academicJournals

Vol. 11(11), pp. 1025-1034, 10 June, 2016
DOI: 10.5897/ERR2015.2476
Article Number: 60C7F6058882
ISSN 1990-3839

http://www.academicjournals.org/ERR

Educational Research and Reviews

Full Length Research Paper

Techniques use by Science, Technology and Mathematics (STM) teachers for controlling undesirable classroom behaviours in Anambra State secondary schools

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Received 18 September, 2015; Accepted 4 November, 2015

This study investigated the techniques used by secondary school Science Technology and Mathematics (STM) teachers in controlling undesirable behaviours in their classrooms. It adopted descriptive survey design in which 178 Anambra State teachers teaching STM subjects in senior secondary were involved in the research. Two sections of questionnaire used for data collection were validated and coefficients of internal consistency found to be 0.82 and 0.79. Data collected were analyzed using mean, percentage and t-test. Findings revealed that: Teachers always use traditional techniques science classroom; there is a significant difference in the mean rating of experienced and beginning teachers on their use of various techniques for controlling students' behaviours in favour of experienced teachers and male and female teachers do not differ significantly in their use of various techniques. It was recommended that beginning teachers should face orientation on use of the techniques.

Key words: Undesirable behaviour, management, adolescents, experience and beginning teachers.

INTRODUCTION

The Federal Ministry of Education (2008) emphasizes the importance of science and technology by making mathematics, and at least one major science subject (biology, chemistry, physics) compulsory for all the senior secondary school students in Nigeria. This compulsory nature of some Science Technology and Mathematics (STM) subjects carries the fact that they form the mainstay of science and technology in the country. According to Mbah and Leghara (2008), knowledge of science is vital for achieving technological advancement of a nation. In addition, the STM subjects constitute the basic entry requirement for studying professions such as medicine, engineering, pharmacy, agriculture, architecture, geology, physical and biological sciences, etc, especially studying at university level.

The importance of STM education in the country is not debatable yet the general performance of students in these STM subjects is poor (NECO, 2011; WAEC, 2010)

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that one wonders how the level of performance of science, technology and mathematics students will commensurate with the level of attainment of science and technology goals as stated in the National Policy on Education (FRN, 2008). A great deal of studies (Backley et al., 2005; Deal, 2011; Himanshu, 2012; Okigbo and Okeke, 2013) have recommended different teaching methods, techniques and approaches for improvement of STM students performance, yet the poor performance still persist. Nobody seems to consider some socio-cultural variables like students behaviour in the classroom (Socio-cultural variables most importantly students behavioural pattern is a major component that could ensure significant performance in the teaching and learning process). It is believed that behaviours exhibited by students in the science classroom influence the way and manner they assimilate learning experiences.

In Nigeria, there has been a general public outcry about undesirable behaviours in the schools and society. Indiscipline at the moment is cruel in the entire educational system that discipline is at the (it's) very low ebb in many classrooms. The tendency is for everyone concerned to exculpate and blame the lapses on others. Students' disruptive behaviours have become increasingly the greatest occupational hazard of teaching profession in recent times. Njoku (2004) stressed that indiscipline at the moment is a bugbear in entire educational system. Njoku further stated that because of the prevailing socio-cultural and economic situation in the country, the incidence of deviant activities is expected to be high. According to him, it manifests itself in different guises but the type that engages attention is indiscipline amongst students. Hardly a week passes without news of the student unrest resulting in unwanted disruption of classroom atmosphere/properties (Cite a source). These were manifested in the destruction of school properties, injuring staff and destroying science laboratory equipment. This is not surprising because these young minds (Adolescents) in secondary schools are full of life and need to exhibit/showcase them.

Behaviour is an activity of an individual due to his interaction with environment. An individual selects one response instead of another because of prior conditioning and psychological drives existing at the moment of the action. One may therefore conclude that behaviours are the sum total of all the activities of an organism (both observed and unobserved) as he interacts with his environment. There are many factors which affect a person's behaviour. They include; psychological, physical needs motives, social stimuli, physiological need, etc. As a result of this a lot of people especially the adolescents manifest behaviour that is abnormal or unsatisfactory in some respect either to themselves or the society or both. Undesirable behaviour as seen by Ndua-Ozo (2005) is any behaviour pattern that fails to meet with the norms of the environment.

