

CHAPTER - 5

ANALYSIS, INTERPRETATION AND DISCUSSION OF DATA

CHAPTER 5.

ANALYSIS, INTERPRETATION AND DISCUSSION

5.0.0 Introduction

This chapter presents analysis of collected data. The data were analyzed with the help of appropriate qualitative and quantitative techniques and they were interpreted in order to arrive at inferences.

5.1.0 Effectiveness of Intervention Programme

The main purpose of the present research study was to develop intervention programme for seven units in the subject of Environmental Science of standard IV as prescribed by the Gujarat State Textbook Board, and evaluate effectiveness of the programme. The effectiveness was measured by the researcher in terms of improvement in the academic performance of students after the implementation of the programme and this was calculated through the application of some appropriate statistical technique on pre-test and post-test scores of all the thirty students selected for the study. Further, since the purpose of the research study was not confined to the aspects related to cognition alone but also to affective domains, the researcher had collected data to see whether there was any significant change in the behaviour of students during classroom instructional process and this was reflected through interviews conducted with them and their subject teachers. This was also meant to see if there was any positive change with regard to the metacognitive abilities also. The null hypotheses were framed by the researcher, before starting the research study in order to see the effectiveness of the intervention programme and these

hypotheses were tested with the help of mean, standard deviation and t-test. In written test the highest score was found in the unit Earth and Sky. This could be due to the intervention programme where the content was taught with the help of audio cassette in which the content was presented on the audio cassette which were in the form of interviews with sun and its solar system. In Oral test highest score was found in the unit Plants and Animals. This could be due to role play and the drama of animal court, where the plants and animals narrated how they were troubled and what care needs to be taken for a peaceful coexistence. In the activity test students performed best in the unit Living and Non Living , this could be attributed to both that is the novelty effect and the fun of doing an activity type of test after learning the characteristics of living and nonliving.

Hypothesis no.1

There will be no significant difference in the mean achievement scores of the students in written, oral and activity test of unit I after receiving the instruction through the intervention programme.

In order to achieve this hypothesis four sub hypothesis were formulated.

Hypothesis 1.1 There will be no significant difference in the mean achievement score in the written test of unit I after receiving the instruction through the intervention programme.

Hypothesis 1.2 There will be no significant difference in the mean achievement score in the oral test of unit I after receiving the instruction through the intervention programme.

Hypothesis 1.3 There will be no significant difference in the mean achievement score in the activity test of unit I after receiving the instruction through the intervention programme.

Hypothesis 1.4 There will be no significant difference in the mean achievement score in the total of the three test of unit I after receiving the instruction through the intervention programme.

Table 5. 1 Mean, Standard Deviation, Correlation and t-Value wise distribution of Pre test in Written, oral, activity and Total of Unit I

| Test | | Written | Oral | Activity | Total |
|-------------|------|---------|--------|----------|---------|
| Pre test | mean | 4.35 | 1.70 | 22.8 | 28.85 |
| | s.d | 1.94 | 2.05 | 6.95 | 9.06 |
| Post test | mean | 6.82 | 7.08 | 28.34 | 42.20 |
| | s.d | 2.28 | 2.51 | 3.43 | 5.86 |
| correlation | | 0.69 | 0.45 | 0.62 | 0.70 |
| t-value | | 7.81** | 11.7** | 5.12** | 11.28** |

* at 0.05 level the t-value is 2.04

** at 0.01 level the t-value is 2.76 . Source Garrett 1979.

According to the table 5.1 the means of pre test and post test in written, oral, activity and total are 4.35, 1.70, 22.8 and 28.85 and 6.82, 7.08, 28.34 and 42.2 respectively . So, it can be said that the mean gain was higher in the post test compared to the pre test. This could be due to the influence of the intervention programme.

Further, it can be interpreted that in case of all the three types of tests i.e. written, oral and activity for unit I, with twenty nine degree of freedom at 0.01, t value was found significant that is 7.81, 11.7, 5.12, and 11.28 Thus, all the hypothesis, 1, 1.1,1.2, 1.3, and 1.4. are rejected.

It was also found that the standard deviation was not much difference in the case of written test, oral test but in case of activity test there was difference in the standard deviation which may be due to more concentrated effort in the activity type of test. The variance in case of the Total test is also 9.06 to 5.86 which shows there was a more concentrated effort in learning. This may be probably due to the influence of the intervention programme.

