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Scope and Editorial Policies

Nigerian Journal of Applied Psychology is primarily meant to publish reports which can make professional as well as laymen utilize psychology principles in making the human organism more mentally and physically healthy. The journal is meant to make it possible for many more people to utilize psychological principles in their day-to-day activities. One of the aims of the journal is therefore to report articles which when ready by people may increase their self-understanding, awareness, problem-solving capacities, creativity and improved adaptive and coping behaviour strategies.

The Journal is an Applied Psychology Journal par excellence. The journal publishes reports which may have applications to individuals in the family, educational contexts, health delivery systems, criminal justice systems. Articles which can analyze and help to solve many problems of society are also welcome.

The editorial policy of the journal will use the following order of publication preference.

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Nigerian Journal of Applied Psychology is considered to include psychology which may be utilize in the following ways for alleviating human problems:

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- Parenting
- Family life education.

General Information and Manuscript Preparation
Manuscript Preparation

9. Two copies of manuscript of typed doubled space on one side of A4 paper submitted alone with electronic copy.
10. Each manuscript should contain, Name and address of the author including his institutional affiliation, abstract, introduction, and the body of the paper.
11. Each page should be numbered consecutively in the upper tight hand corner beginning with the Title page.
12. Papers should not exceed 20 pages including references.

Manuscripts

9. The title page contain a concise but informative statement which should not be more than 15 words.
10. Below the Title should be written the author's names in order, first name, middle name and family name last with the highest degrees. The department of the author, and his/her institutional affiliation.
11. Abstract - The abstract of the manuscript should not be more than 150 words. It should be on page 2 of the manuscript. Abstract should state concisely the purpose(s) of the paper, basic segments and general principles to be put across to readers.
12. If the paper is the report of the study, it should include background, methodology, analyses and results.
    (a) Background includes introduction, and review of literature central to the study.
    (b) Methodology should include concise explanation of design, sample and sampling procedure, instruments and their psychometric characteristics plus a well-explained procedure.
    (c) Results should be presented in form of tables to which reference is made in brief descriptions.
5. References should be written in alphabetical orders. The reference list should include only the cited works within the body of the paper. Reference should follow the APA system.

The format to be followed in writing the reference is as below:

(h) Family name of the author
(i) The Initials
(j) The year of Publication
(k) The title of the paper.
(l) The journal or book in which paper is published.
(m) If a journal, the volume and pages.
(n) If a book, the city and the publisher.

6. Manuscript Submission.
All manuscript should be submitted to the Editor-in-Chief.
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EDITORIAL BOARD

EDITORIAL ADVISORY BOARD

Attitude of Practising Primary School Teachers towards Science Teaching

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Abstract

Inculcating in Nigerian children the spirit of inquiry and creative thinking through science teaching is one of the objectives of primary education in Nigeria. Thus, focusing a research study which examined the attitudes of practicing teachers at this level of education towards the teaching of this subject should be of paramount importance. This study also constructed a questionnaire on "attitude towards science teaching" and used it to determine the attitude of teachers in primary schools located in Ibadan, Nigeria towards science teaching; and whether any significant gender-group difference exist in the teachers' attitude. It made use of 50 primary school teachers who responded to a 15 item valid and reliable questionnaire developed by the researcher. Data analysis involved the use of percentages and chi-square statistics. The results showed that the teachers tend to exhibit negative attitude towards science teaching, and there was also distinct attitude towards science teaching according to their gender. The implications of these results for teacher in-service programmes organizers as well as curriculum developers include creation of courses that could help practicing teachers of science imbibe positive

attitude towards the subject as well as help them to understand the effect which teachers' negative attitude towards his/her teaching could have on the learners.

Key words: Attitude, Science teaching, Pre-school education; Pre-school teachers

Introduction

The word science comes from Latin word "scienta" which emphasizes the acquisition of knowledge through experimentation and discovery. The current Nigerian primary school science curriculum emphasizes the use of practical approach and maximum teacher-learner interaction during teaching and learning activities in science. The possible cognitive and social gains as well as the positive learning outcomes resulting in and from such interactions within the classroom community have also been highlighted (Lybolt & Gottfred, 2004 Yoon & Onchwari, 2006; Arnone, 2003, Smith, Cowie & Blades, 2003). Based on this, it is obvious, therefore, that science teaching-learning activities should demand the use of practice (hands –on experiences), experimentation and discovery as the anchor point during its teaching. However, it was observed that Nigerian practicing teachers at this level tend to use the chalk and talk (without teaching aid), as well as lecture methods (which is teacher centred) when teaching science subjects (Odinko, 2006). Studies which have shown the negative effects of these methods abound (Vandayar & Killen, 2006 Varol and Farran, 2006).

