

Attention Deficit Hyperactivity Disorder –Aviable Training Module For School Teachers

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Abstract: Attention Deficit Disorders in children is a problem that teachers face in classrooms universally, and it can be particularly challenging. Despite this, there is a great paucity of work either in evaluating the existing knowledge levels of the teachers of Primary schools concerning this neurobehavioral problem, or in formulating attempts to train them in classroom management. The aim of the present study is the development of an evaluation and Training Module for Teachers, comprising of a three-step ADD group training method, with evaluation included. The target group comprised of 30 primary school teachers representing various schools in D. K. District. Following a baseline evaluation, the group training was performed. The curriculum included ADD/ADHD theory, case study and discussions. The specific objectives of the 3 day activity were to: assess them on their knowledge of ADD on a pre evaluation Test, obtaining relevant socio-demographic details, and providing them with specific training, after which they were re-assessed. The experience showed that the training facilitates knowledge of this clinical condition. The age, sex, teaching experience, qualifications and the residential area, were not found to be associated with the knowledge levels of teachers. The inclusion of this time and cost effective module in awareness and management skill building of Primary teachers as part of their in-service training as well as the implications of a successful culture and context specific training program for the inclusion of ADD children in the regular classroom is discussed.

Keywords: *Attention Deficit Disorders, Training module, Primary School teachers, Inclusion*

1.0 INTRODUCTION AND BACKGROUND

Children in the classrooms can manifest numerous behavior problems, but none can be so challenging to the teacher as the Attention deficit Hyperactivity disorders. ADHD is a chronic Neurobehavioral disorder that can persist well into adolescence and adulthood, and affects both males and females equally (Willoughby, 2003). The prevalence figures is said to affect around 3-5% of school-age children (APA, 1994). In India 4.67% of boys are reportedly 4-7 times more hyperactive than girls. (Chawla, Sahasi, Sunderam and Mehta, 1981) A large number of school based studies have focused on the various academic difficulties that these children present with. (Mash and Johnston, 1982, Coffey, 1997, Barkley, 1998, Sandberg, 1996, Porino et al 1983, Offord et al, 1989, Bussing, Zima and Perwien, 2000 and Karande and Bosrekar 2009).

Besides those having problems with their accademic activity, it has been found that approximately 6% of students have behaviour problems that are considered serious enough to warrant intervention (Wheldall, 1991, Little, Hudson, & Wilks, 2000, Little, Hudson, & Wilks, 2002, Stephenson, Linfoot, & Martin, 2000) and there are many more, whose behavioural disturbances are significant enough to interfere with the

learning process, be it their own or that of their peers. (Little, 2003, Farrell, 2005) Information on the symptomatic behaviour of the child obtained in the classroom is reliable as children with ADHD showing over activity in highly structured situations rather than in informal situations, is a characteristic feature of ADHD, according to Porino et al (1983). The Teacher who is already attempting to manage a group of children with distinct personality and learning styles, when called upon to deal with a child presenting with ADD /ADHD can feel all at sea and sorely taxed too. Infantino and Little (2005) examined the perceptions of 350 secondary school students regarding troublesome behaviours in the classroom, and found that TOOT ('talking out of Turn which is highly characteristic of ADHD was the only behaviour perceived by both teachers and students as being the most troublesome and the most frequent.

Other studies have found that the behaviour disorder seen in the primary classes were the same as that seen in secondary schools. (Wheldall & Merrett, 1988, Infantino and Little 2005) It has been pointed out by Coffey (1997) and Barkley (1998) that these behaviours may vary with co morbidity subtype and cognitive deficits and persist into adolescence and adulthood. However Teachers have little knowledge about this neurobiological disorder, and still less about how to manage them in the classroom. This is indeed a matter of concern especially as the behavior of ADHD children interferes in the teaching and learning process. A very recent study (Srivastava et al, 2010) emphasizes that co morbidity issues in India, have been poorly explored. Crawford (2007) felt that a lack of awareness was a major reason for disorders such as specific learning disabilities (SpLD) and attention-deficit hyperactivity disorder (ADHD) in children to go unidentified. A few recent studies have all highlighted the poor knowledge levels of teachers with regards to the disorder of ADHD. (Syed and Hussein, 2010, Jerome et al. 1999, Bekle 2006 and Ghanizadeh, Bahredar, and Moeini 2006)

Besides this there is also data that throws light on how students' misbehaviour adversely affects the teachers' well-being, and confidence, and also impacts negatively on student learning time and academic achievements (Lewis, Romi, Qui, & Katz, 2003; Little & Hudson, 1998; Miller, Ferguson, & Byrne, 2000; Poulou & Norwich, 2000). Beaman & Wheldall, 2000 pointed out that it is indeed a matter of serious concern that the difficulty in establishing and maintaining effective classroom behaviour management is one of the main reasons teachers leave the profession and is a significant factor in student disengagement. In an effort to deal with the problems it was found that many teachers use strategies that are not recognized as being effective in managing misbehaviour (Merrett & Wheldall, 1986, Infantino & Little, 2005, Poulou and Norwich 2000) It has long been understood that effective teacher professional development is critical to fostering educational improvement (Guskey, 2002; Fullan et al., 2006), and that optimal professional development should build capacity for long-term change. (Youngs, 2001., Coburn, 2005). Martin, Linfoot, & Stephenson, (1999) propose that the reason why positively focused strategies are not often used is that teachers do not have enough information and understanding about how they should be used.

Consequently, there appears to be a divide between what mental health professionals and researchers know about effective behaviour management and what is actually occurring in classrooms. Teachers themselves are aware of this gap and have expressed concern that they have not been prepared for the task (Jordan, Schwartz and McGhie-Richmond, (2009) and are desirous of obtaining comprehensive training (Bekle, 2006.) Therefore it calls for a concerted effort to extend the knowledge base of teachers which will assist in reducing teacher stress and increasing student learning opportunities (Clunies-Ross, Penny, Little, Emma and Kienhuis, Mandy(2008)

Building capacity for change requires that teachers continuously extend their knowledge base and reflect on their practices, and processes that can be supported by professional collaboration and mentoring (Dufour & Eaker, 1998; Lyons & Pinnell, 2001; Walpole & McKenna, 2004; Fullan et al., 2006). This factor becomes all the more important in the case of children with ADD with their challenging behaviours where the focus is on the preparation of teachers to become equipped in the challenges of providing inclusive education in the long run. There is an urgent need to begin to ask fundamental questions about what teachers need to know about ADHD particularly to be able to formulate and implement a successful culture and context specific training policy of inclusion. Previous initiatives by Syed and Hussein (2010) on teachers' professional development through conducting a workshop, showed that there was an improvement in their knowledge and that the gains were persistent over time.

