DISCUSSION

The results of the present study revealed that the two Experimental and one Control groups of children were more or less comparable in their Torrance Test of creative thinking scores both verbal (Table 2) as well as figural Form A (Table 7) prior to intervention training. Similarly, both the Experimental groups and the Control group were also found to be more or less comparable in their fluency scores (Table 3) flexibility scores (Table 4) and originality scores (Table 5) of Form A verbal creativity test in pretraining condition. These three groups were also comparable in their fluency, flexibility originality and elaboration scores (Tables 8, 9, 10, 11) of Form A figural creativity test prior to the introduction of intervention training.

The intervention training was found to have a significant facilitatory effect on the total verbal creativity scores of children in the Form B of Torrance Test of creative thinking (Table 13). In other words, there was an overall statistically significant difference in the performances of three groups of children (i.e., one control group and two Experimental groups). The means of total verbal creativity scores of Experimental I, Experimental II, and control groups were 155.87, 137.01 and 103.35, respectively.
The Newman-Keuls test revealed that both the Experimental groups differed significantly from the control group which received no intervention training (Table 14). In other words, the intervention training either on the cognitive or affective aspects of creative thinking ability resulted in better performance than no intervention training. Furthermore, the Newman-Keuls test showed a significant difference between the mean performances of Experimental I and Experimental II groups of children (Table 14). This indicates that the Experimental Group I which received training on cognitive aspects of creative thinking ability was found to be superior to the Experimental Group II which received training on the affective aspects of the creative thinking ability.

Similarly, the ANOVA revealed that the posttesting conditions have significant differential effects on the total verbal creative thinking abilities of children (Table 13). In other words, the performances of children irrespective of treatment groups differed significantly over five posttesting conditions (i.e., Conditions 1-5). The control and two Experimental Groups react differentially to the testing conditions. The means of total verbal creativity scores of children in five posttesting conditions were 113.35, 124.12, 138.66, 141.13, 142.91, respectively.

The Newman-Keuls test revealed that the first testing condition was found to be significantly different from the second, third, fourth, and fifth posttesting conditions and the second testing
condition was also differed statistically from the third, fourth, and fifth conditions. The third testing condition was differed significantly from the fourth, and fifth conditions. No other comparison was found to be statistically significant (Table 15). No other comparison was found to be statistically significant (Table 15). In other words, the children react differentially to the posttesting conditions. The higher the level, the performances of the children increases, irrespective of treatment groups. It was also revealed from this test that there was a persistence effect of creative thinking as the fourth (immediate testing) and fifth (delayed testing) testing conditions did not differ from each other with regard to their total verbal scores.

The ANOVA also revealed a significant interaction effect of treatment groups X posttesting conditions (Table 13). The performances of children had rapidly increased in all five testing conditions from Control group to Experimental Group I and it decreased thereafter in case of Experimental Group II. In other words, the children of Experimental Group I showed maximum increament in total verbal scores in all five testing conditions in comparison to control and Experimental Group II children (Figure 1).

The intervention training was also found to have a significant facilitatory effect on the verbal fluency scores of children in the Form B of TTCT (Table 16). In other words, there was
Fig. 1 Mean verbal creativity total scores of children of three different treatment groups over five posttesting conditions.
an overall significant difference in the performances of three groups of children (i.e. one Control group and two Experimental groups). The means of fluency verbal creativity scores of Experimental Group I, Experimental Group II and Control groups were 404.35, 352.35 and 296.6, respectively.

The Newman-Keuls test revealed that both the Experimental groups differed significantly from the Control groups which received no intervention training (Table 17) with regard to their verbal fluency scores. In other words, the intervention training either on the cognitive or affective aspects of creative thinking ability resulted in better performance than no intervention training. Furthermore, the Newman-Keuls test showed a significant difference between the mean performances of Experimental I and Experimental II groups of children (Table 17). This shows that the Experimental Group I which received training on cognitive aspects of creative thinking was found to be superior to the Experimental Group II which received training on affective aspects of the creative thinking ability with regard to the verbal fluency scores.