The correlation between the two group in oral, written, activity and total were 0.69, 0.45, 0.62 and 0.70. The correlation was found to be high in case of written, activity and total but the correlation in case of oral test was moderate. This may be perhaps because the performance of the students in the oral test in pre test was quiet low.

From the above table it can be inferred that the achievement of the students improved significantly in post tests in comparison to pretests. One of the major reason for this can be attributed to the intervention programme which was implemented by the researcher after conducting the pretests.

Further, it was found that the most significant improvement took place in case of oral test, followed by written test and activity test. This could be due to the reason that researcher taught this unit with number of activities and illustrations which also motivated them to interact. This developed ability of expression which was not there earlier. It helped them to perform better. The reason for poor performance in activity test was due to some confusion regarding some basic concepts e.g. some often considered television set as living thing as it can speak, sing etc. While, they considered some vegetables

and fruits as non living things as they cannot walk and talk. Due to this, they could not do the work of classification accurately, resulting in poor performance.

Hypothesis no. 2

There will be no significant difference in the mean achievement scores of the students in written, oral and activity test of unit II after receiving the instruction through the intervention programme.

In order to achieve this hypothesis four sub hypothesis were formulated.

Hypothesis 2.1 There will be no significant difference in the mean achievement score in the written test of unit II after receiving the instruction through the intervention programme.

Hypothesis 2.2 There will be no significant difference in the mean achievement score in the oral test of unit II after receiving the instruction through the intervention programme.

Hypothesis 2.3 There will be no significant difference in the mean achievement score in the activity test of unit II after receiving the instruction through the intervention programme.

Hypothesis 2.4 There will be no significant difference in the mean achievement score in the total of the three test of unit II after receiving the instruction through the intervention programme.

Table 5. 2 Mean, Standard Deviation, Correlation and t-Value wise distribution of Pre test in Written, oral, activity and Total of Unit II

| Test | | Written | Oral | Activity | Total |
|-------------|------|---------|----------|----------|---------|
| Pre test | mean | 3.43 | 0.80 | 17.23 | 20.62 |
| | s.d | 2.4 | 1.21 | 2.33 | 5.39 |
| Post test | mean | 7.78 | 8.40 | 28.33 | 44.52 |
| | s.d | 2.08 | 2.09 | 1.98 | 5.06 |
| correlation | | 0.38 | 0.38 | 0.054 | 0.57 |
| t-value | | 11.44** | 20.097** | 20.38** | 27.21** |

* at 0.05 level the t-value is 2.04

** at 0.01 level the t-value is 2.76 . Source Garrett 1979.

From table number 5.2 it can be interpreted that the mean gain in the pre test and post test of unit II were 3.43, 0.80, 17.23 and 20.62 and 7.78, 8.40, 28.33, and 44.52 respectively. So, it can be said that the mean gain in post test was higher than the mean gain in the pre test in case of all the three types of tests i.e. written, oral and activity for unit II.

Further it was found that the t-value of the written, oral , activity and total test had t values, 11.44, 20.09, 20.38 and 27.21 respectively which was much higher than the t-table value at 29 df at 0.01 level. Which indicates there is a significant difference in the post test . Thus, hypothesis number 2, 2.1, 2.2, 2.3 and 2.4 are rejected.

It was also found that the standard deviation in the written, oral , activity and total test were almost similar in the different test . The group also showed a moderate correlation between the pre test and the post test scores of the students. From the above table it can be inferred that the achievement of the students improved significantly in post tests in comparison to pretests. One of

the major reason for this can be attributed to the intervention programme which was implemented by the researcher after conducting the pretests.

Further, it was found that most significant improvement was in activity test, followed by oral and written test. In fact there was not much difference in performance in oral test and activity test. The reason for this could be that some of the items in written test were similar to that of items in Living and Nonliving. As the items were based on previous knowledge. They found activity test most interesting as they were familiar with most of the plant and animal products in their daily life. But they could not recall all the points in plant and animal care.

Hypothesis no. 3

There will be no significant difference in the mean achievement scores of the students in written, oral and activity test of unit III after receiving the instruction through the intervention programme.

In order to achieve this hypothesis four sub hypothesis were formulated.