One of the problems that significantly deter effective science teaching in primary schools is teacher's attitude towards teaching (Moore, 1977; Onafowokan & Okpala, 1998). Attitude is the relatively enduring beliefs or opinions that predisposes people to respond in a positively, negatively, or ambivalent way to phenomenon. Attitude is also viewed as an individual's tendency to react favourably or unfavourably toward a designated class of

stimuli (Anastasi & Urbina, 1997). One's attitude towards a phenomenon may not be directly observed but may be inferred from overt behaviour (verbal or non-verbal). To Zimbardo and Ebberson (1970), attitude could be viewed in three distinct but mutually exclusive perspectives namely: the affective perspective (which consist of an individual's emotional response to some phenomena); the cognitive perspective (which hinges on one's belief or factual knowledge of a phenomenon) and the behavioural component (which involves an individual's overt behaviour directed towards the phenomenon). Further, attitude according to Kerlinger and Lee (2000), could be perceived as an organised predisposition to think, feel, perceive and behave towards a referent or cognitive object.

Thus, one's attitude towards something can influence his/her disposition towards it. For instance, studies on effects of attitude on students' level of achievement have shown that their positive/negative attitude towards a subject has significantly affected their level of performance in those subjects (Odinko & Adeyemo, 1999; Tymme, 2001; Osborne, Simon & Collins, 2003). With respect to adults, Kobiowu & Akande (2002) examined the attitude of adults to functional literacy as a strategy for promoting participation in community development programmes. The study established that adults who developed positive attitudes to functional literacy, participated in it, and contributed immensely to the promotion of community development programmes. Further, studies from available literature have also confirmed that teachers' attitude toward a subject significantly affect learners' level of achievement in that subject (Koul & Fisher, 2006; Dills & Placone, 2008). In consequence, the relationship between attitude and performance appears to be operating at a symbiotic level.

The above definitions could influence the perception of attitude as a relatively lasting cluster of feelings, beliefs and behaviour tendencies directed towards specific phenomena (persons, ideas, objects or groups). Thus, when one tries to

measure attitude, one tries to place an individual's attitude somewhere along an agreement continuum in order to describe the person's attitude (Kerlinger & Lee, 2000). It could then be infer that attitude has intensity. It may be held with greater or lesser forcefulness. Strongly negative or positive attitudes are held with a lot of intensity, whereas neutral positions are held with far less intensity.

It might be in recognition of this problem, among others, that an in-service programme was organized for the participants of the study to foster the development of positive attitude and update the science knowledge of practicing science teachers. However, the design and implementation of such in-service programmes may end up as exercises in futility unless the programme organizers are made to know the attitude profile of their practicing teachers prior to implementation of in-service programmes. It may also be useful, ascertaining whether the attitude-related problem in primary science teaching has gender dimension, particularly in Nigeria educational setting where more than 70% of primary science teachers are females (Okpala, 1996). Further, conducting a research of this nature appears important when one considers the fact that research studies on attitude of teachers towards science teaching has been neglected in Nigeria even though the literature on the topic exist in societies with more organized educational system (Okpala, 1998).

Purpose of the Study

This study constructed a questionnaire on "attitude towards science teaching and use it to determine:

- the attitude profile of primary school teachers towards science teaching; and
- whether any significant gender-group differences exist in the teachers' attitude.

Methodology

Population and Sample

The target population for the study comprised of all the primary schools teachers working in the schools located within the University of Ibadan community. In the University of Ibadan community, five primary schools exit (3 public and 2 private). Care was taken to ensure that the two types were represented. Thus, simple random sampling was used to select 4 schools, (2 public and 2 private). A total of 50 primary school teachers (20 males; and 30 females) were randomly selected from 4 primary schools located inside University Ibadan to participate in the study.

Instrumentation

The investigator first developed 20 items based on her experience in primary science teaching, the experience of colleagues, and available literature. These items reflect aspects of science teaching methodology as well as attitude contextual make ups. These 20 items were presented to 3 postgraduate students and 2 lecturers in science education/evaluation for constructive criticism. Specifically, these people were requested to evaluate/modify/delete each item with a view to making the items suitable for determining attitude of primary school teachers towards science teaching. This exercise led to modification of 7 items and deletion of 5. Thus, the items were reduced from 20 to 15. These 15 items were laced beside a four-point likert scale (Strongly Agree; Agree; Disagree; and Strongly Disagree) in which respondent were to indicate the extent of their agreement or otherwise to each item. These 15 items made up the Section B of the questionnaire.

Section A of the questionnaire sought for personal information on the respondents; gender, years of experience and qualification. There were also instruction on how to fill the

questionnaire and the questionnaire title. The draft questionnaire was subjected to empirical validation by administering it to 20 primary teachers in Ibadan (not part of the study sample). The pretest results showed that the teachers correctly responded to the questionnaire without problems). These 15 items were re-administered to the same 20 teachers after one week from the first administration. These pretest results produced a test-retest reliability estimate that ranged from 0.88-0.98 for all the items.

Data Collection and Analysis

The investigator spent 2 days administering the uestionnaire to the 50 primary science teachers. Data analysis involved the use of percentages and chi-square statistics.

RESULTS

(a) Overall Picture of Teachers' Attitude

Table 1 shows the percentage of respondents who exhibited either positive or negative attitude with respect to the items.