Cummings et al. (2006), noted that students that have learning, emotional and physical impairments are prone to be bullied by their peers. They are friendless because they are abusive, destructive, unpredictable, quarrelsome, and jealous. Because of all these, people like the STM teachers avoid them. Finn et al. (2008), define undesirable behaviour within the classroom in different terms associated with students' behaviour like coming late, leaving seats, cutting class, refusing to follow directions, speaking without permission, not completing assignments and cheating. Such types of undesirable classroom behaviours are directly connected to dropping out or poor and reduced academic achievement. Specifically, undesirable behaviours according to Okutan (2005) are the ones decreasing the quality of STM classrooms management. Thus, they disturb the STM teachers and other students in the classroom negatively; affecting students' relationship and communication with other students and with their teachers; hindering educational goals, plans and studies.

There are many techniques which are used in behaviour management/control in the classroom which includes: referrals (Olayinka, 2005); caning, manual and corporal punishment, counseling and class monitoring (Anagbogu, 2002); reinforcement (Omebe, 2005); decreasing reinforcement, satiation, fear reduction, class monitoring, prosaically behaviour, moral education, principle of extinction and cueing model (Denga, 2005). Others include; extinction timeout, modeling and shaping. The positive techniques if judiciously used may go a long way in shaping students undesirable behaviours as against the negative technique (traditional method) of behaviour management. It seems that there is no headway in the current choice made by some STM teachers, because a lot of students still manifest behaviours that are abnormal or unsatisfactory in the classroom. Therefore, there is need to expose science teachers to principles and concepts of behaviour management to enable them pilot (train) the young adolescents who have a lot of emotional problems within the school classroom. The study sets out to determine such techniques that could be used.

However, the socially undesirable behaviours could be managed and possibly changed by the teachers through the effective use of constructive techniques. From what is obtainable in the school system today, it seems that the STM teachers have not adequately used these techniques because the science students' undesirable behaviours are either completely unchanged or ineffectively changed. Could it be that teachers are not able to use adequate techniques to control such behaviours or they are completely ignorant of them? Or could the use of different techniques depend on science teachers teaching experience and gender? Okigbo (2010), studied the effectiveness of teaching mathematics by female mathematics teachers in Anambra State boys' secondary

schools using a sample of 66 female mathematics teachers and 1, 200 senior secondary school students. A descriptive survey design was adopted using questionnaire as the instrument for data collection. One of her major findings is that; female mathematics teachers are poor in classroom management and control and despite the fact that they rarely punish deviants, boys prefer male mathematics teachers to females. She recommended that teachers and students should have set rules and regulations on class comportments and determines punishment for violators.

In another study, Okigbo and Okeke (2011) investigated the perceived difficulty in integrating educational objectives within the mathematics classroom in Anambra State, Nigeria with a sample of 105 experienced and 12 beginning mathematics teachers. They found that; there is a significant difference between experienced and beginning mathematics teachers' perception of their difficulties in using appropriate skills for mathematics teaching in favour of the experienced teachers, male and female mathematics teachers do not differ significantly in the level of difficulty they perceive in using the skills. Based on the findings, they recommended that beginning teachers should face orientation on the use of appropriate skills at the time of taking the teaching job. The study sought to investigate the techniques adopted by STM teachers in managing the science students' undesirable behaviours in the classroom. The study would also look into the possible influence of intervening variables like science teachers' experience and gender in the use of various techniques in controlling such behaviours in their classroom.

Purpose of the study

The purpose of this study is to investigate the techniques used by STM teachers in controlling undesirable behaviours in science classroom. Specifically, the study sought to;

1. Identify the undesirable behaviours manifested by STM students in the classroom.
2. Investigate various techniques used by STM teachers in controlling the undesirable behaviours by students in the science classroom.
3. Determine the influence of teachers' teaching experience on the use of the identified techniques in controlling students' undesirable behaviours.
4. Investigate gender influence on the STM teachers' use of various techniques in controlling students' classroom undesirable behaviours.

Research Questions

1. What are the undesirable behaviours manifested by science students in the secondary School classroom?
2. What are the various techniques used by STM teachers in controlling the undesirable behaviours by students in the science classroom?
3. How does the teachers' teaching experience influence their use of the identified techniques in controlling students' undesirable behaviours?
4. How do the techniques used by male and female science teachers in correcting undesirable behaviours among students in their classroom compare?

Hypotheses

Ho_1: There is no significant difference in the mean rating of experienced and beginning STM teachers on their use of various techniques for controlling students' undesirable behaviours in the classroom ($P< 0.05$).