Hypothesis 3.1 There will be no significant difference in the mean achievement score in the written test of unit III after receiving the instruction through the intervention programme.

Hypothesis 3.2 There will be no significant difference in the mean achievement score in the oral test of unit III after receiving the instruction through the intervention programme.

Hypothesis 3.3 There will be no significant difference in the mean achievement score in the activity test of unit III after receiving the instruction through the intervention programme.

Hypothesis 3.4 There will be no significant difference in the mean achievement score in the total of the three test of unit III after receiving the instruction through the intervention programme.

Table 5. 3 Mean, Standard Deviation, Correlation and t-Value wise distribution of Pre test in Written, oral, activity and Total of Unit III

| Test | | Written | Oral | Activity | Total |
|-------------|------|---------|---------|----------|---------|
| Pre test | mean | 12.07 | 0.90 | 1.20 | 14.17 |
| | s.d | 7.70 | 1.77 | 1.75 | 9.59 |
| Post test | mean | 21.57 | 7.63 | 6.30 | 35.50 |
| | s.d | 6.29 | 2.60 | 2.97 | 9.27 |
| correlation | | 0.58 | 0.40 | 0.46 | 0.531 |
| t-value | | 8.04** | 14.81** | 10.49** | 12.78** |

* at 0.05 level the t-value is 2.04

** at 0.01 level the t-value is 2.76 . Source Garrett 1979.

From table number 5.3 it can be interpreted that in case of all the three types of tests i.e. written, oral and activity for unit III, the mean in pre test and post test were 12.07, 0.90, 1.20 and 14.17 and 21.57, 7.63, 6.30 and 35.50 respectively. So, it can be said that the mean gain in post test was higher than the mean gain in the pre test. This is perhaps the influence of the intervention programme.

On further analysis it was found that the t- value of the written, oral, activity and the total test had t-values, 8.04, 14.81, 10.49 and 12.78 respectively. All these t-values are much higher than the t-table value at 0.01 level at 29 df, which indicates that there was a significant difference in the post test. Thus, hypothesis number 3, 3.1, 3.2, 3.3, and 3.4 were rejected. This may be probably due to the influence of the intervention programme.

It was also found that the standard deviation in written, oral, activity and total test were not very scattered rather there was no difference. The group were moderately related with each other in the pre and post test of unit III

From the above table it can be inferred that the achievement of the students improved significantly in post tests in comparison to pretests. One of the major reason for this can be attributed to the intervention programme which was implemented by the researcher after conducting the pretests.

Further, it was found that the most significant improvement was there in case of oral test followed by activity and written test. The students found the oral test much easier as they could express themselves very well with regard to the concepts like earth and sky. But in case of written tests, the performance could not show very high improvement as it was already very high in pre tests. (In fact, highest among all the units).

Hypothesis no. 4

There will be no significant difference in the mean achievement scores of the students in written, oral and activity test of unit IV after receiving the instruction through the intervention programme.

In order to achieve this hypothesis four sub hypothesis were formulated.

Hypothesis 4.1 There will be no significant difference in the mean achievement score in the written test of unit IV after receiving the instruction through the intervention programme.

Hypothesis 4.2 There will be no significant difference in the mean achievement score in the oral test of unit IV after receiving the instruction through the intervention programme.

Hypothesis 4.3 There will be no significant difference in the mean achievement score in the activity test of unit IV after receiving the instruction through the intervention programme.

Hypothesis 4.4 There will be no significant difference in the mean achievement score in the total of the three test of unit IV after receiving the instruction through the intervention programme.

Table 5. 4 Mean, Standard Deviation, Correlation and t-Value wise distribution of Pre test in Written, oral, activity and Total of Unit IV

| Test | | Written | Oral | Activity | Total |
|-------------|------|---------|---------|----------|---------|
| Pre test | mean | 4.32 | 0.20 | 5.03 | 9.52 |
| | s.d | 2.88 | 0.40 | 5.62 | 7.60 |
| Post test | mean | 4.02 | 5.97 | 13.53 | 30.20 |
| | s.d | 0.73 | 2.60 | 6.88 | 10.61 |
| correlation | | 0.54 | 0.47 | 0.57 | 0.61 |
| t-value | | 9.01** | 12.50** | 7.90** | 13.48** |

* at 0.05 level the t-value is 2.04

** at 0.01 level the t-value is 2.76 . Source Garrett 1979.

From table number 5.4 it can be interpreted that in case of all the four types of tests that is written, oral and activity for unit IV in both the pre test and the post test were , the 4.32, 0.20, 5.03 and 9.52 and 4.02, 5.97, 13.53 and 30.20 respectively which clearly indicates there is a gain in the means of all types of post test . This could be due to the intervention programme.

