that at 0.05 level of significance, 1df numerator and 57df denominator, the calculated F is 230.21 with Pvalue of 0.00 which is less than 0.05. Therefore, the first null hypothesis is rejected. So, the effect of shaping technique on shyness of secondary school students is significant.

Null hypothesis 2

The effectiveness of shaping technique on the shyness scores of male and female secondary school students will not differ significant using their post-test mean scores.

Table 4: ANCOVA on the effectiveness of shaping technique on shyness of male and female students

Source of variation	SS	df	MS	Cal. F	Pvalue	P ≤ 0.05
Corrected Model	1089.290	2	544.645			
Intercept	5.4321	5.432				
Pretest	874.621	1	874.621			
Gender	504.329	1	504.329	4.114	0.052	NS
Error	3554.929	29	122.584			
Total	236695.000	32				
Corrected Total	4644.219	31				

Table 4 reveals that at 0.05 level of significance, 1df numerator and 31df denominator, the calculated F is 4.114 with Pvalue of 0.052 which is greater than 0.05. Therefore, the fourth null hypothesis is accepted. So, the effectiveness of shaping technique on shyness of male and female secondary school students do not differ significantly.

Discussion of Findings

Findings from the data analyzed in this study showed that shaping technique was effective in reducing shyness among junior secondary school students in the treatment group one as compared with those in the conventional counselling group.

More so, there was a clear decrease in shyness among students in the shaping technique group than the conventional counselling group. This may be an indication that through the various reinforcement processes involved in shaping technique, the students were able to drop those faulty thinking patterns and beliefs that trigger shyness. This finding is consistent with previous researches which suggested that shaping technique is effective in reducing maladaptive behaviours among secondary school students (Mahmood, Ashoori & Narges, 2010 & Kimberly, 2002).

One possible reason for the decrease in the level of shyness among students treated with shaping technique than those in the conventional counselling group may be that as students were exposed to the various skills and reinforcements of shaping technique during the experiment, they were encouraged to imbibe more rational thinking patterns that would make them perform better in their interpersonal relationships and other social situations. Supporting the above statement, Skinner (1963) earlier on emphasized that through the various reinforcements involved in shaping, maladaptive behaviours such as shyness are gradually changed or shaped to adaptive behaviours. During shaping technique, a counsellor uses reinforcers such as tokens, gifts, food, money, verbal praise, among others as stimulus when a desired response is produced by a client. Reinforcement when presented to the client in a given situation strengthens the desired behaviour and increases the likelihood of the occurrence of the wanted behaviour.

The finding of this study also indicated that shaping technique was effective in reducing shyness among the junior secondary school students. This result supports the prior reports by researchers that shaping technique is effective in reducing maladaptive behaviours and increasing adaptive behaviours than other techniques (Allison, Felix & Ilene, 2005). However, the finding supports the report of Mahmood, Ashoori and Narges (2010) who claimed that shaping technique is more effective than other techniques in treating behaviour problems.

Implications of the Study

The findings of this study evidenced the fact that shaping technique was effective on junior secondary school students' shyness. This implies that the shaping technique if properly applied have the capacity to overcome shyness among secondary school students. This also implies that shaping technique may be better used in reducing shyness among female junior secondary school students, while other techniques should be explored for male students' shyness.

Recommendations

Consequent upon the findings of this study, the following recommendations were made.

1. In using shaping technique on students' shyness, counsellors, therapists and psychologists should be mindful of difference in students' gender.
2. Counsellors and therapists can adopt shaping technique in handling clients in the society with maladaptive behaviour such as shyness.

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