The ANOVA also revealed that the posttesting conditions have significant differential effects on the fluency of verbal creative thinking abilities of children (Table 16). In other words, the verbal fluency performances of children, irrespective of treatment groups, differed significantly over five posttesting conditions (i.e., Conditions 1-5). The Control and two Experimental groups react
differentially to the testing conditions. The means of fluency verbal creativity scores of children in five posttesting conditions were 59.75, 64.7, 73.85, 75.93 and 77.2 respectively.

The Newman-Keuls test revealed that the first posttesting condition was found to differ significantly from the second, third, fourth, and fifth conditions and the second from the third, fourth, and fifth conditions. It was also found that the third differed significantly from the fourth, and fifth ones, so also fourth from fifth testing condition (Table 18). The fluency scores of children increased from first to fifth conditions. It was also revealed that fluency scores showed persistence.

The ANOVA also revealed a significant interaction effect of treatment groups X posttesting conditions (Table 16). The performances of subjects had rapidly increased in all five testing conditions from Control to Experimental Group I and it decreased incase of Experimental Group II. The subjects of Experimental Group I showed maximum increment in fluency scores in all five testing conditions in comparison to Control and Experimental Group II children (Figure 2).

With regard to the verbal flexibility scores in the Form B of TTCT, the intervention training also had a significant effect. (Table 19). It was found that there was an overall statistically significant difference in the performances of three groups of children
Fig. 2. Mean verbal fluency scores of children of three different treatment groups over five posttesting conditions.
(i.e., one Control group and two Experimental groups). The means of flexibility verbal creativity scores of Experimental Group I, Experimental group II, and control group were 165.6, 141.7, and 110.6, respectively.

The Newman-Keuls test revealed that both the Experimental groups differed significantly from the Control group which received no intervention training (Table 20) with regard to their verbal flexibility scores. In other words, the intervention training either on the cognitive or affective aspects of creative thinking ability resulted in better performance than no intervention training. Furthermore the Newman-Keuls test showed a significant difference between the mean performances of Experimental I and Experimental II groups of children (Table 20). This revealed that the Experimental Group I, which received training on cognitive aspects of creative thinking, was found to be superior to the Experimental Group II, which received training on affective aspects of the creative thinking ability, with regard to the verbal flexibility scores.

The ANOVA also revealed that the posttesting conditions have significant differential effect on the flexibility verbal creative thinking abilities of children (Table 19). In other words, the verbal flexibility performances of children, irrespective of treatment groups, differed significantly over five testing conditions (i.e., Conditions 1-5). The Control and two Experimental groups react differentially to the posttesting conditions. The means of verbal
flexibility creativity scores of children in five posttesting conditions were 24.92, 27.10, 28.98, 29.11 and 29.28, respectively.

The Newmann-Keuls test revealed that the first testing condition was found to differ significantly from the second, third, fourth, and fifth conditions, and the second testing condition was found to differ significantly from the third, fourth, and fifth conditions (Table 21). No other comparisons were found to be statistically significant. In other words, the flexibility scores of the children increased from the first posttesting condition up to the third condition, and it remained more or less similar thereafter. However, the flexibility scores of children showed persistence over time.

The ANOVA also revealed a significant interaction effect of treatment groups X testing conditions (Table 19). The performances of children had rapidly increased in all five testing conditions from the Control group to Experimental Group I, and it decreased thereafter in case of Experimental Group II. In other words, the subjects of Experimental Group I showed maximum increment in verbal flexibility scores in all the five posttesting conditions in comparison to the Control and Experimental Group II subjects (Figure 3).

With regard to the verbal originality scores in the Form B of TTCT, the intervention training also had a significant effect (Table 22). It was found that there was an overall statistically
Fig. 3 Mean verbal flexibility scores of children of three different treatment groups over five posttesting conditions.
significant difference in the performances of three groups of children (i.e., one Control group and two Experimental groups). The means of verbal originality creativity scores of Experimental Group I, Experimental Group II, and Control group were 209.4, 190.0, and 109.5 respectively.

The Newman-Keuls test revealed that both the Experimental groups differed significantly from the control group which received no intervention training (Table 23) with regard to their verbal originality scores. In other words, the intervention training either on the cognitive or affective aspects of creative thinking ability resulted in better performance than no intervention training. The Newman-Keuls test also revealed a significant difference between the mean performances of Experimental I and Experimental II groups of children (Table 23). This revealed that the Experimental Group I, which received training on cognitive aspects of creative thinking, was found to be superior to the Experimental Group II, which received training on affective aspects of the creative thinking ability, with regard to the verbal originality scores.