Table 1

Percentage of respondents who exhibited positive/negative attitude with respect to the items

S/N	ITEMS	RESPONSE			
		SA/A		D/SD	
		% of M	% of F	% of M	% of F
1	I would like to teach science	16	24	24	36
2	Field trips make science teaching enjoyable	26	18	14	42
3	Primary science teaching should be geared towards covering the subject matter/content area	18	20	22	40
4	Primary science teaching should be organized around specific textbooks	20	30	20	30
5	Field trips are essential in teaching	20	30	20	30

	science				
6	Teaching science is more difficult	20	30	20	30
7	I prefer having pupils read their science textbooks	20	30	20	30
8	Science teaching should be geared towards satisfying the needs of pupils	20	22	20	38
9	Children should be involved in science activities	30	28	10	32
10	Lack confidence working with experimental materials	20	48	20	12
11	Science teaching require using expensive materials	16	50	24	10
12	I do not know how to teach science	20	30	20	30
13	I prefer not to take up time with practical work	20	30	20	30
14	Pupils do not gain much by carrying out their own investigation	14	46	26	14
15	At least half of the pupils time should be sent on practical	22	12	18	48

Gender-group Difference in Teachers' attitude

Male teachers formed group A, while female teachers formed group B. There were significant gender-group differences on items 2, 9, 15, 10, 11 and 14. As shown in Table 2, a greater proportion of the male teachers, unlike the females, tended to share the view that: "field trips are enjoyable" (item 2); "children should be involved in science activities" (item 9) and "at least half a pupils' time in primary science should be sent on practical work)" (item 15). On the other hand, female teachers, unlike the males, tend to share the view that they: "need expensive material to teach science activities" (item 11); "lack confidence working with experimental materials" (item 10); and that "pupils do not gain much by carrying out their own investigation in primary science" (item 14).

Table 2
Gender-Group Differences in Attitude of Teachers

Item	Gender-group	SA/A	D/SD	Total	Chi-square
2	A: Male	13	7	20	5.95*
	B: Female	9	21	30	
	Total	22	28	50	
9	A: Male	15	5	20	4.90*
	B: Female	14	16	30	
	Total	29	21	50	
11	A: Male	8	12	20	10.10*
	B: Female	25	5	30	
	Total	33	17	50	
10	A: Male	10	10	20	4.94*
	B: Female	24	6	30	
	Total	34	16		
14	A: Male	7	13	20	8.67*
	B: Female	23	7	30	
	Total	30	20	50	
15	A: Male	11	9	20	5.56*
	B: Female	6	24	30	
	Total	17	33	50	

*Significant at the 0.05 level (df=1)

Discussion and Conclusion

Most of the attitudinal behaviors of teachers in primary schools located in University of Ibadan may not augur well for effective teaching of primary science since most of the teachers prefer having pupils read their science books (item 7); do not know how to teach science (item 12); lack confidence in working with experimental materials (item 10); and prefer not to take up time with practical work (item 13). In the same light, the teachers agreed that primary science teaching should be geared towards covering the subject matter (item 3); organized around specific

textbooks (item 4); need expensive materials to teach science (item 11); and that pupils do not gain much by carrying out their own investigations (item 14).

The teacher's negative attitude towards science teaching is also reflected when only minorities of them have always thought: they would like to teach science (item 1); that field trips are essential in teaching science (item 5); and make it enjoyable (item 3); science teaching should be geared towards satisfying the needs of pupils (item 8) with at least half a pupil's time spent on practical work (item 15). However, more than half of the teachers think children should be involved in science activities (item 9).

The gender-group differences in some of the observed attitudes of the teachers which indicate that male teachers tend to have more favourable attitudes than their female counterparts could be attributed to the fact that males generally tend to exhibit more proficiency in science-related issues especially those involving practical (Beeb, 1979; Tuppen, 1981; Okpala and Onocha, 1988).

In conclusion, the results of the present study illustrated that most teachers teaching science in primary schools used for this study:

(1) tend to exhibit negative attitude towards most aspects of science teaching; and

(11) may have distinct attitude towards science teaching according to their gender.

It may therefore be suggested that organizers of in-service programmes for primary school teachers should endeavour to use the programme in modifying the observed negative attitudes in such a way that the teachers, on completing the programme would exhibit such positive attitudes that would augur well for effective science teaching in our primary schools. The programme organizers should also make room for any gender group differences that were observed in the teachers' attitude, as well as create course in behavior modification that could help in

modifying the attitude of female teachers towards practical. This is because children at this age level learn better by doing, experimentation and discovery. When children are encouraged to do things themselves, they get more involved and then curiosity sets in. This happens to be one of the learning outcomes which this level of education sets out to inculcate in Nigerian children. More so when studies have also shown that teachers attitude towards a subject affects learners' performance.

Recommendations

Based on the findings of the study, it is recommended that the organizers of this programme include courses in psychology which will expose teachers on nature and learning at the affective domain; inculcating positive attitudes towards any subject area and knowing the implications of exhibiting negative attitude towards any subject (effect on the teachers and on the learners) among others.

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