Though there is a plethora of studies about the behavioural and the academic difficulties that ADD children present in the classroom, it is disheartening that the work concerning evaluating the basic knowledge levels of teachers is sporadic at best. This is true especially of most countries and India as well. There is also a serious paucity of systematic attempts to improve the knowledge of teachers, and though the teachers themselves have been vociferous in expressing their desire for the acquisition of greater skills and competence to deal with the ADD children in their classrooms, there has been very little work available. In India, where most classrooms have a very low teacher student Ratio there is a serious need for work which focuses on formulating training modules for the Teachers to improve their knowledge base and provide them with practical strategies to be used in the classroom. This research initiative is a step in that direction

2.0 OBJECTIVES OF THE STUDY

1. To assess the felt learning needs of teachers about the management of attention deficit disorders in the classroom
2. To assess the knowledge levels of schoolteachers about management of attention deficit disorders
3. To evaluate the effectiveness of seminar- workshop as a training module in the management of attention-deficit children

3.0 MATHODOLOGY

Sample

In accordance with the objectives, the following methods were employed 38 school Teachers representing various schools in D.K District formed the target group for this study.

Exclusion criteria

30 Teachers were selected after ascertaining their motivation and after obtaining their informed consent. They were further screened out to exclude those with a history of head injury, physical illness or mental instability and administered a pre-tested semi-structured questionnaire, after which they were enrolled into the study

Tools

Training module

An Educational training module has been designed, drawing from the inputs of various other training modules already in existence in the health and Educational Sectors (WHO 2005). This comprised of teaching materials and audio visual aids. The Study was conducted in 2 steps

Step I

Pre –evaluations were conducted by employing the following scales

1. Scale to assess the felt need of Teachers for the Seminar Workshop (Semi Structured scale constructed to evaluate the need for knowledge and training concerning ADHD)
2. Scale to evaluate the existing Knowledge and the attitude of teachers concerning ADD (Modified scale using the DSM-IV Criteria for ADD and Barkley's School Situations Questionnaire (SSQ; Barkley, 1981).
3. A semi structured Socio Demographic Scale to assess certain relevant socio Demographic characteristics

Step 2: The data which was collected from the pre- evaluation scales concerning the Teachers' need, knowledge and attitudes towards children with ADHD, was then incorporated into the training proper in Step 3

Step 3:

The training module comprised of the following.

1. Lecture sessions aided by:-

PowerPoint presentation on following topics

- a) General Introduction to Childhood Disorders
 - b) Disorders presenting in School Age children, and specifically seen in the classroom
 - c) Introduction to ADD/ADHD
 - d) Clinical, academic, interpersonal and behavioural manifestations of ADD/ADHD
 - e) Current Medical, Psychosocial and Educational management practices of ADD/ADHD
2. Case Discussion – (case vignettes were prepared and discussed based on school referrals to the Child guidance clinic)
 3. Discussion and clarification of topics
 4. Provision of take home material with ready references

4.0 POST TRAINING EVALUATION

After the training was completed, as part of the post-test, the same scales employed in step I. were used to assess the knowledge and attitude of the subjects.

5.0 STATISTICAL ANALYSIS

A pre and post comparison to evaluate the increase in knowledge base and the acquisition of relevant skills was undertaken.

6.0 RESULTS

The data was organized under the following headings:

- Section I: Analysis of need assessment opinionnaire to find out the percentage of teachers facing the problems related to ADHD in their school children.
- Section II: Sample characteristics of Teachers.
- Section III: Effectiveness of seminar -workshop training in terms of the gain in their knowledge score.
- Section IV: Association between pre-test knowledge scores and selected variables.
- Section V: Evaluation Proforma

Section I: Need assessment opinionnaire

The need for conducting a seminar on attention deficit is described under the subheadings of

- Speech and articulation
- Psychomotor performance
- Scholastic performance
- Group activity
- Others

Percentage of Teachers facing the problem

The frequency and percentage distribution of teachers facing the problem of attention deficit in the classroom is shown in Table 1. It was found that 18 teachers (60%) were facing the problem of attention deficit in their school children. Among them (65.7%) were facing the problem in speech and articulation. The least percentage (55.0%) was in the area of scholastic performance.

Other problems related to ADD were mentioned by the primary school teachers. They are:

- Inattentiveness during lessons
- Wrong answers for any questions
- Good at studies but lazy in writing work
- Does not keep the things in proper place
- Daydreaming during lessons
- Unable to copy from the blackboard
- Not able to write on the line

Details of the symptoms related to the problem of ADHD

The teachers reported that the most common symptoms of attention deficit they faced was interference in other student's activities ,76% and making spelling mistakes 73% while omitting speech sounds while reading was 70% and failure to respond to instructions was around 66.7%, (Table :2)

The least common problems related to ADD are, reading errors 46.7%, inability to draw a person's picture 43.3%and stealing and cruelty to other students 40% each respectively. (Table: 3)

Details of the Area -wise presentation of the problems related to ADHD

As far as the area-wise distribution of teachers facing problem behaviour associated with ADHD in their classrooms, it was found that 65.72% reported speech and articulation problems 57.25% reported psychomotor problems, 55% had scholastic and 56.50% had group activity difficulties.

. The data is shown in Table 4 and Figure 1: Bar diagram

The data obtained thus was then used to prepare the content of the training module and also included in the discussions.

Section II:

Sample characteristics

Data presented in Table 5 shows that majority of the teachers (60%) were above 31

years of age and only 12 (40%) were in the age group of 21-30 years. As far as the Sex-wise distribution was concerned, 13.33% were males and 86.67% were females as depicted in Table 5 and Figure 2.

Teaching experience

Table 5 shows that half of the teachers (50%) had less than 5 years of experience and 40% were within 6-15 years and 10% were above 15 years of experience.

Qualification

Data on qualification shows that 14 teachers (46.67%) out of 30 were graduates, 11 teachers (36.67%) were diploma holders and 5 teachers (16.66%) were postgraduates.

Figure 3: Pyramid diagram showing the distribution of subjects according to their educational qualification.

Residential area

Table 5 shows that majority of the teachers (66.67%) were from urban area, 4 teachers (13.33%) were from semi-urban and 6 (20%) were from rural area.

Number of hours in contact per week. Data on number of hours in contact with children per week table 5 and figure 4 shows that majority of the teachers had more than 16 hours of contact per week (83.43%) and 4 teachers (13.33%) had 6-15 hours of contact and 3.33% had less than 5 hours of contact with their school children per week.