Ho_2: Male and female STM teachers do not differ significantly in their use of various techniques for controlling students' undesirable classroom behaviours ($P<0.05$).

METHODOLOGY

The research adopted a descriptive survey design in which all the STM teachers found in the 26 secondary schools were involved in the study. In this research, the STM teachers are the teachers of agricultural science, basic science, basic technology, biology, chemistry, computer science, mathematics and physics, but only the STM teachers teaching in the senior secondary classes were considered. Out of 260 secondary schools found in Anambra State, Nigeria, 10% of the schools were chosen by simple random sampling technique. A total of 178 STM teachers teaching STM subjects in the senior secondary school were used. Also, from the 26 secondary schools chosen a total of 147 experienced (19 males + 128 females) and 31 Beginning STM teachers were identified and used for the study. Beginning teachers are those with less than five years experience in teaching STM subjects while those who have taught for five years or more are classified as experienced teachers.

Data were collected using questionnaire which was constructed by the researchers. The questionnaire was divided into two parts; A and B. Part A deals with the personal data of the respondents used to obtain information about their school name, sex, years of teaching experience and age. Part B is divided into two sections; I and II. Section I seeks responses from the STM teachers on the undesirable behaviours of their students while section II deals with techniques used in controlling the students in the science classroom. Section I consisting of 18 items (undesirable behaviours), is (of) a four-point scale of (consisting of) strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD) having 4, 3, 2 and 1 point respectively. Section II is a four point scale of always use (AU), sometimes use (SU), rarely use (RU) and never use (NU) also having 4, 3, 2 and 1 point respectively which is made up (consisting) of 20 techniques used by STM teachers in controlling the identified behaviours in the science classroom.

The instrument was validated using; two experienced STM teachers and one guidance counselor from three secondary schools and one expert in Education Management and Policy from Nnamdi Azikiwe University, Awka. The final draft of the instrument

Table 1. Undesirable classroom behaviours emitted by science students.

Undesirable behaviour	Mean	Percentage (%)	Remark
Noise making	3.12	78	Agree
Absenteeism	1.60	40	Disagree
Lateness	2.55	63.8	Agree
Cheating	2.74	68.5	Agree
Refusing to follow directions	3.15	78.8	Agree
Fighting	1.85	46.3	Disagree
Inactive participation	2.98	74.5	Agree
Molestation	2.33	58.3	Disagree
Restlessness	3.05	76.3	Agree
Bullying	2.28	57	Disagree
Sleeping off	2.40	60	Disagree
Inattentiveness	3.00	75	Agree
Cutting class	2.55	63.8	Agree
Withdrawal	2.05	51.3	Disagree
Stealing	2.84	71	Agree
Leaving seats	2.35	58.8	Disagree
Not completing assignments	3.82	95.5	Agree
Speaking without permission	1.95	48.8	Disagree
Total	2.59	64.8	-

was designed to reflect the corrections from the validations. Also, the Cronbach alpha technique was used to establish the coefficients of internal consistency for the two sections of the instrument, and the values were found to be 0.81and 0.79 respectively for sections I and II, which indicated that the instrument is reliable.

The instrument was administered by the two researchers with the help of one STM teacher from each of the 26 secondary schools used for the study. The completed copies were retrieved on the spot by those 26 STM teachers which were later collected by the researchers. The data generated were analyzed using mean, standard deviation and percentages for answering the research questions and the t-test for testing the hypotheses at 0.05 levels of significance.

The point 2.50 was taken as cutoff; for section I, any item with a mean above 2.50 was viewed as being agreed by the respondents, any mean score below 2.50 was taken to be disagreed by them while the mean score of 2.50 was taken to be neither agreed nor disagreed by them. Also, for section II; any item with a mean above 2.50 was viewed as being used by science teachers; if below 2.50 was taken as not used while the mean score of 2.50 was taken to be indifferent.

RESULTS

Data collected were analyzed and presented in Tables 1 to 6 according to the four research questions and two hypotheses.

Research Question 1: What are the undesirable behaviours manifested by science students in the secondary school classroom?

Table 1 reveals that undesirable behaviours commonly seen in STM classrooms are; noise making, lateness, cheating, refusing to follow direction, inactive participation, restlessness, inattentiveness, stealing and not completing assignment. However, the most prominent among them is non completion of the assignment which was agreed by 95.5% of the respondents.

Research Question 2: What are the various techniques used by STM teachers in controlling the undesirable behaviours by students in the science classroom?

