



# **Knowledge on Classroom Behaviour Modification Techniques of Pre-Service Teachers of Colleges of Education in Ghana**

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## **Authors' contributions**

*This work was carried out in collaboration with all authors. Author GY conceived the study, participated in the design of the study, performed the statistical analysis and wrote the first draft of the manuscript. Author LDF participated in the design of the study, managed the literature searches and sequence alignment. Author ENS participated in the design, managed the statistical analyses of the study and participated in the sequence alignment. All authors read and approved the final manuscript.*

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## **ABSTRACT**

Classroom discipline is one of the most thought-provoking issues in modern education. Studies have shown that students' classroom misconduct interferes with teaching and learning and is believed to be a precursor to later school dropout and similar negative social outcomes. This study aimed at investigating the knowledge of pre-service teachers of Colleges of Education in Ghana on the concept of behaviour modification techniques in the classroom. A cross-sectional survey design was used for the study. Stratified and simple random sampling techniques were used to obtain a sample size of three hundred and sixty participants for the study. Data was collected using behaviour modification questionnaire developed by the researchers and analysed using SPSS data analysis software. The results show that most of the participants have insufficient knowledge on behaviour modification techniques for classroom management even though they exhibited strong knowledge on few of the items. At 5% level of significance, there was virtually no significant difference found to exist in pre-service teachers' knowledge of behaviour modification practices in terms of gender

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difference. Furthermore, the study revealed that programme of study never had a significant effect on the pre-service teachers' knowledge on classroom behaviour modification techniques. It is recommended that training programmes of teacher education should be reviewed to strengthen the knowledge of pre-service teachers on classroom behaviour modification techniques.

*Keywords: Pre-service teachers; colleges of education; gender; programme of study; behaviour modification techniques.*

## 1. INTRODUCTION

The issue of discipline in the classroom is one of the most thought-provoking problems in education currently. Teachers, administrators, parents, and students will take steps to remedy the problem if they acknowledge that lack of discipline is a serious concern that interferes with the teaching-learning process (Conte as cited in [1]). Canter, as cited in [2], indicated that a teacher cannot get a lesson objective(s) met in the classroom unless an effective method of discipline which the teacher thoroughly understands and is comfortable with is utilised.

In the United States of America, although 28 states allow corporal punishment in public schools, the modern approaches of classroom discipline aim to teach students to become more responsible for their own behaviour [3]. Some of these modern approaches include assertive discipline, discipline with dignity and student peer mediation [3]. [4] also highlighted approaches such as teacher effectiveness training, positive approach (teacher-student mutual respect and bounds creation), suspension or temporary exclusion, detention, expulsion, deprivation of privileges, moral punishment, and rewards for achieving school discipline. [5,6] listed techniques used in Nigerian schools for improving discipline as the use of the cane, spanking with the hand or slippers, slapping, knocking the head with the knuckles and causing students to kneel down on hard surfaces, all of which are acts of corporal punishment.

In Ghana, discipline or behaviour modification in schools takes the form of caning, weeding, kneeling down, sending students out of the classroom and suspension from school. This ends up making victims of these forms of classroom disciplinary measures miss instructions and therefore goes a long way to have a toll on their performance. Teachers have choices in identifying and using classroom correction plans that suit their needs [7]. The question is, which approach works best for handling today's classroom behaviour?

Pre-service teachers often report that they lack the necessary skills to manage difficult classroom misbehaviours [8,9]. In fact, classroom management skills are described to be the ultimate concern for pre-service teachers [10,11,12]. Personal experience during supervision of students on internship revealed that most pre-service teachers failed to use the appropriate behaviour modification strategies in addressing destructive behaviour in the classroom. Atici, Stephens and Tonnessen as cited by [8] reported that pre-service teachers have difficulties with classroom management during teaching practice and this finding is consistent across the globe. Furthermore, studies by [13] which examined the perception of both pre-service teachers and teachers with less than 3 years of experience on their preparation in classroom management indicated that all the participants rated their training in classroom management as 'minimally sufficient' and that 83.5% desired additional training in classroom management.