Distribution of sample according to duration of contact per week (hours) showed that 83.43% had more than 16 hours of contact, 13.33% of the teachers had 6-15 hours of contact per week and 3.33% had less than 5 hours of contact with their school children per week. Table 5: Figure 4

Section III: Effectiveness of Training in terms of gain in knowledge score

This was established by analyzing the data obtained through pre and post-tests. The scores thus obtained were tabulated and analyzed in terms of frequency and percentage, and presented in tables and figures.

Data in Table 6 shows that in the pre-test majority the teachers (96.67%) had scores below 16 and only 3.33% had scored 16-20 and none of them had scored above 20. In the post-test, none of them had scored below 8. Majority of them (66.67%) had scores above 16. On comparing the pre-test scores with the post-test scores it was found that majority scored higher in post-test than the pre-test. This indicates that seminar was effective in increasing the knowledge scores of students. Data is shown also in the form of ogive in Figure 5.

Figure 5: Ogive represents the pre and post-test knowledge score of teachers on

management of attention deficit

The post-test Ogive lies right to the pre-test Ogive over the entire range, showing that the post-test knowledge scores were consistently higher than the pre-test knowledge score. Difference between pre-test and post-test knowledge score is shown by the distance separating the two curves which ranges from 11.0 to 18.0 indicating the gain in knowledge score after the seminar.

The data in Table 7 show that the mean post-test knowledge score ($x_2 = 17.4$) is apparently higher than the mean pre-test score ($x_1 = 11.07$). It indicates that there is an increase in post-test knowledge score and it may be due to the effectiveness of seminar.

Difference in mean knowledge score

In order to find out the significance of difference between pre-test and post-test knowledge scores a paired 't' test was computed. To test the statistical difference an alternative hypothesis was formulated.

Data in Table 8 show that the mean post-test knowledge scores (17.4) is higher than the mean pre-test knowledge score (11.07). The computed 't' value showed that there is a significant difference between the pre and post-test mean knowledge scores ($t(29) = 7.3, P < 0.001$). This indicates that the seminar was effective in increasing the knowledge scores an management of attention deficit primary school teachers.

Area-wise mean knowledge score of pre-test and post-test Area-wise mean and mean percentage knowledge score and the difference in the mean were computed and data are presented in Table 9.

The data in Table 9 shows that the mean percentage score of the pre-test was highest in the area of 'causes' (53%) and least (40.9%) in the area of 'management,' whereas the mean percentage score of the post-test was highest in the area of 'causes' (93%) and in 'management' (73.9%), and the least in the area of 'signs and symptoms' (55.88%). The mean gain shows that post-test knowledge scores in all areas. Thus the findings suggested that seminar was effective. The data is also presented in Figure 6.

Figure 6: Bar diagram showing the area-wise distribution of pre-test and post-test mean knowledge score. Further to determine the significance difference in the area-wise mean pre-test and post-test, knowledge scores paired 't' test was computed for each area. The data are presented in Table 10.

Data presented in table 10 shows that there is significance difference in the area-wise mean pre-test and post-test knowledge scores. The statistical difference was at 0.05 levels. 't' value in all four areas is significant at $P = 0.001$ level. This shows that seminar on each area was effective in increasing the knowledge score of primary school teachers.

Comparison of the area-wise knowledge score

Area-wise knowledge score was compared using Friedman's test (Table 11).

The table shows that $\chi^2(3)=0.4$ which is less than the table value (7.81) at 3 df and 0.05 levels of significance. Thus there is no difference between area-wise knowledge scores.

Section IV: Association between pre-test knowledge scores and selected variables

This section deals with the association between the pre-test knowledge scores and selected variables such as age, sex, teaching experience, qualification, residential area and number of hours in contact with children per week.

The data in Table 12 shows that chi-square value computed at df(1) between knowledge and selected variables (age = 0.455, sex = 0.012, teaching experience = 0.556, qualification = 0.215, residential area = 0.625, no of hours in contact/week = 0) was not significant at 0.05 level. Thus it can be interpreted that there is no significant association between knowledge and selected variables. Therefore the null hypothesis is accepted. The findings indicate that pre-test knowledge level of all samples was equal irrespective of their age, sex, teaching experience, qualification, residential area and number of hours/contact with children/week. Thus the findings show that gain in knowledge score was due to seminar.

Section V: Post Training Evaluation

The Evaluation proforma for the teachers concerning the training module, deals with the analysis and interpretation of the evaluation proforma to assess the utility of the programme, opinion about the programme, and the feedback concerning the interactions and audio-visual aids, case vignettes discussions etc. used during the seminar.

1. Utility of the programme

The data in Table 13 and Table 14 shows that all the teachers (100%) evaluated the training programme to be useful. 56.67% of the teachers were of the considered opinion that they could identify ADD cases and tackle the problem, 16.67% evaluated the that the programme to be useful and suitable for their daily teaching practice. 6.67% provided feedback about their increased competence in handling the child with ADD. ADHD child; 10% had given the evaluation that they are facing the problems of ADHD in the classroom and 3.33% had opinion that they understood that ADHD is a neurobiological problem.

The data also shows that 93.33% of teachers had the opinion that the content of the seminar was relevant for practice. They said that there were students with ADHD in their schools and learned to handle those children. In that 3.33% had opinion that the

seminar would have been for a day.

2. **Opinion about the programme**

Data on opinion of the programme shows that majority of the teachers (66.67%) had a very good opinion and 23.33% had a good opinion about the seminar. They have given the evaluation that the seminar was informative and should be adopted again and again; it was well-planned and presented; and was interesting.

Figure 7: Pie diagram showing the opinion of teachers regarding the procedures adopted to impart the information during the seminar

Table 12 shows that the sessions were interesting (100%) and the most interesting session was on management, i.e., Session II (73.33%).

3. **Feedback concerning methodology**

Data on the feedback concerning the participation and interaction process during the training sessions reveals that majority had very positive opinion and had given the reasons that each teacher was given importance during the seminar and that there was scope for clarification of doubts providing information in a concise manner.

Data on audio-visual materials reveals that majority of the teachers expressed their satisfaction; however 6.67% did not give any comments.

Thus the evaluation proforma shows that seminar is a useful programme and is a good method in imparting knowledge to the school teachers on management of attention deficit.