Table 2 reveals that STM teachers commonly use corporal punishment, negative reinforcement, manual punishment, caning, class monitoring and peer correction. Thus, they use predominantly the traditional techniques apart from the last two (class monitoring and peer correction). However, they never use modeling, satiation, extinction timeout and decreasing reinforcement techniques. In addition, their responses are far apart in item 9 which is the cueing principle with a mean of 2.50 and standard deviation score of 1.34.

Research Question 3: How does the teachers' teaching experience influence their use of the identified techniques in controlling students' undesirable behaviours?

Table 3 shows that experienced and beginning STM teachers did not agree in the use of seven (7) out of the twenty (20) listed techniques. These techniques include;

Table 2. Techniques used by STM teachers in controlling undesirable behaviours.

Techniques	Mean	Standard deviation	Remark
Counseling	2.42	0.83	Not use
Corporal punishment	3.41	0.88	Use
Positive reinforcement	2.45	1.05	Not use
Referral	2.05	0.32	Not use
Principle of extinction	2.38	1.11	Not use
Class monitoring	3.34	0.55	Use
Negative reinforcement	3.56	0.76	Use
Shaping	2.15	0.35	Not use
Cueing principle	2.50	1.34	Indifferent
Modeling	1.95	0.76	Not use
Manual punishment	3.52	0.42	Use
Caning	3.72	0.68	Use
Satiation	1.95	0.81	Not use
Fear reduction	2.08	0.44	Not use
Moral education	2.58	1.05	Use
Prosaically behaviour	2.04	1.22	Not use
Extinction timeout	1.93	0.52	Not use
Decreasing reinforcement	1.90	0.49	Not use
Peer correction	3.55	0.53	Use
Silence	2.53	0.55	Use
Total	2.60	0.73	-

Table 3. Techniques used by experienced and beginning STM teachers in controlling classroom behaviours.

Techniques	Teachers	Mean	Standard deviation	Remark
Counseling	Experienced	2.54	0.65	Use
	Beginning	2.30	1.01	Not use
Corporal punishment	Experience	3.62	1.01	Use
	Beginning	3.20	0.75	Use
Positive reinforcement	Experienced	2.62	0.82	Use
	Beginning	2.28	1.28	Not use
Referral	Experienced	2.20	0.12	Not use
	Beginning	1.50	0.52	Not use
Principle of extinction	Experienced	2.41	0.88	Not use
	Beginning	2.35	1.34	Not use
Class monitoring	Experienced	3.40	0.59	Use
	Beginning	3.28	0.51	Use
Negative reinforcement	Experienced	3.48	0.74	Use
	Beginning	3.64	0.78	Use
Shaping	Experienced	2. 22	0.29	Not use
	Beginning	2.08	0.41	Not use

Table 3. Cont'd

Cueing principle	Experienced	2.81	1.10	Use
	Beginning	2.19	1.58	Not use
Modeling	Experienced	2.15	0.64	Not use
	Beginning	1.75	0.88	Not use
Manual punishment	Experienced	3.68	0.45	Use
	Beginning	3.36	0.39	Use
Caning	Experienced	3.81	0.64	Use
	Beginning	3.63	0.72	Use
Satiation	Experienced	2.34	0.45	Not use
	Beginning	1.56	1.17	Not use
Fear reduction	Experienced	2.51	0.45	Use
	Beginning	1.65	0.43	Not use
Moral education	Experienced	2.73	0.98	Use
	Beginning	2.43	1.12	Not use
Prosaically behaviour	Experienced	2.08	0.89	Not use
	Beginning	2.00	1.55	Not use
Extinction timeout	Experienced	2.52	0.39	Use
	Beginning	1.34	0.65	Not use
Decreasing reinforcement	Experienced	2.05	0.33	Not use
	Beginning	1.75	0.65	Not use
Peer correction	Experienced	3.45	0.58	Use
	Beginning	3.65	0.48	Use
Silence	Experienced	3.00	0.43	Use
	Beginning	2.06	0.67	Not use
Total	Experienced	2.81	0.62	-
	Beginning	2.40	0.84	-

counseling, positive reinforcement, cueing principle, fear reduction, moral education, extinction timeout and silence. The table further reveals that on average experienced teachers use the identified techniques while the beginning teachers do not. Based on the difference in their opinion, hypothesis one was tested for significant difference. Table 5 presents the summary of the t-test statistics.