Behaviour modification is a treatment approach, based on the principles of operant conditioning that substitutes undesirable behaviours with more desirable ones through the use of positive or negative reinforcement techniques [14]. [15] also defined behaviour modification as the systematic application of learning principles to alter human behaviours to alleviate suffering and enhance functioning. For effective teaching and learning, human behaviour at every level of education needs to be positively influenced. [16] noted that behaviour influence occurs whenever one person exerts some degree of control over another and that such influence exists in many settings such as: schools, homes, military, prisons, police and other normal personal interactions.

Behaviour modification techniques are powerful tools for bringing out positive change in human behaviour in order to facilitate good and conducive learning atmosphere in the school system [15]. Disruptive behaviour abounds among students, for example, some students are

always found indulging in noisemaking, sighing in class, loitering, shuffling, answering phone calls in class, indulging in conversation during teaching and learning, and coming to class late. All these affect effective teaching and learning and therefore need to be managed effectively to ensure successful teaching and learning in the classroom. Several techniques for managing such disruptive behaviours have been adopted. Yet students manifest such behaviours with increasing frequency.

Previous studies on managing disruptive behaviour in the classroom had examined how teacher's characteristics, such as gender and programme of study influenced their belief of classroom discipline. [17] in their study on how teachers learn to manage classroom behaviour indicated that men were much less likely than women to report of experiencing problems with maintaining order in the classroom. Additionally, [18] indicated that gender has significant influence on second-cycle teachers' knowledge on behaviour modification techniques. In relation to the effect of programme of study on pre-service teachers' knowledge and skills on behaviour modification techniques, [19] indicated that there was no significant difference between education students' area of specialty and their knowledge of managing disruptive behaviour in school. On the contrary, [20] in a study on the academic courses teachers teach and their knowledge in classroom management, it was found out that teachers who teach the Arts were more knowledgeable in behaviour modification. Furthermore, [21] in a study indicated that special educators were significantly more knowledgeable about applied behaviour analysis techniques than the general education students. In Ghana, not much has been done on teachers' characteristics that influence their knowledge and skills in classroom behaviour modification techniques and therefore, this study explored the effect of gender and programme of study on the knowledge of pre-service teachers of Colleges of Education in Ghana on behaviour modification techniques in the classroom.

## 2. RESEARCH QUESTIONS

This study, which assessed the knowledge of pre-service teachers in the Colleges of Education in Ghana on behaviour modification techniques in the classroom, was guided by the following research questions:

- How do pre-service teachers in the Colleges of Education rate their knowledge

of behaviour modification techniques in the classroom?

- How does gender affect the rating of the pre-service teachers on their knowledge of behaviour modification techniques in the classroom?
- How does programme of study affect the rating of the pre-service teachers on their knowledge of behaviour modification techniques in the classroom?

## 3. RESEARCH METHODOLOGY

### 3.1 Research Design

A cross-sectional survey design was used for this study. This design helps to collect data to make inferences about a population of interest at a point in time. A cross-sectional survey is appropriate for this study and also in situations where the data to be collected are about self-reported beliefs or behavior. Besides, it enables the researcher to collect data and compare many different variables at the same time without manipulating the study environment [22].

### 3.2 Population and Sample Size

Colleges of Education in the Ashanti Region of Ghana were considered for the study. This is because Ashanti Region has nine (9) Colleges of Education, which is one of the highest in Ghana. The total number of final year pre-service teachers in these colleges was 3,225. This 3,225 comprise of the following: Agogo Presbyterian College of Education = 392; Agona SDA College of Education = 142; Akokerri College of Education = 433; Christ the Teacher College of Education = 30; Mampong Technical College of Education = 440; St Monica's College of Education = 456; St. Louis College of Education = 427; Wesley College of Education = 412 and Offinso College of Education = 492. Stratified random sampling technique was used to obtain the number of respondents from the various colleges of education. A total sample size of 370 was determined using the mathematical formula:  $n = N / [1 + N (\alpha)^2]$  where  $n$  = sample size;  $N$  = sampling frame;  $\alpha$  = confidence level [23]. Simple random sampling technique was used to obtain the actual respondents of each College of Education through computerized table of random method. The sample size obtained from the 9 colleges of education are; Agogo Presbyterian College of Education = 45; Agona SDA College of Education = 17; Akokerri College of Education = 50; Christ The Teacher College of Education =

3; Mampong Technical College of Education = 50; St Monica's College of Education = 52; St. Louis College of Education = 49; Wesley College of Education = 47 and Offinso College of Education = 57.