7.0 DISCUSSION

The seminar –workshop as a training module for professional development initiatives described herein has achieved its objective of enhancing teachers' abilities to modify and enhance their knowledge. In this study 60% of teachers did face the problem of ADHD in the classroom. This was supported by Barkley Karande Stephenson & 76% of students were found to interfere in other students learning process. This has been borne out by Farrel 2005, Little 2003 Porinio 03. Spelling mistakes and reading difficulties in ADD children were also found by Mash Coffey Barkley 1998 Bates 198

The least common problems faced teachers were reading errors inability to draw a picture stealing and robbery. However though this was not supported in the literature Vance Crawford and Srivastav point out that they are poorly identified in India, and this could explain the lack of supporting evidence

Areawise the teachers showed that problems in speech articulation and increased psychomotor activity with scholastic performance and group activity to a lesser degree. This is supported by Mash et al 2, 24, 4.

The findings show that there was an increase in the knowledge base both with

regards to the causative factors of ADHD as well as the management aspects. The mean gain shows that there was an improvement as seen in the post-test knowledge scores in all areas suggesting that seminar was effective. This has been borne out by previous research attempts (Syed and Hussein (2010)). The results of the comparison of the area wise score shows an improvement globally on areas pertaining to both awareness of causative factors and the management strategies which is in the desired direction.

Concerning the findings between knowledge and variables of teaching experience qualification, and the hours of student teacher contact, interestingly there was no significant association between the variables. This tells us that the knowledge levels of the teachers are not correlated with their age, sex or teaching experience or with their educational qualification. The hours of contact with the student also has no association, which brings us to the conclusion that it is not really the amount of time spent but the expertise that makes a difference. Not only does this tell us that Seminar Workshops are indeed an important medium to [promote Teacher change but also regardless of the years of Teaching experience and qualification teachers would need to to continuously extend their knowledge base and improve upon their teaching practices and teaching learning processes that can be supported by professional collaboration and mentoring especially when it comes to the question of handling problems in the classroom and more so with a neurobehavioral clinical condition like ADHD.

In the literature teachers reports that ADHD children were off task (Sandberg, 1996; Barkley, 1998).but reported poor knowledge as to methods of handling it (Syed Hussein 2010) teachers are keenly aware that that they do lack knowledge (Bekle 2006) and are desirous of obtaining comprehensive training. The results here to be borne out with these findings

8.0 CONCLUSION

This study documented how there is a great paucity of knowledge and skills which cuts across age levels of teaching socio-demographic status and educational levels. Teachers are acutely conscious about their low levels of knowledge and have a need to obtain a comprehensive training by professional mentors and are able to modify their practices. Any attempts to build capacity for sustainable change would be necessary and must be promoted. While previous sporadic studies have provided a one unique aspect of this work has been the systematic and structured professional mentoring for skills acquisition. That would ineffect be a significant strength of this research initiative.

Although the total training period was for 3 days the study indicated that the sense of efficacy was enhanced and their perception of feasibility of implementing management strategies. Teachers had a more positive attitude –an attitudinal shift in the positive direction towards ADHD. It has led to the development Teacher abilities to independently practice and apply the management strategies in ADHD.

The study demonstrates how a Seminar Workshop training module enhanced the pre-existing knowledge and capacity levels for change, promoting change. or a

catalyst for teacher change.

We need to go on to the direct attention to the effective implementation, We have to attend to the organizational elements of the research initiative we need to rethink, align and and integrate school based pprofessional development goals. The experiences of the participants in the initiative underscores the critical importance of the skills and expertise of the professional mentors with whom the school , team needs to closely collaborate

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Table 1: Frequency and percentage distribution of teachers facing the problem of attention deficit in the classroom

N = 30

Item No.	Item	Teachers facing problems		Teachers not facing problems	
		Frequency	Percentage	Frequency	Percentage
	Speech sounds or phonemes are omitted while reading	21	70.0	9	30.0
	Speech sounds are distorted or substituted (e.g., wabbit for rabbit, ca for car, bu for blue, etc.)	18	60.0	12	40.0
	Difficulty in selecting appropriate words	17	56.7	13	43.3
	Immature grammatical usage	18	60.0	12	40.0
	Failure to respond to simple instructions	20	66.7	10	33.3
	Often makes spelling mistakes	22	73.3	8	26.7
	Talks excessively	21	70.0	9	30.0
	Frequent lying	15	50.0	15	50.0
	Stealing or robbery	12	40.0	18	60.0
	Cruelty towards other students	12	40.0	18	60.0
	Fidgets with hands or feet, or squirms in seat	8	60.0	12	40.0

Item No.	Item	Teachers facing problems		Teachers not facing problems	
		Frequency	Percentage	Frequency	Percentage
	Difficulty in sitting still at one place	20	66.7	10	33.3
	Interference in other students' activities	23	76.7	7	23.3
	Shifts from one incomplete activity to other	20	66.7	10	33.3
	Absence of social smile	20	66.7	10	33.3
	Failure to recognize mathematical signs or numerical symbols	15	50.0	15	50.0
	Difficulty in learning mathematical tables	18	60.0	12	40.0
	Difficulty in carrying out mathematical manipulations	17	56.7	13	43.3
	Doesn't seem to listen when spoken to directly	18	60.0	12	40.0
	Fails to finish the things started (e.g., home work, classroom exercises, etc.)	20	66.7	10	33.3
	Blurts out answers before questions have been completed	22	73.3	8	26.7
	Loses things necessary for school assignments (pencil, book, scale)	20	66.7	10	33.3
	Speech sounds are omitted while reading a passage	19	63.3	11	36.7
	Makes his own substitutions and additions while reading	15	50.0	15	50.0
	Presence of more than 5 errors in reading 40 – 60 words per minute among 1 – 2 grade children	18	60.0	12	40.0
	Presence of more than 7 errors in reading 70 – 100 words per minute among 3 – 4 grade children	14	46.7	16	53.3
	Inability to write 15 words in 3 minutes for a child in the 1st standard	17	56.7	13	43.3

Item No.	Item	Teachers facing problems		Teachers not facing problems	
		Frequency	Percentage	Frequency	Percentage
	Inability to write 40 words in 3 minutes for a child in the 4th standard	15	50.0	15	50.0
	Inability to draw a person's picture with 12 – 16 parts by a 2 – 3 grade child	13	43.3	17	56.7
	Has difficulty playing or engaging in leisure activities quietly	16	53.3	14	46.7
	Destroys others' play materials	17	56.7	13	43.3

Table 2: Most common symptoms/classroom behaviours related to attention deficit in children which are faced by the teachers