Research Question 4: How do the techniques used by male and female science teachers in correcting undesirable behaviours among students in their classroom compare?

From Table 4, male and female STM teachers disagree in the use of seven (7) techniques which include; counseling, positive reinforcement, cueing principle, fear reduction, moral education, extinction timeout and silence. In general, both gender use the identified techniques but not at the same rate. Based on this, Ho2 was tested for significant difference which is presented in Table 6.

Ho_1: There is no significant difference in the mean rating of experienced and beginning STM teachers on their use of various techniques for controlling students' undesirable behaviours in the classroom ($P<0.05$).

Since the value of t- calculated (2.572) is greater than the t- critical (1.645) the Ho1 is rejected at 0.05 $\propto$ levels. Therefore, there is a significant difference in the mean rating of experienced and beginning STM teachers on

Table 4. Techniques used by male and female STM teachers in controlling classroom behaviours.

Techniques	Gender	Mean	Standard deviation	Remark
Counseling	Male	2.23	0.58	Not use
	Female	2.85	0.72	Use
Corporal punishment	Male	3.70	0.95	Use
	Female	3.54	1.07	Use
Positive reinforcement	Male	2.32	0.76	Not use
	Female	2.92	0.88	Use
Referral	Male	2.16	0.09	Not use
	Female	2.24	0.15	Not use
Principle of extinction	Male	2.36	0.81	Not use
	Female	2.46	0.95	Not use
Class monitoring	Male	3.62	0.66	Use
	Female	3.18	0.52	Use
Negative reinforcement	Male	3.65	0.63	Use
	Female	3.31	0.85	Use
Shaping	Male	2.25	0.36	Not use
	Female	2.19	0.22	Not use
Cueing principle	Male	3.15	1.02	Use
	Female	2.47	1.18	Not use
Modeling	Male	2.24	0.73	Not use
	Female	2.06	0.55	Not use
Manual punishment	Male	3.92	0.40	Use
	Female	3.44	0.50	Use
Caning	Male	3.95	0.48	Use
	Female	3.67	0.80	Use
Satiation	Male	2.35	0.36	Not use
	Female	2.33	0.54	Not use
Fear reduction	Male	2.08	0.32	Not use
	Female	2.94	0.58	Use
Moral education	Male	2.31	0.93	Not use
	Female	3.15	1.03	Use
Prosaically behaviour	Male	2.09	0.78	Not use
	Female	2.07	1.00	Not use
Extinction timeout	Male	2.58	0.44	Use
	Female	2.46	0.34	Not use
Decreasing reinforcement	Male	2.21	0.24	Not use
	Female	1.89	0.42	Not use
Peer correction	Male	3.15	0.66	Use
	Female	3.75	0.50	Use
Silence	Male	2.42	0.48	Not use
	Female	3.58	0.38	Use
Total	Male	2.74	0.58	Use
	Female	2.83	0.66	Use

Table 5. The t-test of significant difference in the techniques used by Experienced and Beginning STM teachers.

Participants (Teachers)	N	Mean×	Std. deviation	∝	df	t-cal	Decision
Experienced	147	2.81	0.62	0.05	176	2.572	Significant
Beginning	31	2.40	0.84				

Table 6. The t-test of significant difference in the techniques used by Male and Female STM teachers.

Participants	N	Mean×	Std. deviation	∝	df	t-cal	Decision
Male	19	2.74	0.58	0.05	145	0.619	Not significant
Female	128	2.83	0.66				

their use of various techniques for controlling students' undesirable behaviours in the classroom in favour of experienced teachers.

Ho_2: Male and female STM teachers do not differ significantly in their use of various techniques for controlling students' undesirable classroom behaviours ($P< 0.05$).

Table 6 shows that the value of t- calculated (0.619) is less than the t- critical (1.645) meaning that the Ho2 is not rejected. Thus, male and female STM teachers do not differ significantly in their use of various techniques for controlling students' undesirable classroom behaviours.

DISCUSSION

Table 1 revealed that undesirable behaviours commonly seen in STM classrooms are; noise making, lateness, cheating, refusing to follow direction, inactive participation, restlessness, inattentiveness, stealing and not completing assignments. The most prominent among them is non completion of the assignment which was agreed by 95.5% of the respondents followed with refusal to follow direction (78.8%) and noise making (78%). However, Table 1 further showed that; absenteeism, fighting, molestation, bullying, sleeping off, withdrawal, leaving seats and speaking without permission were not usually emitted by the science students in the classrooms. The findings from this study did not completely agree with the reports of Finn et al. (2008) who listed the undesirable behaviours within the classroom as; coming late, leaving seats, cutting class, refusing to follow directions, speaking without permission, not completing assignments and cheating. The reason could be that the present study focused on the Nigerian classroom which may be different from the classrooms used by Finn, Fish and Scott.