It was found that the t value for the written, oral, activity and total test of unit IV were 9.01, 12.50, 7.90 and 13.48 respectively which is much higher than

the table value at 0.01 level at 29 df. So, it can be said that the difference is significant. Thus, hypothesis number 4, 4.1, 4.2, 4.3 and 4.4 are rejected.

Further, from the standard deviation it was found that the standard deviation in the written, oral, activity and total there was more concentration in the total test, whereas in the case of written, oral and activity test the deviation is not much. Further from the correlation it can be said that the oral test scores were moderately related whereas written test, activity test and total test scores were positively related. That is the gain in pre test was corresponding the gain in the post test.

From the above table it can be inferred that the achievement of the students improved significantly in post tests in comparison to pretests. One of the major reason for this can be attributed to the intervention programme which was implemented by the researcher after conducting the pretests.

Further, it was found that the highest improvement took place in case of oral tests, followed by written and activity test. The reason for this is that the concepts of soil erosion and measures to control it were taught through activities by the researcher. Hence, the concepts got concretized and they could express them very well in oral tests. While in case of activity test, they could not perform the activity of putting different seeds into dishes of related soil specimen as staying in urban area they were not in close touch with these things in their daily life.

Hypothesis no. 5

There will be no significant difference in the mean achievement scores of the students in written, oral and activity test of unit V after receiving the instruction through the intervention programme.

In order to achieve this hypothesis four sub hypothesis were formulated.

Hypothesis 5.1 There will be no significant difference in the mean achievement score in the written test of unit V after receiving the instruction through the intervention programme.

Hypothesis 5.2 There will be no significant difference in the mean achievement score in the oral test of unit V after receiving the instruction through the intervention programme.

Hypothesis 5.3 There will be no significant difference in the mean achievement score in the activity test of unit V after receiving the instruction through the intervention programme.

Hypothesis 5.4 There will be no significant difference in the mean achievement score in the total of the three test of unit V after receiving the instruction through the intervention programme.

Table 5.5 Mean, Standard Deviation, Correlation and t-Value wise distribution of Pre test in Written, oral, activity and Total of Unit V

| Test | | Written | Oral | Activity | Total |
|-------------|------|---------|--------|----------|--------|
| Pre test | mean | 11.70 | 2.83 | 13.93 | 28.47 |
| | s.d | 5.67 | 2.55 | 7.5 | 13.41 |
| Post test | mean | 17.13 | 7.03 | 18.00 | 42.33 |
| | s.d | 3.15 | 2.75 | 3.22 | 7.29 |
| correlation | | 0.81 | 0.46 | 0.44 | 0.67 |
| t-value | | 8.26** | 8.32** | 3.30** | 7.59** |

* at 0.05 level the t-value is 2.04

** at 0.01 level the t-value is 2.76 . Source Garrett 1979.

From table number 5:5 it can be interpreted that in case of all the four types of tests written, oral, activity and total test for unit V, the means were 11.70, 2.83, 13.93 and 28.47 and 17.13, 7.03, 18.00 and 42.33 respectively. So, it can be said that the mean gain in the post test was much higher than the mean gain in the pre test. This could be perhaps due to the intervention programme.

The t - values of the written, oral, activity and total test were 8.26, 8.32, 3.30 and 7.59 respectively which is much higher than the t - table value at 0.01 level at 29 df. Thus, indicating there was significant difference. Thus, hypothesis number 5, 5.1, 5.2, 5.3 and 5.4 were rejected. The significant difference could be perhaps the influence of the intervention programme.

The variance in the oral test was not much different but the variance was more in written activity and the total test . This indicates there was concentration of efforts in the written, activity and the total test. Correlation in the written test was high in case of the written test , moderate in case of oral and activity again in case of the total test correlation was higher. From the above table it can be

inferred that the achievement of the students improved significantly in post tests in comparison to pretests. One of the major reason for this can be attributed to the intervention programme which was implemented by the researcher after conducting the pretests.