### 3.3 Research Instrument

A Behaviour Modification questionnaire (BMQ) developed by the researchers was used for the study. The questionnaire consisted of two (2) parts. The first part consists of 5 items which dealt with the demographic data of the respondents namely: gender, programme of study and the name of college of education. The second part was to elicit information to measure the pre-service teachers' knowledge on behaviour modification techniques in the classroom. It consisted of 25 items constructed on 5-points Likert scale with the responses: Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) and No Idea (N). A pilot study was conducted to assess the validity (internal consistency) and reliability of the questionnaire to enhance its accuracy for the data collection. Participants for the pilot study were selected from Bechem College of Education in the Ahafo region of Ghana. The Cronbach's alpha which is a measure of the reliability (internal consistency) of the instrument was calculated as 0.70 which is considered high in most social science research applications.

### 3.4 Data Collection Procedure

The data for the study was collected using five-point Likert scale questionnaires at a single point in time as indicated earlier. The questionnaire was administered by the researchers to the participants directly in March, 2019. A total number of 370 questionnaires were distributed. The number of questionnaires which were successfully completed and returned was 360. This represents a return rate of 90%. On the spot method of administration and retrieval was used to improve the return rate. All ethical procedures required were followed. Participants were made to indicate their willingness to participate in the study. Directives on the questionnaires ensured respondents' anonymity and confidentiality.

### 3.5 Data Analysis

The data were analysed using descriptive and inferential statistics. Statistical software used for the analyses was the Statistical Package for Social Scientists (SPSS). The means and standard deviations of the ratings for each of the

items were computed and the means compared to the theoretical mean rating (assuming a normal distribution of responses) to ascertain the respondents' perception on the indicators considered. Additionally, the effect of gender and programme of study on respondents' knowledge of classroom behaviour modification techniques were determined. An item-by-item t-test and analysis of variance (ANOVA) at 5% level of significance was performed to establish a possible significant difference in the respondents' ratings of the indicators of this study. P-values lower than 0.05 were deemed significant.

## 4. RESULTS AND DISCUSSION

### 4.1 Knowledge of Pre-Service Teachers on Behaviour Modification Techniques

This part of the study assessed the knowledge of behaviour modification techniques by pre-service teachers of Colleges of Education in Ghana. The means and standard deviations indicated in Table 1 were computed from the ratings of the respondents on the various indicators of the respondents' knowledge of behaviour modification techniques in the classroom using a 5-point Likert-scale questionnaire. The theoretical mean was 3.0. Therefore, all mean ratings less than 3.0 indicate that the respondents disagree, strongly disagree or have no idea of the item. This, therefore, implies that they have insufficient knowledge of the issue raised. On the contrary, mean ratings greater than 3.0 suggest that the respondents agree or strongly agree to the issue raised and therefore have knowledge on it. The mean rating of the 360 respondents on their knowledge of behavior modification techniques used in the classroom ranged from 1.63 ( $SD = 0.88$ ) to 3.04 ( $SD = 1.11$ ). The results as shown in Table 1 suggest that generally, the pre-service teachers have insufficient knowledge in behaviour modification techniques used in the classroom with 23 out of the 25 items having mean ratings less than the theoretical mean of 3.0. The exceptions to the above were the items "Ignoring a student can help decrease the disruptive behaviour" and "Flooding is appropriate when you are dealing with fear in pupils" for which the respondents' ratings suggest that they know them as techniques used in the classroom for addressing disruptive behaviour of students.

The findings of this study revealed that generally, pre-service teachers have insufficient knowledge on classroom behaviour modification techniques.