Sl. No.	Most common behaviour	Frequency	Percentage
	Interference in other students' activities	23	76.7
	Often makes spelling mistakes Blurts out answers before questions have been completed	22	73.3
	Speech sounds or phonemes are omitted while reading	21	70.0
	Talks excessively Failure to respond to simple instructions Difficulty in sitting still at one place Shifts from one complete activity to another Absence of social smile Fails to finish the things started (e.g., home work, classroom exercises, etc.)	20	66.7

Table 3: Least common symptoms/classroom behaviours related to attention deficit in children which are faced by the teachers

Sl. No.	Least common behaviour	Frequency	Percentage
	Presence of more than 7 errors in reading 70-100 words per minute among 3-4 grade children	14	46.7
	Inability to draw a person's picture with 12-16 parts by a 2-3 grade child	13	43.3
	Stealing or robbery	12	40.0
	Cruelty towards other students	12	40.0

Table 4: Area-wise frequency and percentage of teachers facing the problem of attention deficit in school children

Sl. No.	Area	Frequency	Percentage
	Speech and articulation	4.6	65.72
	Psychomotor area	4.5	56.25
	Scholastic performance	7.7	55.00
	Group activity	1.13	56.50
	Total	17.9	60.00

Area-wise frequency and percentage of teachers facing the problem of attention deficit in their school children

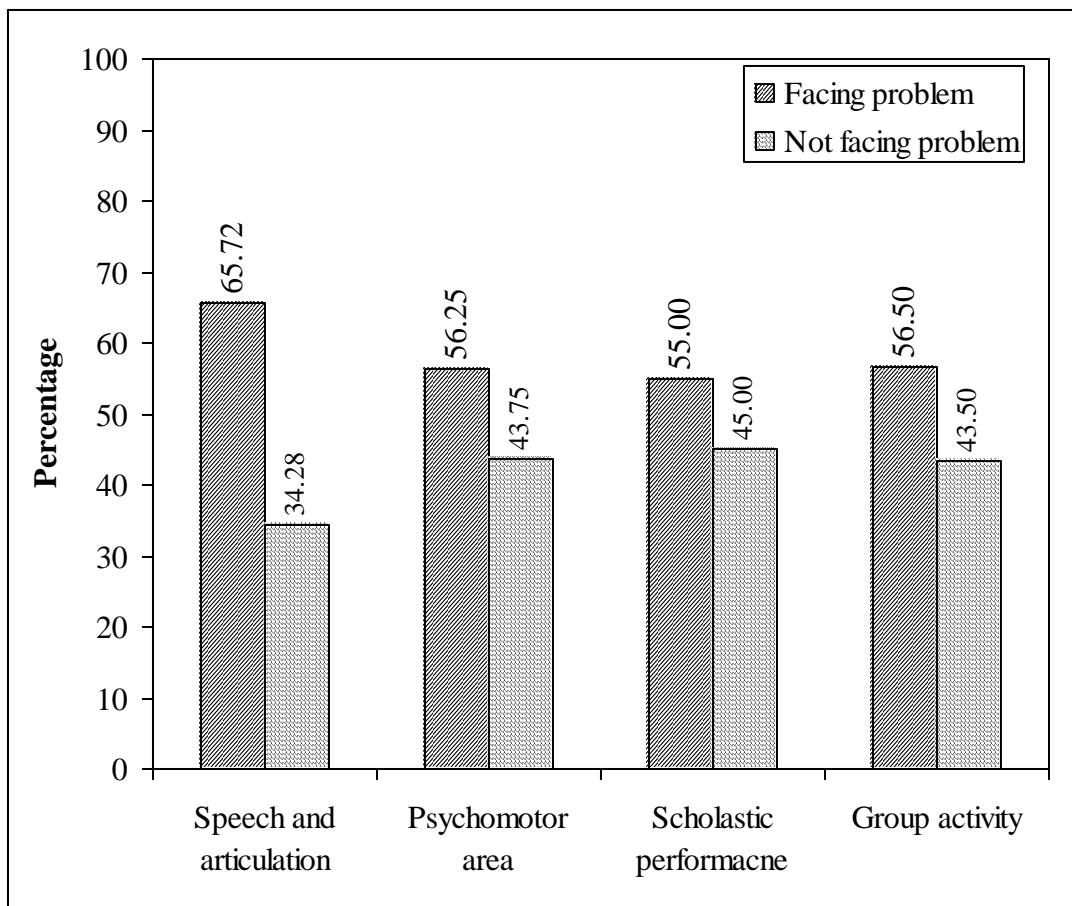


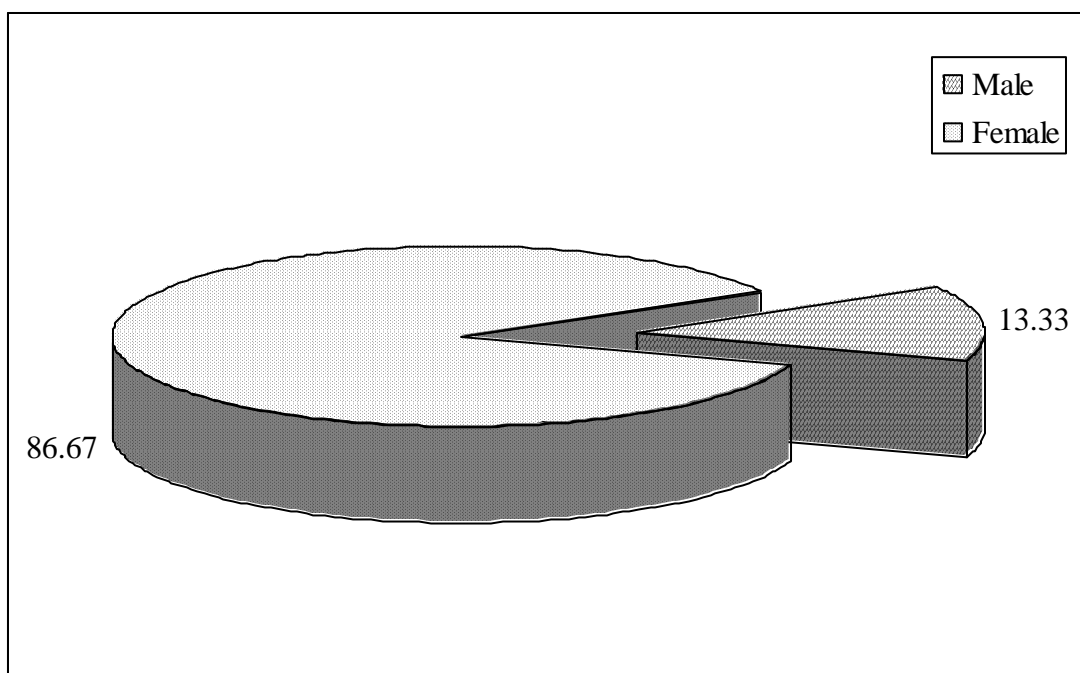
Table 5: Frequency and percentage distribution of sample characteristics