In case of unit V, highest improvement took place in case of oral test, written test, and activity test. They could do well in written test, they could describe the content related to weather very well as it was explained through puppets in a concrete way. In case of activity test, as the pre test score was higher much improvement could not be found. The oral test score were highest perhaps because the students were able to tell the direction in the day time and night time properly.

Hypothesis no. 6

There will be no significant difference in the mean achievement scores of the students in written, oral and activity test of unit VI after receiving the instruction through the intervention programme.

In order to achieve this hypothesis four sub hypothesis were formulated.

Hypothesis 6.1 There will be no significant difference in the mean achievement score in the written test of unit VI after receiving the instruction through the intervention programme.

Hypothesis 6.2 There will be no significant difference in the mean achievement score in the oral test of unit VI after receiving the instruction through the intervention programme.

Hypothesis 6.3 There will be no significant difference in the mean achievement score in the activity test of unit VI after receiving the instruction through the intervention programme.

Hypothesis 6.4 There will be no significant difference in the mean achievement score in the total of the three test of unit VI after receiving the instruction through the intervention programme.

Table 5. 6 Mean, Standard Deviation, Correlation and t-Value wise distribution of Pre test in Written, oral, activity and Total of Unit VI

| Test | | Written | Oral | Activity | Total |
|-------------|------|---------|---------|----------|---------|
| Pre test | mean | 6.80 | 2.10 | 7.07 | 15.95 |
| | s.d | 3.91 | 2.09 | 4.04 | 8.17 |
| Post test | mean | 13.83 | 6.67 | 13.28 | 33.78 |
| | s.d | 3.73 | 2.63 | 5.27 | 10.64 |
| correlation | | 0.68 | 0.61 | 0.71 | 0.83 |
| t-value | | 11.56** | 11.66** | 9.22** | 16.57** |

* at 0.05 level the t-value is 2.04

** at 0.01 level the t-value is 2.76 . Source Garrett 1979.

From table number 5.6 it can be interpreted that in case of all the four types of tests written, oral activity and total in pre test and post test for unit VI the means were 6.80, 2.10, 7.07, and 15.95 and 13.83, 6.67, 13.28 and 33.78. Which is clearly indicates that the mean gain of the post test were higher than that the mean gain of the pre test. This could be due to the influence of the intervention programme.

The t - values of the written, oral, activity and total test were 11.56, 11.66, 9.22 and 16.57 respectively which is much higher than the t - table value at 0.01 level and 29 df. Thus, scores are significantly difference and the null hypotheses 6, 6.1, 6.2, 6.3 and 6.4 are rejected. This was perhaps due to the intervention

programme. Although there is much difference in the standard deviation accept for the total test. The scattering effect was concentrated in the post test. Which indicates there was concentration in the total test.

According to the table, correlation of the written, oral, activity and total test was found to be positively related. Which indicates that the gain in the pre test was corresponding to the gain in the post test. From the above table it can be inferred that the achievement of the students improved significantly in post tests in comparison to pretests. One of the major reason for this can be attributed to the intervention programme which was implemented by the researcher after conducting the pretests.

In case of written tests, they performed best followed by oral. Although, it should be noted that there was not much difference in scores of oral and written tests. This was due to the reason that the content of this unit namely balanced diet was taught with the help of different medias such as video film, puppets, and story telling. It helped them to understand the content in a concrete way. This helped them to comprehend very well. But they could not do very well in activity test. This could be because activities were related to higher level of cognitive abilities.

Hypothesis no. 7

There will be no difference in the mean Achievement scores of the students in written, oral and activity test of unit VII after receiving the instruction through the intervention programme.

In order to achieve this hypothesis four sub hypothesis were formulated.

Hypothesis 7.1 There will be no significant difference in the mean achievement score in the written test of unit VII after receiving the instruction through the intervention programme.

Hypothesis 7.2 There will be no significant difference in the mean achievement score in the oral test of unit VII after receiving the instruction through the intervention programme.

Hypothesis 7.3 There will be no significant difference in the mean achievement score in the activity test of unit VII after receiving the instruction through the intervention programme.

Hypothesis 7.4 There will be no significant difference in the mean achievement score in the total of the three test of unit VII after receiving the instruction through the intervention programme.

