International Journal of Psychology and Counseling.
ISSN 2278-5833 Volume 5, Number 1 (2015), pp. 33-43

http://www.ripublication.com

A Comparative Study Of The Effect Of Punishment And Reward On Primary School Pupils In A Selected Local Government In Nigeria

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Abstract

Punishment and reward have become parts of man's everyday life. This study was conducted to determine and compare the effect of punishment and reward on the academic output of primary school pupils in Ife Central Local Government area of Osun State in Nigeria. A sample of 200 pupils in basic 3-6 classes was drawn from six primary schools in the area. The respondents comprised 102 males and 98 females within the age group of 5-17 years. A 35-item self-constructed questionnaire titled 'Effect of Punishment and Reward on Pupils' Academic Output' was employed to gather information on pupils' experiences of punishment and reward as well as how they had consequently faired in their academic work over a period of three years. The data obtained were subjected to regression and correlation analyses, Chi-square tests and Analysis of Variance. The study revealed that 42 students were punishment-prone while 158 were reward-prone and that the commonest form of punishment to which they were exposed was scolding by teachers (with a mean of 3.19), followed by corporal punishment (with a mean of 2.925) while abusive words by teachers ranked lowest (with a mean of 1.995). It was further revealed that punishment had a positive and significant influence on academic performance and that reward-performance relationship was equally significant. Since the study also revealed that both punishment and reward can exert positive and negative influences on academic performance, it was concluded that there was no significant difference between the influences of the two techniques of reinforcement.

Key words: Motivation, punishment, reward, academic performance, primary school/ pupils/students.

Introduction

The current and on-going trend in the educational sector reveals that the academic performances and output of students are fast deteriorating and continuously falling below expectations. This is glaringly shown and validated by results of various public examinations released in recent years. This issue has generated serious concerns from all stakeholders including school administrators, teachers, parents, government, and the society at large as lasting solutions are being sought to checkmate the lingering phenomenon. One of the most important factors adduced for the observed backwardness in the level of students' academic output is poor motivation. The problem is even compounded by the role played by the society in placing too much emphasis on the acquisition of certificates rather than the quality of what one can offer or skilfully deliver, thereby posing serious threats to national development. It then becomes imperative to curtail this trend in order to save the educational system. Consequent upon this, the role of motivation as a way of improving students' attitude to work and, by extension, their performance has been widely highlighted by all and sundry.

The theory of motivation finds relevant application, not only in the industrial setting and the general world of work, but also in the classrooms as well. Reinforcement, whether positive or negative, remains an instrumental tool at the disposal of classroom teachers for achieving learning objectives. A leading behavioural psychologist, Skinner (1948), also emphasized the role of reinforcement in learning by demonstrating that organisms tend to repeat actions that are reinforced and that behaviour can be shaped by reinforcement. Behaviours that are reinforced can be strengthened to further reoccur while those that are not can be extinguished. Consequently, the use of punishment and reward within the school setting is not far-fetched. As an agent of socialization, the school establishes and maintains rules of acceptable behaviour to which its members are to strictly adhere and conform. Desirable actions, attitudes and behaviours that are in conformity with the established norms and standards are approved and reinforced accordingly in the form of praise, good grades, prizes, scholarships, etc. Similarly, behaviours that are in violation or deviance of the set standards are repressed reprimanded and sanctioned via suspension, expulsion, corporal punishment, or formal rebuke. According to Egwunyenga (2009), punishment and reward are also the two major techniques of instilling discipline in school children.

It has been found that high quality learning is associated with intrinsic motivation and fully internalized extrinsic motivation. Educators, therefore, have a difficult task of developing a single extrinsic reward system that will match the motivational needs of various people. Extrinsic rewards, while still popular, generally have only a short-term positive effect and possible long-term negative effects on learning. On the other hand, when students have a sense of control and choice and are challenged just above their level of competence, they have increased intrinsic motivation, persistence, and belief that they can be successful. It is no surprise, then, that to improve academic

achievements of school students, successful programmes will incorporate the social contexts for both intrinsic motivation and internalized extrinsic motivation.
The use of reward and punishment are perceived to be taken out of school system. Punishment, some say, is overused in schools while reward is less often used. But presently people are advocating for the return of the methods so as to bring about a functional Nigerian child. It is further advised that punishment and reward would encourage students, teachers, administrators, schools, and communities to work harder. Although the use of punishment and reward in the Nigerian school system has been widespread, its effectiveness, however, has been very low and its impact on students' academic output has not really been evident.