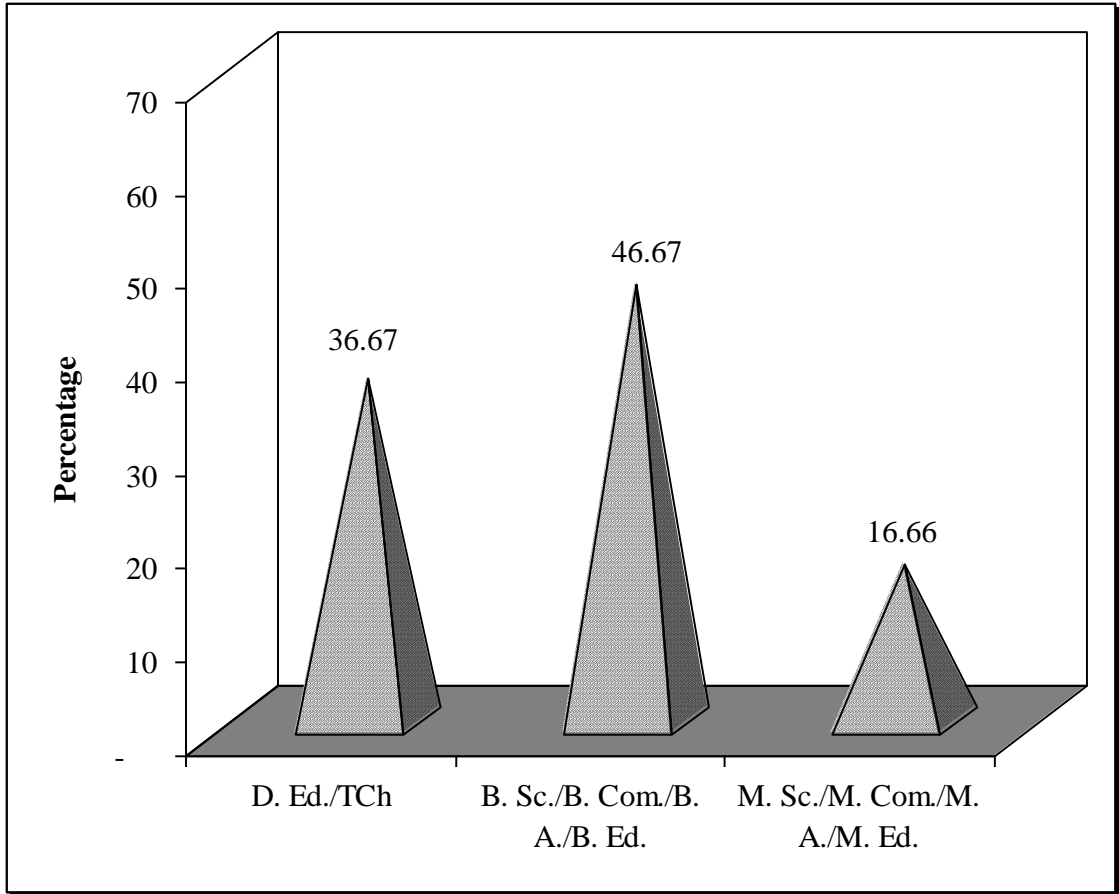
N = 30

Sl. No.	Area	Frequency	Percentage
	Age (in years)		
	21 – 30	12	40.00
	31 – 40	10	33.33
	41 – 50	6	20.00
	51 – 60	2	6.67
	Sex		
	Male	4	13.33
	Female	26	86.67
	Teaching experience (in years)		
	≤ 5	15	50.00
	6 – 10	4	13.33

Sl. No.	Area	Frequency	Percentage
	11 – 15	8	26.67
	> 15	3	10.00
Educational qualification			
	D. Ed./TCH	11	36.67
	B. Sc./B. Com./B. A./B. Ed.	14	46.67
	M. Sc./M. Com./M. A./M. Ed.	5	16.66
Residential area			
	Urban	20	66.67
	Semi-urban	4	13.33
	Rural	6	20.00
Number of hours in contact per week			
	≤ 5	1	3.33
	6 – 10	3	10.00
	11 – 15	1	3.33
	> 15	25	83.34

Figure 2.





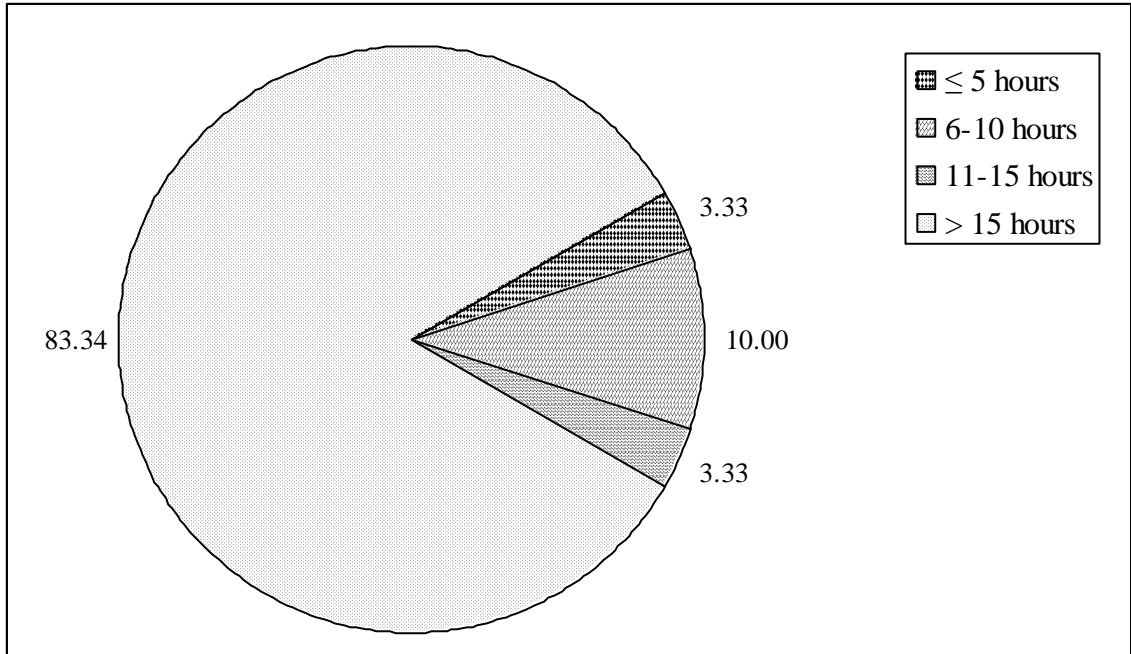


Table 6: Frequency, percentage and cumulative frequency distribution of pre-test and post-test knowledge score