The ANOVA also revealed that the posttesting conditions have significant differential effects on the verbal originality creative thinking abilities of children (Table 22). In other words, the verbal originality performances of children, irrespective of treatment groups, differed significantly over five posttesting conditions.
Conditions 1-5). The means of verbal originality creativity scores of children in five posttesting conditions were 28.86, 32.42, 35.83, 35.92, and 36.69 respectively.

The Newman-Keuls test showed that the first posttesting condition was found to differ significantly from the second, third, fourth, and fifth conditions, and the second testing condition also found to differ from the third, fourth, and fifth conditions (Table 24). No other comparisons were found to be statistically significant. In other words, the originality scores of the children in verbal creativity test increased from the first posttesting condition up to the third condition, and it remained more or less unchanged thereafter. However, the verbal originality scores of children showed persistence over time even one month of interval after intervention training.

The ANOVA also revealed a significant interaction effect of treatment groups X testing conditions (Table 22). The performances of subjects had rapidly increased in all five testing conditions from the Control to Experimental Group I, and it decreased thereafter in case of Experimental Group II. The subjects of Experimental Group I showed increment in originality scores in all five testing conditions in comparison to the Control and Experimental Group II childrens (Figure 4).
Fig. 4 Mean verbal originality scores of children of three different treatment groups over five posttesting conditions.
Similarly, in Figural test of creativity, the intervention training was found to have a significant facilitatory effect on the total figural creativity scores of children in the Form B of Torrance Test of creative thinking (Table 26). From the ANOVA it was evident that an overall statistically significant difference was noticed in the performances of three groups of children (i.e., the Control group, Experimental Group I, and Experimental Group II). The means of total figural creativity scores of Experimental I, Experimental II, and Control groups were 137.78, 121.06, and 103.16, respectively.

The Newman-Keuls test revealed that both the Experimental groups differed significantly from the Control group which received no training (Table 27). In other words, the intervention training either on the cognitive or affective aspects of creative thinking ability resulted in better performance than no intervention training. Furthermore, Newman-Keuls test showed a significant difference between the mean performances of Experimental I and Experimental II groups of children (Table 27). This indicates that the Experimental Group I, which received training on cognitive aspects of creative thinking ability, was found to be more effective than the Experimental Group II, which received training on the affective aspects of the creative thinking.

The ANNOVA also revealed significant posttesting conditions effect. The posttesting conditions have significant differential effects
on the total figural creative thinking abilities of children (Table 26). The performances of the children, irrespective of treatment groups, differed significantly over five posttesting conditions (i.e. conditions 1-5). The means of total figural creativity scores of children in five posttesting conditions were 111.73, 116.98, 123.15, 124.63, and 126.84 respectively.

The Newman-Keuls test revealed that the first post testing condition was found to differ significantly from the second, third, fourth, and fifth conditions, and also the second from third, fourth, and fifth ones. No other comparison was found to be statistically significant (Table 28). In other words, the children reacted differentially to the posttesting conditions in an increasing order up to the third posttesting condition and it remained unchanged thereafter. However, the results revealed that there was a persistence effect with regard to the total verbal scores one month after the cessation of the intervention training.

The ANOVA revealed a significant interaction effect between the treatment groups and the posttesting conditions (Table 26). The performances of subjects had rapidly increased in all five testing conditions from the Control group to Experimental group I, and it decreased thereafter in case of Experimental group II. The children of Experimental Group I showed more increment in total figural scores in all five testing conditions in comparison to the Control, and Experimental Group II children (Figure 5).
Fig. 5 Mean figural creativity total scores of children of three different treatment groups over five posttesting conditions.
With regard to the figural fluency scores there was also a significant intervention effect (Table 29). There was an overall statistically significant difference in the performances of three groups of children (i.e., one Control group and two Experimental groups). The means of fluency figural creativity scores of Experimental I, Experimental II, and Control groups were 117.40, 111.00 and 103.15, respectively.