Table 5. 7 Mean, Standard Deviation, Correlation and t-Value wise distribution of Pre test in Written, oral, activity and Total of Unit VII

| Test | | Written | Oral | Activity | Total |
|-------------|------|---------|---------|----------|---------|
| Pre test | mean | 6.53 | 1.57 | 10.43 | 18.53 |
| | s.d | 4.65 | 2.90 | 6.41 | 11.75 |
| Post test | mean | 14.20 | 7.70 | 17.23 | 39.13 |
| | s.d | 3.96 | 2.46 | 2.80 | 6.95 |
| correlation | | 0.52 | 0.36 | 0.38 | 0.68 |
| t-value | | 9.90** | 11.00** | 6.28** | 13.07** |

* at 0.05 level the t-value is 2.04

** at 0.01 level the t-value is 2.76 . Source Garrett 1979.

From table number 5.7 it can be interpreted that in case of all the four types of tests i.e. written, oral, activity and total test in the pre and post test the means were 6.53, 1.57, 10.43 and 18.53 and 14.20, 7.70, 17.23 and 39.13 respectively. It can be inferred that there was mean gain was higher in the post

test compared to the pre test scores for unit VII. This could be due to the intervention programme.

Further the t-values for the written, oral, activity and total were 9.90, 11.00, 6.28 and 13.07 respectively all these values were much higher than the t table values at 0.01 level and 29 df. Thus, there was a significant difference therefore the hypotheses number 7, 7.1, 7.2, 7.3 and 7.4 were rejected. This could be due to the influence of the intervention programme.

It was found that the deviation from the mean was more in case of activity and total which indicated there was a concentrated effort in the activity type of test. There was not much difference in the written and total test.

The correlation was higher in written test and total test, but it was much moderate in case of oral and activity test. From the above table it can be inferred that the achievement of the students improved significantly in post tests in comparison to pretests. One of the major reason for this can be attributed to the intervention programme which was implemented by the researcher after conducting the pretests.

It was the oral test where they performed best followed by written and activity test. In oral test, they were asked to prove that " air has weight" which they did very well as it was taught through experiment. In case of activity test, they could not perform the task of classification effectively.

Hypothesis no. 8

There will be no significant difference in the mean achievement scores of the students in written, oral and activity test of Comprehensive Examination after receiving the instruction through the intervention programme.

In order to achieve this hypothesis four sub hypothesis were formulated.

Hypothesis 8.1 There will be no significant difference in the mean achievement score in the written test of unit VIII after receiving the instruction through the intervention programme.

Hypothesis 8.2 There will be no significant difference in the mean achievement score in the oral test of unit VIII after receiving the instruction through the intervention programme.

Hypothesis 8.3 There will be no significant difference in the mean achievement score in the activity test of unit V III after receiving the instruction through the intervention programme.

Hypothesis 8.4 There will be no significant difference in the mean achievement score in the total of the three test of unit VIII after receiving the instruction through the intervention programme.

Table 5. 8 Mean, Standard Deviation, Correlation and t-Value wise distribution of Pre test in Written, oral, activity and Total of Comprehensive Test

| Test | | Written | Oral | Activity | Total |
|-------------|------|---------|---------|----------|---------|
| Pre test | mean | 8.53 | 1.83 | 6.15 | 16.52 |
| | s.d | 2.60 | 2.25 | 4.18 | 7.61 |
| Post test | mean | 14.57 | 8.43 | 14.75 | 37.75 |
| | s.d | 3.54 | 2.66 | 2.68 | 5.84 |
| correlation | | 0.64 | 0.48 | 0.49 | 0.18 |
| t-value | | 9.60** | 10.97** | 9.95** | 13.36** |

* at 0.05 level the t-value is 2.04

** at 0.01 level the t-value is 2.76 . Source Garrett 1979.

From table number 5.8 it can be interpreted that in case of all the four of tests that is written, oral and activity for comprehensive test in the pre and post test the means were 8.53, 1.83, 6.15 and 16.52 and 14.57, 8.43, 14.75 and 37.75 respectively. The mean gain in the post test is much higher than the mean gain in the pre test. This could be due to the influence of the intervention programme.