This current study corroborates with the study of [24] which indicated that pre-service students of a College of Education in Ghana exhibited insufficient knowledge of how to manage disruptive behaviours in the classroom. Out of the 265 students studied, 193 representing 72.83% exhibited insufficient knowledge. The study further indicated that the reason could be due to the non-inclusion of classroom behaviour modification techniques as a course in the programmes of the Colleges of Education in Ghana.

A Similar study by [25] confirmed the insufficient knowledge of teachers on the application of classroom management practices specifically to disruptive behaviour in schools in Ghana.

On the contrary, a study conducted by [26] using 155 pre-service teachers indicated that student teachers in Germany were better placed to manage classroom behaviours. This was because the curriculum for training teachers had much content on classroom management.

**Table 1. Knowledge of pre-service teachers of colleges of education on behaviour modification techniques**

SN	Items	Mean	SD
1	Reinforcement is the best technique for correcting disruptive behaviour	1.90	0.93
2	Shaping is a strategy for correcting disruptive behaviour	1.96	0.91
3	Corporal punishment is not the best way to correct disruptive behaviour	2.39	1.16
4	Positive reinforcement encourages students to behave well	1.64	0.96
5	Systematic desensitization can be used to extinguish anxiety in pupils	2.71	1.31
6	Token economy can help to solve the problem of disruptive behaviour among male students.	2.93	1.24
7	Kneeling down is the best techniques for handling female students' disruptive behaviour.	2.88	0.98
8	Ignoring a student can help decrease disruptive behaviour	3.04	1.11
9	Time-out immediately after bullying a classmate can alter such behaviour.	2.94	1.25
10	Getting a child to do what he/she doesn't like so that he/she gets the opportunity to engage in his favourite activity can help improve desirable behavior	2.46	1.12
11	Flooding is appropriate when you are dealing with fear in pupils	3.03	1.23
12	Aversion training can be applied to eliminate negative behaviour	2.86	1.33
13	Bio-feedback can be used to decrease undesirable behaviour	2.66	1.27
14	Relaxation techniques can be used to reduce anxiety in pupils	2.30	1.14
15	Prompting and fading is an effective technique to stamp out disruptive behaviour in the classroom.	2.38	1.19
16	Overcorrection is effective in strengthening a desirable behaviour in pupils.	2.48	1.04
17	Stimulus satiation is not a behaviour modification technique and should not be applied in the classroom	2.89	1.28
18	Behaviour contracting is useful in firming-up a behaviour a teacher wishes a student to repeat	2.41	1.21
19	It is better to identify the cause of misbehaviour to know which intervention would be appropriate	1.89	1.10
20	It is inappropriate to provide rewards for good behaviour because of the attention the students receive	2.67	1.16
21	If students are constantly out of their seat, a good way to get them to sit down is to reinforce them whenever they are seated	2.27	1.02
22	Giving students rewards when they complete assignments is bad since it decreases their intrinsic motivation to do the work	2.72	1.10
23	Detention strategy could be used to get students perform their tasks	2.53	1.26
24	Punishment is the most effective tool to use to change negative behaviour	2.38	1.10
25	Praising students who are behaving appropriately is an effective way to encourage students to behave appropriately more often	1.63	0.88
Mean of Means		2.48	1.13

Source: Field Survey, Yeboah (2019) N = 360

Michener [26] espoused that the German curriculum for teacher education is structured to have several psychology courses that equip students with strategies for managing classrooms effectively. This finding suggests that Colleges of Education in Ghana should increase the content of classroom behaviour modification in the programme structure for training teachers.

#### 4.2 Effect of Gender on Knowledge of Pre-Service Teachers on Behaviour Modification Techniques

The result in Table 2 shows the effect of gender on mean ratings of the respondents on their knowledge of behaviour modification techniques used in the classroom. The item-by-item mean ratings of the male pre-service teachers ranged from 1.61 (.857) – 2.91 (1.135) whilst that of the females ranged from 1.629 (.827) – 3.13 (1.087). Arguably, the result shows that on the average, all the male pre-service teachers have insufficient knowledge of behaviour modification techniques used in the classroom. This is because their mean ratings for all the indicators

were less than the theoretical mean of 3.00. Additionally, except token economy, ignoring, time out, flooding and aversion training the mean ratings of the female respondents suggest that they have insufficient knowledge of behavior modification techniques used in the classroom.