Statement of the Problem
Learning and behavioural problems are commonly exhibited in the school by students while classroom teachers and school authorities have often responded through various forms of sanction. When students fail to meet up with instructional expectations, they are verbally abused, severely flogged, or forced to perform tedious tasks while positive encouragers such as praise, prizes, scholarships, awards, etc have been restricted to occasions when students showcase brilliant academic exploits. The dullards, instead of being encouraged, are publicly insulted with derogatory remarks which further worsen their pitiable predicament. Meanwhile, extrinsic rewards themselves have also been discovered to have possible long-term effects on students' learning. In addition, the corrective influence of punishment and other negative control measures, in spite of their widespread usage in schools, also remains to be seen as students have not shown signs of significant improvements in their behaviour, attitudes to work and academic performance. Rather, their gross misconducts in and out of schools have been on the increase which, by consequence, has led to a decline in their academic performance. This study is therefore necessitated by the need to re-examine punishment and reward as major techniques of reinforcement, the likely problems associated with their usages as well as the influences they both exert on the academic performance of students at the primary school level.

Objectives of the study
The objectives of the study are to:
determine the influence of punishment on the academic output of students in primary schools; investigate the influence of reward on the academic output of students in primary schools; and, determine the difference between the influences of punishment and reward on academic output of students in primary schools.

Research Hypotheses
There is no significant relationship between punishment and academic output of students in primary schools;

There is no significant relationship between reward and the academic output of students in primary schools;
There is no significant difference between the influences of punishment and reward on the academic output of students in primary schools.

Methodology

This study made use of a descriptive research survey design. The study made use of primary data collected through the employment of questionnaire designed for the purpose and was personally administered by the researchers. The questionnaire was sub-divided into various sections containing many items with reference to hypothesis testing. The research survey design employed an ex-post facto technique, the reason being that the circumstances in which the independent variables (punishment and reward) occurred were in the past and had as well influenced the research respondents in certain ways. Hence, the researchers just had to investigate the aftermath effect of these two variables on students' academic performance and the deductions about the relationship among the variables are made through statistical analyses without any direct control or manipulations by the researcher.

Population and Sample

The population for this study consisted of the ninety-two (92) primary schools located within Ife Central Local Government area of Ile-Ife, Osun State Nigeria. A sample of two hundred (200) students from the five (5) randomly-selected schools was obtained for the research. The respondents used for the research study were students in primary three, four, five and six classes. Stratified and simple random sampling techniques were adopted, using private and public schools as the basis for stratification. Stratum A was made of fifty (50) private schools out of which two (2) schools were selected through a simple random sampling method. Similarly, stratum B was made of forty-two (42) public schools out of which three (3) schools were chosen through a simple random sampling technique as well. More public schools were selected owing to the fact that punishment is more exercised in public schools than in private ones. Finally forty (40) students from each of the five sampled schools were selected to make an overall total of two hundred (200) respondents used for the study. This entire system was employed in order to ensure that children from different family backgrounds, school settings, and possibly socio-economic status were collectively considered in the study. The sample size drawn for the study was also limited to 200 respondents for reasons such as simplicity of analysis and other important considerations such as time and financial constraints.

Research Instrument

The instrument used for this study was a questionnaire titled 'Effect of Punishment and Reward on Students' Academic Output' (EPRSAO). It is simply made of three sections. Section A obtained personal and academic information of the respondents such as age in years, sex, the type of school attended (whether private or public), the current class, and the position range in previous three years examinations. There were

five items in this section. Section B comprised a set of statements which were designed to elicit responses about the following: various forms of punishment to which the respondents have been subjected over a period of time, the manner of usage of the forms of punishment, various forms of motivation and rewards available to the respondents, and the degree of application of the various reinforcement techniques. Ten questions were asked on the forms, degree and manner of usage of each of the two forms of reinforcement (punishment and reward) on the respondents. All the twenty questions were asked in a sequential and serial order. That is, questions relating to punishment were asked in items 6—15. An example of such items is: My teacher always flogs me whenever I commit an offence. Also, questions relating to the use of reward were asked in items 16—25. An example of such items is: My teacher always gives me money or other gifts for doing well in my class work. The respondents were provided with a range of options which included Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). This was adopted to avail the respondents the opportunity of expressing themselves in greater details and to ensure that the use of the independent variables are measurable in terms of frequency and intensity. 'Strongly Agree' was scored 4 points, 'Agree' was scored 3 points, 'Disagree' was scored 2 points while 'Strongly Disagree' was scored 1 point.

Section C contained items relating to how well or poorly the respondents have fared in coping with school life and academic work within the last three years of schooling which were strong indications of their academic performance with respect to punishment and reward. Questions such as 'I always get discouraged with my school work whenever I am flogged by my teachers', 'I have repeated a class within the last three years', and 'I have been given double promotion in school within the last three years' were asked. There were ten questions in this section. A column for the two possible responses (Yes and No) was also provided. The 'Yes and No' format was adopted in section C because of the decisive nature of the items under the section as well as the simplicity benefit it affords in scoring and grading responses for the purpose of analyses. 'Yes' was scored 2 points while 'No' was scored 1 point.