Knowledge scores	Pre-test			Post-test		
	Freq.	%	LCF%	Freq.	%	LCF%
4 – 8	4	13.33	13.33	-	-	-
8 – 12	14	46.67	60.00	3	10.00	10.00
12 – 16	11	36.67	96.67	7	23.33	33.33
16 – 20	1	3.33	100.00	13	43.33	76.66
20 – 24	-	-	-	3	10.00	86.66
24 – 28	-	-	-	4	13.34	100.00
Total	30	100.00		30	100.00	

Maximum score = 26

Figure 5: Ogive representing pre and post-test knowledge score of teachers on management of attention deficit

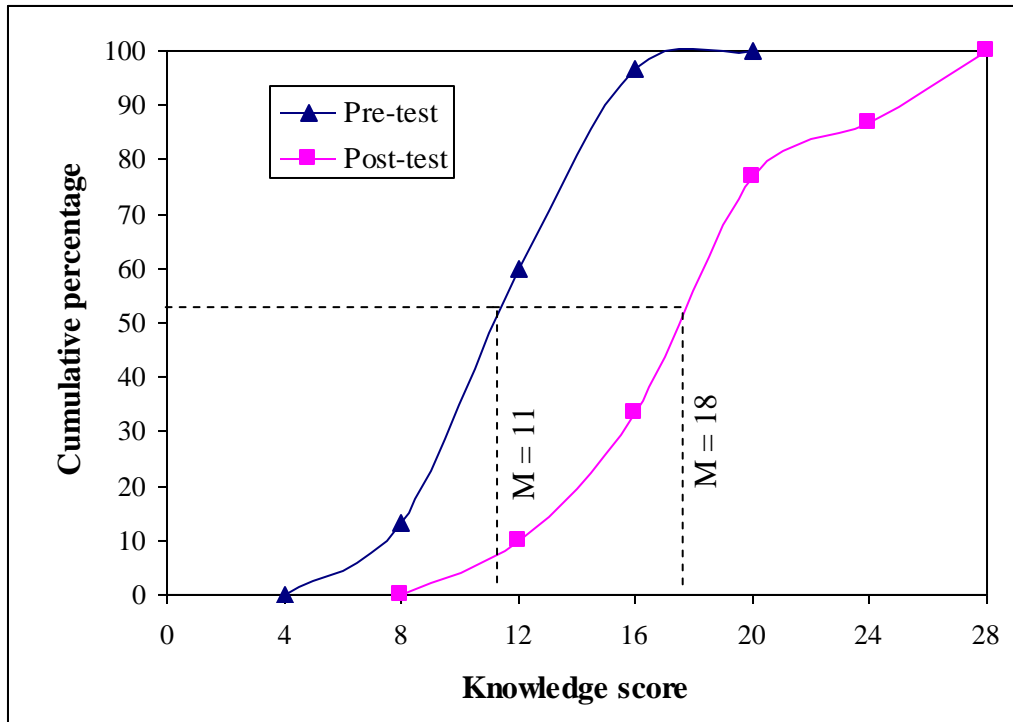


Table 7: Range, mean, median and standard deviation of pre-test and post-test knowledge scores of the teachers

N = 30

Area	Range	Mean	Median	Standard deviation
Pre-test	6-17	11.07	11	2.85
Post-test	9-25	17.40	18	4.32

Maximum score = 26

Table 8: Mean, standard deviation and standard error difference and 't' value on pre and post-test knowledge score

Group	Mean knowledge score		Standard deviation of difference	Standard error	't' value
	Pre-test	Post-test			
Primary school teachers	11.0	17.4	4.73	0.86	7.3

Table value $t(29) = 2.045$, $p < 0.001$

Table 9: Area-wise mean percentage and mean gain of pre-test and post-test knowledge score

N = 30

Area	Mean percentage score		Mean gain (K2 – K1)
	Pre-test (K1)	Post-test (K2)	
Meaning	44.30	64.50	20.20
Causes	53.30	93.30	40.00
Signs and symptoms	41.63	55.88	14.25
Management	40.90	73.90	33.00

Area-wise mean and mean percentage knowledge score and the difference in the mean were computed and data are presented in Table 9.