The item-by-item comparison of means to assess the influence of gender on the respondents' ratings of their knowledge on behavior modification techniques in the classroom (Tables 2) indicates that at 5% level of significance twenty (20) out of the twenty (25) items showed no significant effects of gender on the respondents' knowledge of behaviour modification technique.

Even though five (5) out of twenty (25) of the items, at 5% level of significance, showed significant difference of the ratings of the respondents by gender, with 2 of the items (Desensitization and Kneeling down) the ratings of both sexes indicated that they had insufficient knowledge on behavior modification techniques used in the classroom.

**Table 2. T-test of the effect of gender on knowledge of pre-service teachers on behaviour modification techniques**

Item number	Items	Male (n=145)		Female (n=215)		T	p-value
		Mean	SD	Mean	SD		
1	Reinforcement	1.81	0.884	1.86	0.959	-1.514	0.131 <sup>†</sup>
2	Shaping	1.90	0.777	2.00	1.012	-1.105	0.270 <sup>†</sup>
3	Corporal punishment	2.34	1.132	2.42	1.185	-0.645	0.519 <sup>†</sup>
4	Positive reinforcement	1.66	0.952	1.63	0.962	0.287	0.774 <sup>†</sup>
5	Desensitization	2.49	1.220	2.86	1.357	-2.648	0.007 <sup>*</sup>
6	Token economy	2.74	1.231	3.06	1.235	--2.434	0.015 <sup>*</sup>
7	Kneeling down	2.74	0.896	2.97	1.202	-2.131	0.034 <sup>*</sup>
8	Ignoring	2.91	1.135	3.13	1.087	-2.004	0.046
9	Time out	2.82	1.182	3.03	1.284	-1.445	0.149 <sup>†</sup>
10	Getting a child	2.34	1.108	2.54	1.130	-1.616	0.107 <sup>†</sup>
11	Flooding	2.90	1.123	3.13	1.293	-1.737	0.075 <sup>†</sup>
12	Aversion training	2.61	1.238	3.04	1.370	-3.037	0.003 <sup>*</sup>
13	Biofeedback	2.52	1.173	2.76	1.317	-1.777	0.076 <sup>†</sup>
14	Relaxation	2.30	1.113	2.30	1.166	-0.009	0.993 <sup>†</sup>
15	Prompting and fading	2.34	1.238	2.41	1.160	-0.503	0.615 <sup>†</sup>
16	Overcorrection	2.41	1.071	2.53	1.013	-1.003	0.316 <sup>†</sup>
17	Stimulus satiation	2.75	1.228	2.99	1.306	-1.710	0.088 <sup>†</sup>
18	Behaviour contracting	2.33	1.112	2.46	1.274	-0.958	0.338 <sup>†</sup>
19	Identify cause	1.81	0.963	1.94	1.177	-1.125	0.261 <sup>†</sup>
20	Inappropriate	2.63	1.235	2.69	1.107	-0.432	0.666 <sup>†</sup>
21	Constantly out of seat	2.27	1.009	2.27	1.025	-0.050	0.960 <sup>†</sup>
22	Students reward	2.77	1.130	2.68	1.069	0.696	0.487 <sup>†</sup>
23	Detention strategy	2.51	1.179	2.53	1.321	-0.180	0.857 <sup>†</sup>
24	Punishment	2.31	1.071	2.42	1.109	-0.962	0.337 <sup>†</sup>
25	Praising student	1.61	0.857	1.62	0.827	0.046	0.964 <sup>†</sup>

*Statistically significant at 0.05 level of significance; <sup>†</sup>Not statistically significant at 0.05 level of significance*

**Table 3. ANOVA of effect of programme of study on knowledge of pre-service teachers on behaviour modification techniques**