Validity and Reliability of the Instrument

The research instrument was ascertained to be valid by experts in the field of test construction and administration while the reliability of the instrument was ascertained using a split-half method. Having first administered the inventory in a pilot study, the two sets of scores obtained from the representative sample of respondents were then correlated using the Pearson Correlation Formula, the result of which showed r-value of 0.786. This therefore implied high reliability of the instrument.

Data Collection and Analysis

The inventory was personally administered by the researchers on the respondents in each of the various selected schools. The administration was carried out on different days during the normal school hours. Before the administration of the inventory, efforts were made to explain to the respondents the significance of the study and the

procedure for completing the copies of questionnaire. The aims and objectives of the study were first explained in an elaborate manner to the respondents and the confidentiality of their responses was assured by pointing out that their names and addresses were not required. The inventory was administered with the help of the class teachers and adequate care was taken not to disrupt the normal school activities in all the schools used for the study.

The class teachers were given the opportunity to use their discretion on how and to administer the copies of the questionnaire to their students. Some teachers administered theirs during the short break, some during the long break and some after the school hours. Immediately after completion, the 200 copies of the questionnaire were collected back from the various respondents for sorting. Having sorted out, it was discovered that all of them were adequately filled and completed. This means that the return rate was 100% and everything was used in carrying out the analyses.

Findings

Hypothesis 1: There is no significant relationship between punishment and academic output of primary school students.

Table 1: showing the relationship between punishment and academic output

Correlations			
		Academic performance	Punishment
Academic performance	Pearson Correlation	1	.162*
	Sig. (2-tailed)		.022
	N	200	200
Punishment	Pearson Correlation	.162*	1
	Sig. (2-tailed)	.022	
	N	200	200
*. Correlation is significant at the 0.05 level (2-tailed).			

Table 1 shows the correlation of punishment with the academic output of students. A coefficient value of r=0.162 at 0.05 level of significance is obtained. This r-value shows that there is a significant relationship between punishment and students' academic output. In order to further determine the magnitude of the relationship between punishment and academic output of students, the regression analysis is used and the result obtained is as follows:

Table 2: Regression analysis of the relationship between punishment and academic output of students

Coefficients					
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.880	.684		18.844	.000

	Punishment	.060	.026	.162	2.313	.022
a. Dependent Variable: academic performance						

The relationship between punishment and academic output of students is represented using the model $Y = \alpha + \beta X$ where Y stands for academic output (the dependent variable), X stands for punishment (the explanatory variable), while α and β represent the constant values. From the table, $\alpha=12.88$ while $\beta=0.162$. We then form our regression equation as specified below:

$$Y = 12.88 + 0.162X$$

The above regression equation shows that a unit increase in punishment (represented by X) leads to a 0.162 increase in academic output of students. The constant value of 12.88 shows what the level of academic output will be if no punishment is inflicted on the students. This therefore shows that there are other factors which also influence students' performance but which are not captured by this study.

Hypothesis Two: There is no significant relationship between reward and academic output of primary school students.

Table 3: Test of relationship between reward and the academic output of students over a 3-year period

Correlations			
		Academic performance	Reward
Academic performance	Pearson Correlation	1	.021
	Sig. (2-tailed)		.765
	N	200	200
Reward	Pearson Correlation	.021	1
	Sig. (2-tailed)	.765	
	N	200	200

Table 3 shows the correlation analysis of reward with the academic output of students. A coefficient value of r=0.021 at 0.05 level of significance is obtained. This r-value shows that there is no significant relationship between reward and students' academic output in the long-run. In order to further determine the relationship between reward and academic output of students, a short-term perspective was considered by examining students' performances in their last school terminal examinations which was analysed as follows:

Table 4: Chi-square tests of the relationship between reward and academic output of students in last term examinations

Chi-Square Tests			
	Value	DF	Asymp. Sig. (2-sided)
Pearson Chi-Square	216.098[a]	162	.003
Likelihood Ratio	136.281	162	.930

Linear-by-Linear Association	1.980	1	.159
N of Valid Cases	200		

a. 185 cells (94.4%) have expected count less than 5. The minimum expected count is.01.

Table 4 shows the Chi-square result of 0.003. Since this significant value is less than the significant level of 0.05, it implies that the Chi-square value is significant. We therefore conclude that there is a significant relationship between reward and academic output of students in the short-run period.

Hypothesis Three: There is no significant difference between the influence of punishment and reward on the academic output of students.