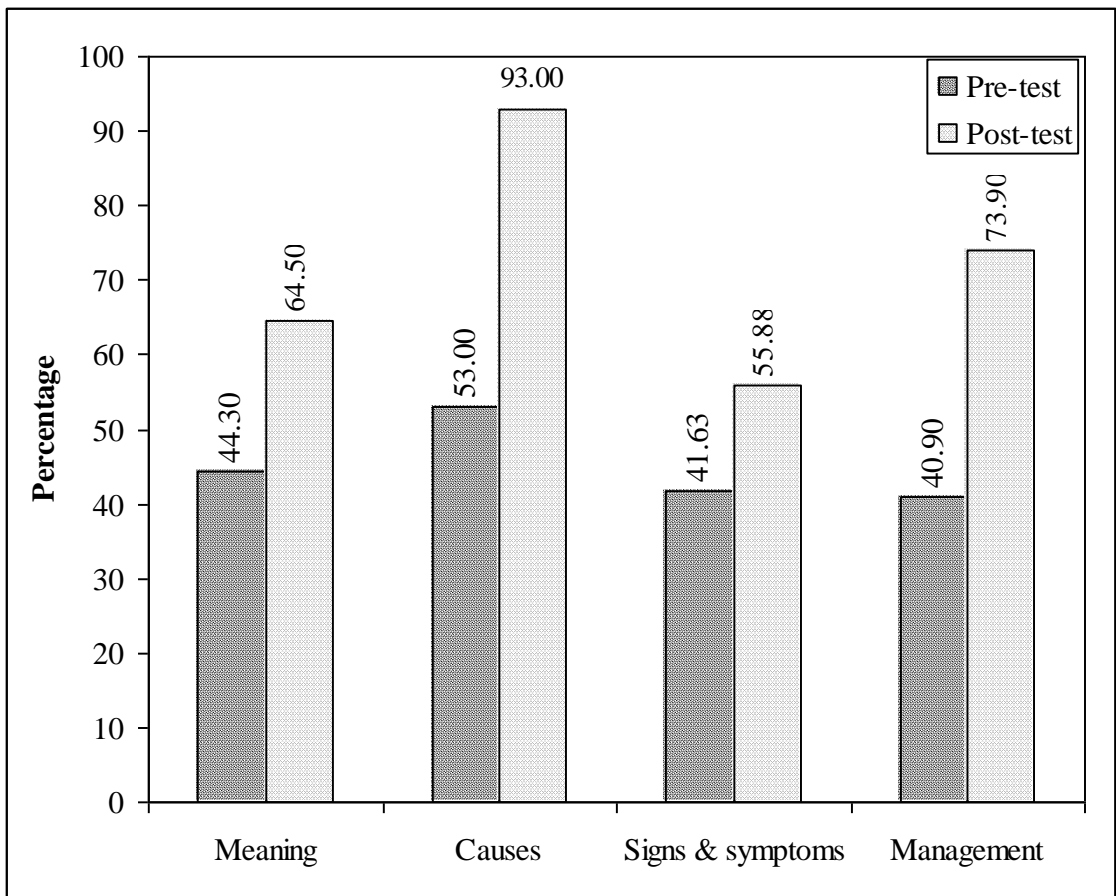


Table 10: Area-wise mean, mean difference, standard deviation of difference, standard error and 't' value on pre-test and post-test knowledge scores

Area	Mean knowledge score		Mean difference	SD of difference	Standard error	't' value
	Pre-test	Post-test				
Meaning	2.66	3.87	1.21	1.67	0.3	4.10
Causes	0.53	0.93	0.40	0.497	0.09	5.10
Signs & symptoms	3.33	4.47	1.14	2.30	0.42	2.69
Management	4.50	8.13	3.63	2.64	0.48	7.50

Table 11: Comparison of area-wise knowledge score

Meaning	Causes	Signs and symptoms	Management	χ^2
R1=72	R2=78	R3=74	R4=76	0.4

χ^2 at 3 df and 0.05 level = 7.81

Table 12: Chi-square value between level of knowledge and selected variables

N = 30

Sl. No.	Variable	Pre-test knowledge score		df	χ^2	Inference
		< median	> median			
	Age (in years)					
	21 – 30	4	8			
	31 – 40	4	6	1	0.455	Not significant
	41 – 50	3	3			
	Sex					
	Male	2	2			
	Female	10	16	1	0.012	Not significant
	Teaching experience (in years)					
	< 5	5	10			
	6 – 10	1	3	1	0.556	Not significant
	11 – 15	5	3			
	> 15	1	2			
	Qualification					
	D. Ed./TCH	5	6			
	B.Sc./B.Com./BA/B.Ed.	6	8	1	0.215	Not significant
	M.Sc./M.Com./MA/M.Ed.	1	4			
	Residential area					
	Urban	7	13	1	0.625	Not

Sl. No.	Variable	Pre-test knowledge score		df	χ^2	Inference
		< median	> median			
	Semi-urban	2	2			significant
	Rural	3	3			
	No. of hours in contact with children/week					
	≤ 5	0	1			
	6 – 10	2	1	1	0.000	Not significant
	11 – 15	0	1			
	> 15	10	15			

Table 13: Frequency and percentage of evaluation proforma for teachers

N = 30

Sl. No.	Questions	Yes		No	
		F	%	F	%
1.	Utility of the programme				
i.	Useful	30	100.00	-	-
ii.	Content relevant for practice	28	93.33	2	6.67
2.	Opinion about the programme				
i.	Opinion about the procedure	30	100.00	-	-
ii.	Were the sessions interesting	30	100.00	-	-
3.	Feedback about methodology				
i.	Interaction during seminar	26	86.67	4	13.33
ii.	Audiovisual aids, case vignettes, discussions, etc. employed.	27	90.00	3	10.00

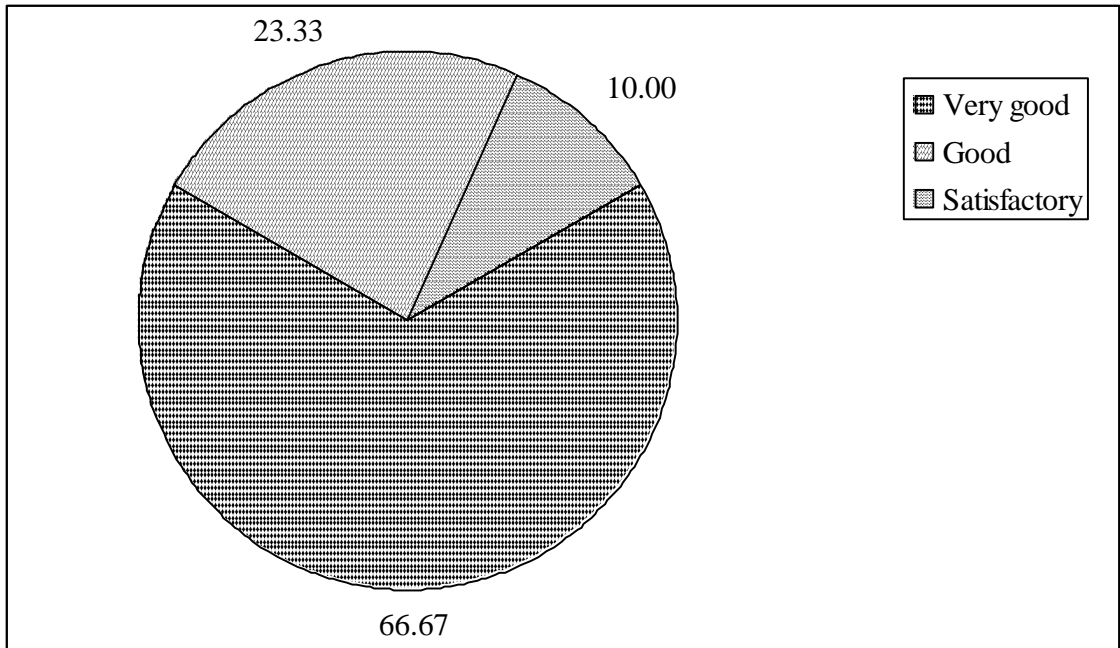


Figure 7: Pie diagram showing the opinion of teachers regarding the procedures adopted to impart the information during the seminar