The Newman-Keuls test revealed that both the Experimental groups differed significantly from the Control groups which received no intervention training (Table 30). In other words, the intervention training either on cognitive or affective aspects of creative thinking ability resulted in better performance than no intervention training in figural fluency scores. Furthermore, the test showed a significant difference between the mean performances of Experimental I and Experimental II groups of children (Table 30). This indicates that the Experimental Group I which received training on cognitive aspects of creative thinking ability was found to be superior to the Experimental Group II which received training on the affective aspects of creative thinking ability.

The ANOVA revealed that the posttesting conditions had significant differential effects on figural fluency scores of children (Table 29). The performances of children irrespective of treatment groups differed significantly over five posttesting conditions. The means of figural fluency creativity scores of children in five
posttesting conditions were 20.35, 21.28, 23.05, 23.02 and 23.15.

The Newman-Keuls test showed that the first posttesting condition was found to differ significantly from the second, third, fourth, and fifth ones and also the second condition from the third, fourth, fifth conditions (Table 31). No other comparison was found to be statistically significant. In other words, the mean fluency scores of children, irrespective of treatment groups, increased up to the third posttesting condition, and it remained unchanged thereafter. However, the results showed that there was a persistence effect of creative thinking on the fluency scores of children.

The ANOVA also revealed a significant interaction effect of treatment groups X posttesting conditions (Table 29). Inspection of data showed that the performances of the children increased in all five testing conditions from the Control to Experimental Group I, and it decreased thereafter in Experimental Group II. The Experimental Group I showed significant increment over the Control and Experimental Group II in their figural fluency scores (Figure 6).

The intervention training was also found to have a significant facilitatory effect on the figural flexibility creativity scores of children (Table 32). There was a significant difference in the performances of three groups of children (i.e., one Control and two Experimental groups). The means of flexibility figural creativity scores of Experimental I-, Experimental II, and Control groups were 95.95, 91.35 and 84.85, respectively.
Fig. 6 Mean figural fluency scores of children of three different treatment groups over five posttesting conditions.
The Newman-Keuls test revealed that both the Experimental groups differed significantly from the Control group which received no intervention training (Table 33). In other word, the intervention training either cognitive or affective resulted in better performance in figural flexibility than no intervention training. It was also found that there was a significant difference between the mean performances of Experimental I and Experimental II groups of children (Table 33). The group which received cognitive training was superior to the group which received affective training in their figural flexibility scores.

There was a significant posttesting condition effect on the figural flexibility scores. The performances of children, irrespective of treatment groups, differed significantly over five posttesting conditions (Table 32). The control and two Experimental groups reacted differentially to the posttesting conditions. The means of figural flexibility creativity scores of children in five posttesting conditions were 17.36, 17.42, 18.72, 18.50, 18.62 respectively.

The Newman-Keuls test revealed that the first posttesting condition was found to differ significantly from the second, third, fourth, and fifth ones, and also the second testing condition from the third, fourth, and fifth ones (Table 34). In other words, the mean performances of children, irrespective of treatment groups,
increased up to the third posttesting condition, and it remained more or less unchanged thereafter. However, the results revealed a persistence effect of training on the figural flexibility scores of children even one month after cessation of intervention training.

There was a significant interaction effect of treatment groups X posttesting conditions on the figural flexibility creativity test (Table 32). The performances of the children increased in all the five posttesting conditions from the Control to Experimental group I, and it decreased thereafter in Experimental Group II except in first condition. The Experimental Group I performed significantly better than Control and Experimental Group II (Figure 7).

In case of figural originality, the intervention training also had a facilitatory effect. There was a significant overall difference in the performances of three differentially treated groups of children (Table 35). In other words, the control group and two Experimental groups differed significantly in their figural originality scores. The means of figural originality creativity scores of Experimental I, Experimental II, and Control groups of children were 136.50, 122.05 and 98.55 respectively.

The Newmann-Keuls test revealed that both the Experimental groups differed significantly from the control group which received no intervention training (Table 36). In other words, the intervention training either on cognitive or affective aspects of creative thinking
Fig. 7 Mean figural flexibility scores of children of three different treatment groups over five posttesting conditions.
ability resulted in better performance on figural originality than no intervention training. Furthermore, the test showed a significant difference between the mean performances of Experimental I and Experimental II groups of children (Table 36). This indicated that the Experimental Group I, which received training on cognitive aspects of creative thinking ability, was found to be superior to the Experimental Group II, which received training on the affective aspects of creative thinking ability in figural originality scores.