Table 5: Reinforcement categorization of the respondents

Reinforcement technique	Frequency	Valid Percent
Punishment-prone	42	21.0
Reward-prone	158	79.0
Total	200	100.0

The table above shows the categorization of the respondents in terms of the reinforcement techniques to which they were more prone. The categorization was done on the basis of their responses to both punishment and reward items of the questionnaire. Their respective scores (obtained from their responses) were then compared. Respondents who scored higher in punishment responses were regarded as punishment-prone and, as the table above shows, were 42 altogether. Those who scored higher in reward responses (or whose punishment and reward scores were the same) were regarded as reward-prone and were 158 in number. The academic performances of these two groups of respondents were then compared using Analysis of Variance and the results are shown in Table 6 below:

Table 6: Test of difference between the influence of punishment and reward on the academic output of students

ANOVA					
Academic performance					
	Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	2.409	1	2.409	.651	.421
Within Groups	732.611	198	3.700		
Total	735.020	199			

The ANOVA (or F-test) value of 0.421 obtained from the table shows that there is no significant difference between the academic performances of the two groups of respondents: the punishment-prone and the reward-prone. We then conclude, within the confines of this research data, that there will be no significant difference between the influences of punishment and reward on the academic performance of primary school students. Any difference between the academic performances of the two groups will, therefore, be attributed to chance or other factors not considered in this study.

Discussion

The results obtained from testing the first hypothesis revealed that there is a significant relationship between punishment and the academic output of students in the primary schools. This relationship was also found to be positive. Since punishment is an aversive stimulus, the use of which discourages young learners from deviant acts, it can therefore be used by teachers to inculcate desirable habits such as hard work and diligence in learners. That is, under normal circumstances young learners generally tend to dislike punishment and want to avoid it as much as possible. So when they are punished for an offence, say laziness, they want to begin to work hard in a bid to avoid a repeat or a reoccurrence of the earlier punishment. The effect of this on students' academic performance can, thus, be positive as shown by the findings of this research.

In testing the second hypothesis, it was found out that there is no significant relationship between reward and the academic output of the respondents. This was obtained from the correlation of reward on academic performance measured over the time space of three years. This is a result in the long-run. On the other hand, the cross-tabulation of reward and academic performance of the students in last term examination (a short-run period) shows that there is a significant relationship between reward and the academic performance of the respondents. These results are therefore consistent with the findings of Brophy (1998) and Johnson (1999) that use of immediate feedback such as praise has been found to be ineffective for changing behaviour in the long-run. While testing the third hypothesis, it was found out from table 6 that there is no significant difference between the influence of punishment and reward on the academic output of students. This result may be due to the wide gap between the two groups of respondents used for the Chi-square tests. The two groups of respondents include 42 students who were punishment-prone and 158 students who were reward-prone. This huge difference in number may have influenced the conclusion reached concerning the third hypothesis. While punishment has been generally believed to influence students' performance negatively and reward quite positively, the same may not apply to young learners (primary school pupils) who, due to their level of cognition, intelligence and maturity, perceive things in different ways from how adult learners (such as secondary school, college and university students) do. This fact is substantiated by the positive correlation between punishment and academic performance established earlier in hypothesis one. And since rewards have the tendency of undermining performance in the long-run, the effect of the two

reinforcement techniques may be relatively the same on young learners. Thus the conclusion drawn from this hypothesis testing is again consistent with literature where it has been argued that the two techniques are to be combined in relative terms to achieve optimal results.

Conclusion

The results obtained from this study established that the use of punishment exerts a significant influence on the academic performance of primary school students. This influence is positive (for the age range of learners sampled) if punishment is used as an aversive stimulus on the young learners. It was also discovered that though reward has a significant influence on academic performance of the students in the short-run, this influence actually diminishes in the long-run as it undermines students' self-motivation to work. Lastly, it was concluded that punishment influences students' academic performance as much as reward does, since their effects are not significantly different from each other. While both can exert a positive influence on academic performance, they can similarly exert a negative influence.

Recommendations

Based on the findings of this research work, the following recommendations are made for a better and improved form of education in our society:

Since the use of punishment remains one of the effective means of instilling discipline in students, discouraging undesirable behaviours and promoting good attitude to work, its use in our schools should not be totally scrapped. Teachers should rather be placed on certain restrictions while executing punishment on students instead of being totally banned from using it.

An overuse of punishment can degrade the quality of life of students and further aggravate their truancy in and out of schools. Likewise, a continuous use of rewards to motivate students to learn can undermine their performance in the long-run. It is therefore suggested that a relative degree of these two reinforcement techniques be combined to get the best results. The form and intensity of each technique to be adopted will depend on factors such as students' individual differences, personal attributes and level of current needs.

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