Item number	Items	Mathematics and science (n=27)		Technical (n=14)		Early childhood (n=17)		General education (n=290)		French (n= 12)		F	p-value
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
1	Reinforcement	1.56	0.698	2.14	0.770	1.76	0.831	1.94	0.965	1.58	0.669	1.732	0.142 <sup>u</sup>
2	Shaping	1.89	0.934	1.79	0.802	2.29	0.920	1.98	0.915	1.42	0.669	1.861	0.117 <sup>u</sup>
3	Corporal punishment	2.56	1.423	1.93	1.141	2.06	1.144	2.39	1.130	3.00	1.206	1.877	0.114 <sup>u</sup>
4	Positive reinforcement	1.93	1.174	1.36	0.497	1.53	1.007	1.64	0.957	1.58	0.669	0.974	0.421 <sup>u</sup>
5	Desensitization	2.59	1.083	2.29	0.825	3.24	1.602	2.71	1.343	2.67	1.314	1.103	0.355 <sup>u</sup>
6	Token economy	2.41	1.083	3.15	1.099	3.29	1.160	2.94	1.269	3.00	0.953	1.698	0.150 <sup>u</sup>
7	Kneeling down	2.96	1.224	2.71	1.139	3.06	0.966	2.86	0.948	3.18	0.937	0.594	0.667 <sup>u</sup>
8	Ignoring	3.04	1.255	2.86	1.231	3.59	0.507	3.02	1.108	2.83	1.267	1.251	0.289 <sup>u</sup>
9	Time out	2.67	1.109	2.93	1.141	2.41	1.228	2.98	1.268	3.17	1.030	1.276	0.279 <sup>u</sup>
10	Getting a child	2.41	1.118	2.86	1.167	2.18	1.185	2.44	1.115	3.08	1.084	1.686	0.153 <sup>u</sup>
11	Flooding	2.37	1.149	3.36	0.745	3.18	1.286	3.06	1.244	3.25	1.138	2.430	0.047 <sup>*</sup>
12	Aversion training	2.52	1.221	2.71	1.383	3.18	1.334	2.88	1.353	3.00	1.044	0.769	0.546 <sup>u</sup>
13	Biofeedback	2.63	1.305	2.64	1.151	2.53	1.375	2.70	1.266	2.08	1.165	0.731	0.571 <sup>u</sup>
14	Relaxation	2.41	1.152	2.43	0.852	2.24	0.970	2.29	1.162	2.08	1.311	0.225	0.924 <sup>u</sup>
15	Prompting and fading	2.44	1.219	2.07	1.072	1.94	0.899	2.44	1.216	1.92	0.793	1.464	0.213 <sup>u</sup>
16	Overcorrection	2.85	1.167	2.50	1.092	2.18	1.131	2.47	1.002	2.25	1.288	1.392	0.236 <sup>u</sup>
17	Stimulus satiation	2.48	1.369	2.79	0.975	3.65	1.272	2.89	1.273	2.92	1.240	2.234	0.065 <sup>u</sup>
18	Behaviour Contracting	2.30	2.30	2.07	0.975	2.35	1.222	2.46	1.242	1.83	0.937	1.140	0.338 <sup>u</sup>
20	Identify cause	2.04	1.018	2.00	1.240	1.76	1.033	1.67	0.888	1.89	1.097	0.336	0.854 <sup>u</sup>
21	Inappropriate	2.30	1.031	3.14	1.231	2.53	1.281	2.69	1.153	2.58	1.240	1.390	0.237 <sup>u</sup>
22	Constantly out of Seat	2.41	1.031	2.71	0.825	1.94	1.197	2.25	1.019	2.50	1.000	1.470	0.224 <sup>u</sup>
23	Students reward	2.48	0.975	3.07	1.207	2.59	1.228	2.73	1.093	2.67	1.073	0.754	0.554 <sup>u</sup>
24	Detention strategy	2.30	0.975	3.07	1.207	2.59	1.228	2.73	1.093	2.67	1.073	1.021	0.396 <sup>u</sup>
25	Punishment	2.22	1.219	2.86	1.231	2.24	0.970	2.38	1.079	2.25	1.138	0.924	0.450 <sup>u</sup>
26	Praising student	1.67	0.784	1.43	0.756	1.29	0.588	1.66	0.909	1.33	0.778	1.250	0.289 <sup>u</sup>

<sup>\*</sup>Statistically significant at 0.05 level of significance; <sup>u</sup>Not statistically significant at 0.05 level of significance

With the other 3 items (Token economy, ignoring and Aversion training) the mean ratings of the male respondents suggest that they have insufficient knowledge on it while the females had knowledge on them as behavior modification techniques in the classroom.