Table 2 showed that the STM teachers commonly use corporal punishment, negative reinforcement, manual punishment, caning, class monitoring and peer correction. That is, they use predominantly the traditional techniques apart from class monitoring and peer correction. However, they never use modeling, satiation, extinction timeout and decreasing reinforcement techniques and they were indifferent in their opinion on the use of the cueing principle with the highest standard deviation score of 1.34. The findings from the research gave credence to the findings of Anagbogu (2002), Omebe (2005) and Owen (2005) who identified caning, manual and corporal punishment, counseling, class monitoring, reinforcement as the techniques mainly used by teachers in their classroom. In some respect, the reports of this study were not in line with the findings of Denga (2005) and Olayinka (2005). They added among other techniques for behaviour management in the classroom to include: referrals, decreasing reinforcement, satiation, fear reduction, class monitoring, prosaically behaviour, moral education, principle of extinction and cueing model.

Table 3 showed that experienced and beginning STM teachers did not agree in the use of seven (7) (counseling, positive reinforcement, cueing principle, fear reduction, moral education, extinction timeout and silence) out of the twenty (20) listed techniques. The table further revealed that on average, experienced teachers uses the identified techniques while the beginning teachers do not. Based on the difference in their opinion, hypothesis one was tested to find out if significant difference exists. Results on Table 5 showed that there is a significant difference in the mean rating of experienced and beginning STM teachers on their use of various techniques for controlling students' undesirable behaviours in the classroom. This was in favour of experienced teachers. The finding from this study is line

with the findings of Okigbo and Okeke (2011) who found that a significant difference existed between experienced and beginning mathematics teachers' perception of their difficulties in using appropriate skills for mathematics instruction in favour of the experienced teachers. The appropriate skills included classroom management and control. The findings from this study is not surprise because the experienced STM teachers might have gathered a lot of classroom experiences on how to guide these young adolescents and manage their behaviours in the process.

Table 4 had shown that male and female STM teachers disagreed in the use of seven techniques which include; counseling, positive reinforcement, cueing principle, fear reduction, moral education, extinction timeout and silence. In general, both gender use the identified techniques but not at the same rate. This finding deviated from that of Okigbo (2010) who found that female mathematics teachers are poor in classroom management and control and despite the fact that they rarely punish deviants, boys prefer male mathematics teachers to females. To test for a significant difference that might exists, hypothesis two was tested. The result of the test as shown on Table 6 revealed that male and female STM teachers do not differ significantly in their use of various techniques for controlling students' undesirable classroom behaviours. Hence, the little difference in the mean and standard deviation scores is a matter of chance. The findings from this study gave support to the findings of Okigbo and Okeke (2011). They found that male and female mathematics teachers do not differ significantly in the level of difficulty they perceive in using the appropriate skills in the mathematics classroom.

Conclusions

Based on the findings from the results, the following conclusions were drawn:

1. The most prominent among undesirable behaviour among science students is non completion of assign-ments which was agreed by 95.5% of the respondents followed with refusal to follow direction (78.8%) and noise making (78%).
2. STM teachers predominantly use traditional techniques such as corporal punishment, negative reinforcement, manual punishment, caning apart from class monitoring and peer correction.
3. There is a significant difference in the mean rating of experienced and beginning STM teachers on their use of various techniques for controlling students' undesirable behaviours in the classroom in favour of experienced teachers.
4. Male and female STM teachers do not differ significantly in their use of various techniques for controlling students' undesirable behaviours in the classroom.

RECOMMENDATIONS

Considering the findings from the study, the following recommendations were made:

1. Seminars should be organized for secondary school teachers on the ways to help teachers understand their own behaviour and those of their students.
2. Regular and surprise inspections of schools should be intensified to help check teachers who serve as role models.
3. Beginning teachers should face orientation on the use of various techniques for controlling undesirable behaviours in the science classroom at the time of taking the teaching job.
4. Teacher education programmes should intensify their course programmes on the area of child psychology and guidance and counseling.

Conflicts of Interests

The authors have not declared any conflicts of interests.

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