The ANOVA also revealed that the posttesting conditions had significant differential effects on the figural originality scores of children (Table 35). The performances of children, irrespective of treatment groups, differed significantly over five posttesting conditions. The means of originality creativity scores of children in five posttesting conditions were 20.85, 23.18, 23.85, 25.38 and 25.70 respectively.

The Newman-Keuls test revealed that the first posttesting condition was found to differ significantly from the second, third, fourth, and fifth ones, and also the second from the fourth and fifth conditions. The third posttesting condition was also significantly differed from the fourth and fifth ones (Table 37). In other words, the mean performances of children on figural originality scores increased up to the fourth posttesting condition, and it remained more or less unchanged thereafter. However, the results
revealed a persistence effect of training as the figural originality ability of children.

In case of figural originality, there was no significant interaction effect of treatment groups X posttesting condition. This indicates that the performances of three treatment groups were more or less similar over five posttesting conditions.

The intervention training had a significant facilitatory effect on the figural elaboration creativity scores of children (Table 38). In other words, there was an overall statistically significant difference in the performances of three differentially treated groups of children. The mean elaboration figural creativity scores of Experimental I, Experimental II and Control groups were 339.05, 280.90 and 229.50, respectively.

The Newman-Keuls test revealed that both the Experimental groups differed significantly from the Control group which received no intervention training (Table 39). In other words, the intervention training either on the cognitive or affective aspects of creative thinking ability resulted in better performance than no intervention training. Furthermore, the test supported a significant difference between the mean performances of Experimental I and Experimental II groups of children (Table 39). This indicated that the Experimental Group I which received training on cognitive aspects of creative thinking ability was found to be better in performance than the Experimental Group II which received training on affective aspects.
The ANOVA also revealed a significant differential posttesting conditions effect on the figural elaboration scores (Table 38). The performances of children irrespective of treatment group differed significantly over five posttesting conditions. The means of figural elaboration creativity scores of children in five posttesting conditions were 53.17, 55.10, 57.88, 57.73, 59.28 respectively.

The Newman-Keuls test revealed that the first posttesting condition was found to differ significantly from the second, third, fourth, and fifth conditions and the second condition from third, fourth and fifth ones (Table 40). In other words, the mean figural elaboration scores of children, regardless of treatment groups, increased up to the third posttesting condition, and it remained more or less unchanged thereafter. However, the results showed a persistence effect of intervention training on the figural originality scores of children even one month after the cessation of training.

The ANOVA also revealed a significant interaction effect of treatment groups X posttesting conditions. The performances of children had rapidly increased in all five testing conditions from control group to Experimental Group I, and it decreased thereafter in case of Experimental II Group. In other words, the children of Experimental Group I showed maximum increment in elaboration scores in all five testing conditions in comparison to the Control and Experimental Group II children (Figure 8).
Fig. 8 Mean figural elaboration scores of children of three different treatment groups over five posttesting conditions.
The results of the present study confirmed most of the objectives of the study. In all the tests of Torrance Test of creative thinking, there was no significant difference between the three groups of children as it was expected. The findings show that when a two-months of cognitive and affective aspects of creative thinking training programmes were given to the tribal children their performance in postintervention test sessions showed significant improvement over the preintervention test scores. It confirms the objective that the performance of Experimental groups after intervention training would be significantly better than that of the performance before intervention and also much better than the performance of the control group. Experimental groups did better than the control group because of the repeated exposure of intervention items. Intervention training on cognitive and affective aspects of creative thinking improved the performance of the tribal children much better than the control group of tribal children. The children performed much better in all the aspects of creative thinking. They scored more in verbal fluency than in flexibility and originality in verbal creative thinking. But in figural creative thinking they scored more in elaboration than in fluency, flexibility and originality.