The findings of this study are consistent with that of Mooketsi [27] whose study of teacher trainees in Botswana indicated that there was no significant difference between male and female pre-service teachers in terms of their level of knowledge in behaviour modification (df = 223, t = 4.296, p = 0.612). The study further indicated that since both the male and female pre-service teachers sat in the same class and received the tutelage from the same lecturers it is expected that their level of knowledge will be the same. Additionally, this finding is consistent with that of [28] who established no significant difference between male and female pre-service teachers on their level of knowledge of behaviour modification techniques (df = 134, t = 3.571, p = 0.081). The study indicated that even though the difference between the male and female pre-service teachers was not significant, the females were slightly ahead of their male counterparts in terms of knowledge in behaviour modification strategies. In support of this, [28] argued that women are better managers of the classroom than men. [28] further argued that women conceive their kids for nine months and they begin to interact with them even in the womb and therefore know how to manage the behaviour of kids better.

#### **4.3 Effect of Programme of Study on Knowledge of Pre-service Teachers on Behaviour Modification Techniques**

The mean ratings of the pre-service teachers offering the five (5) programmes of study (Mathematics, Technical, Early childhood, General education and French) on their knowledge of classroom behavior modification techniques was computed and compared with the theoretical mean of 3.0 for the five-point Likert scale (Table 3).

The ranges of the mean ratings for the five programmes are as follows: Mathematics = 1.56 (.698) – 3.04 (1.255); Technical = 1.43 (.756) – 3.36 (.745); Early childhood = 1.29 (0.588) – 3.65 (1.272); General Education = 1.64 (0.957) – 3.06 (1.244) and French = 1.33 (0.778) – 3.18 (0.937). The result (Table 3) generally indicates that the item-by-item mean ratings of the respondents

were lower than the theoretical mean of 3.0. Therefore, the knowledge of the pre-service teachers of the five (5) programmes on classroom behavior modification techniques was weak.

Table 3 also presents the result of one-way analysis of variance to compare the mean ratings of the knowledge of the pre-service teachers of the various programmes on classroom behavior modification techniques. The result indicates that at 5% level of significance there was no significant difference between the mean ratings of the respondents according to the programme of study (p-value > 0.05). The exception to this was Item number 11 (Flooding) which indicated significant difference in the rating for the various programmes. This result is consistent with that of [20] who established in a study on the courses teachers teach and their knowledge in classroom management that teachers who teach the Arts were more knowledgeable in behaviour modification. However, the difference among these second cycle teachers' knowledge in terms of the courses they teach were not significant. Additionally, [19] indicated that there was no significant difference between education students' area of specialty and their knowledge of managing disruptive behaviours in school.

#### **5. CONCLUSION AND RECOMMENDATIONS**

Adequate knowledge of teachers on classroom management strategies is key to successful teaching and learning. In classrooms where teachers manage their classes effectively, students gain from every lesson taught and are proud of such teachers. This study assessed the knowledge of pre-service teachers on classroom behaviour modification techniques. The study concludes that pre-service teachers of Colleges of Education in Ghana have insufficient knowledge of behaviour modification techniques used in the classrooms for effective teaching. This is because their programme structure does not adequately cater for that. In addition, generally gender did not significantly influence the knowledge of the pre-service teachers' classroom behaviour modification techniques. What this implies is that when both male and female teachers are given training on classroom behaviour modification techniques, they could have the same knowledge. From the conclusions drawn from this study, it is recommended that adequate steps should be taken by stakeholders of teacher training colleges to increase the content of classroom behaviour modification



techniques in the programme structure of all teacher training institutions in Ghana, since majority of disciplinary incidents that take place in the classroom originate from the insufficiency of teachers' classroom management skills.

### CONSENT AND ETHICAL APPROVAL

All ethical procedures required were followed. Participants were made to indicate their willingness to participate in the study and written consent has been collected and preserved by the author(s).

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### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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