The results of the study confirmed most of the studies in literature that intervention training programme improved creative thinking in general so also in disadvantaged children. (Clauge-Tweet, 1981; Furze, Tyler & McReynolds, 1984; Golub & Hahn 1983; Jaben,
In this study two types of training were given to the two Experimental groups. From the results it was indicated that the Experimental group which received training on cognitive aspects did much better in all the aspects of verbal creative thinking and also in figural creative thinking than the Experimental group which received training on affective aspects. Affective aspects are the feeling and emotions of persons. Stimulation of the feelings, and emotions of persons, to improve or enhance sensitivity to feelings environments and responses of others are of quite difficult. The affective aspects of training programme to develop creative thinking was not quite effective to develop creative thinking like cognitive training programme. Cole and Lacefield (1978) emphasized four reasons for the lack of effort in the affective domain. First the cognitive outcomes are easier to measure and evaluate than affective outcomes. Secondly, to grade students in affective areas were of quite difficult. Thirdly, affective areas were perceived as private while cognitive goals were felt to have public status. Finally, most of the educational system is set up to accumulate cognitive materials.
It was also found that the children did better in latter parts of the posttesting conditions than the earlier parts. The performances of children increased rapidly in third, fourth and fifth posttesting conditions. The retest scores of the control group showed slight increment over posttesting conditions probably due to the repetition of the same test. This little increment was found in all the fluency, flexibility, originality of verbal creativity scores, and fluency, flexibility, originality, and elaboration of figural creativity scores. But this improvement was statistically insignificant. In total verbal creativity scores both the 4th and 5th posttesting conditions yielded better results in comparison to the 1st, 2nd and 3rd posttesting conditions; and the former two posttesting conditions did not differ significantly from each other. However, in verbal fluency scores, all possible comparisons were statistically significant, and the performances of children showed an increasing trend over five posttesting conditions. In both verbal flexibility and verbal originality scores, the third, fourth, and fifth posttesting conditions yielded better results in comparison to the first and second posttesting conditions; and the earlier three posttesting conditions did not differ significantly from each other. In total figural creativity, figural fluency, figural flexibility, and figural elaboration, children showed better performances in the third, fourth, and fifth posttesting conditions in comparison to the first and second posttesting conditions, and the earlier three posttesting conditions did not differ significantly from each other. However, in figural originality, the performances of children in both 4th and 5th posttesting conditions were better
than the 1st, 2nd, and 3rd posttesting conditions, though their performances in 2nd and 3rd posttesting conditions and in 4th and 5th posttesting conditions did not differ significantly from each other. Therefore, it was evident that higher levels are important in developing the creative thinking. Level III of the creative learning were more effective than level I and II. The three levels were interrelated. In order to do better in level three prior experiences of level I and II seemed to be very important (Treftinger, Isaksen & firestien, 1983). It was also evident that the performance of the children had rapidly increased in all five testing condition from control to Experimental group I and it decreased thereafter in case of experimental group II. The children of Experimental group I showed maximum increment in all five testing conditions in most of the tests in comparison to the control and Experimental group II children.

The results also confirmed the objective that there was a persistency effect of intervention training on the creative thinking. After one month of gap, in 5th posttesting condition, children showed either similar performance with or better performance than the 4th posttesting condition. This result was in consistent with the literature that long term training effect was found to be persisted (Barton, 1984; Claugue-Tweet, 1981; Cunningham & Murphy, 1981; Glover, 1980; Gold & Houtz, 1984; Parnes & Noller, 1972). The persistency effect depended purely on duration of treatment. Short-time training programmes were temporary. Long term training programmes had significantly persistent effect.
The experimental intervention programmes being intensive and one to one interaction produced better effect than the regular schooling. The training programme aimed at developing the creative thinking, and the training given to the children were on the creative aspects.

Disadvantaged children's improvement due to intervention lead us to conclude that they may not be inferior to the advantaged children in creative development. Due to lack of proper experience and environment they might be slow in acquiring creative thinking. It is rather remarkable that due to intervention, they have done much better than the control. Intervention and stimulation will enable the disadvantaged children to do as well as their advantaged counterparts do. Therefore, the increment in test scores from pre to post intervention testing in case of disadvantaged children indicate that intensive, direct, one to one creative training can produce greater effects even in the cases of disadvantaged children compared to the normal school training programmes.