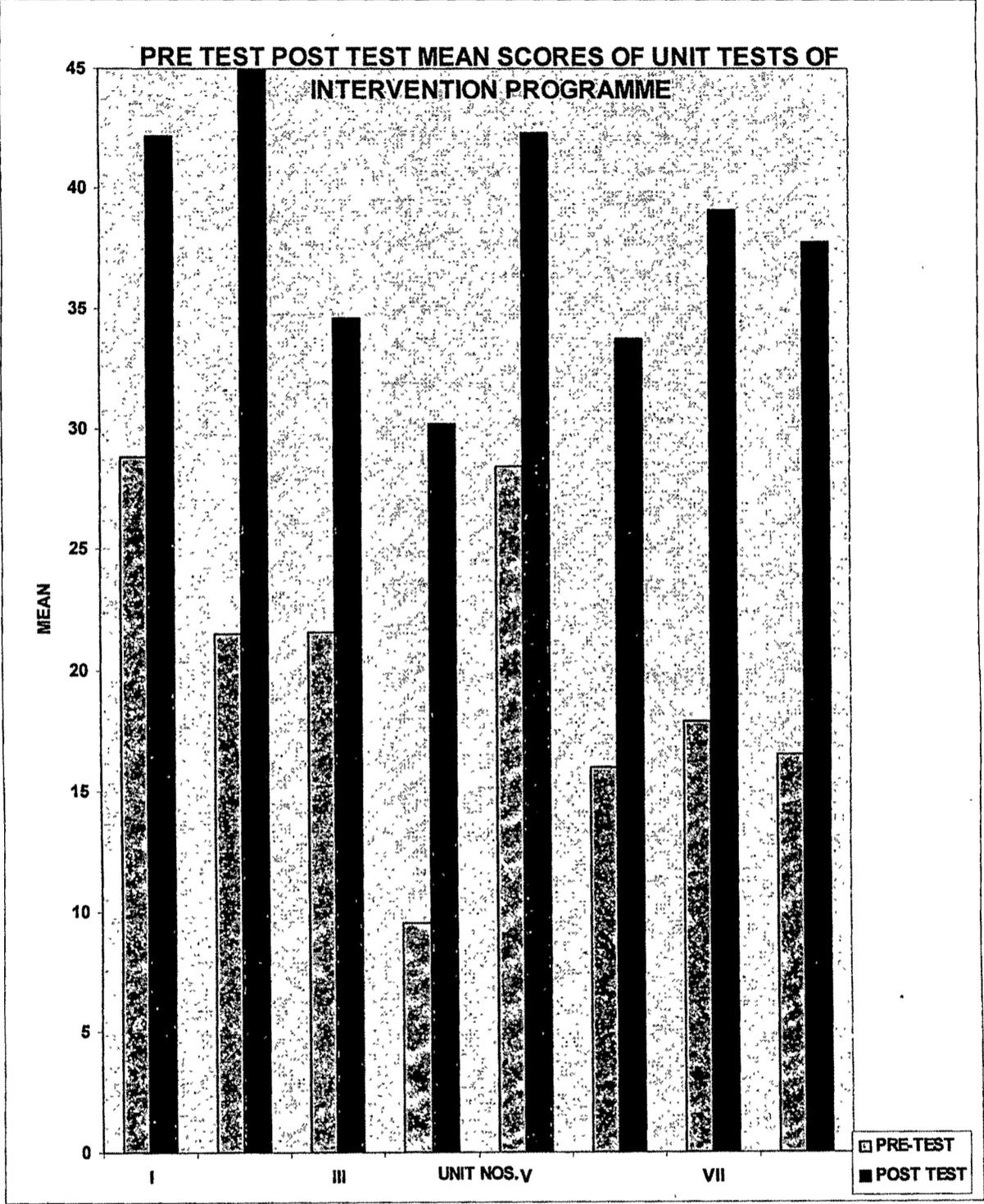
Further the t- values of the written, oral, activity and total test were 9.60, 10.97, 9.95 and 13.36 respectively. These t - values are much higher than the t-table value at 0.01 level at 29 df. Therefore, there was a significant difference in the post test scores, which means the hypotheses number 8, 8.1, 8.2, 8.3, 8.4 are rejected. The significant difference could be due to the influence of the intervention programme.

It was also found that the variance was not more in the standard deviation. The standard deviation was more different in the case of total test that is 7.61 and 5.84 respectively which indicates that there was more concentration in the total test. Further the correlation coefficient was higher in case of the written test compared to the oral and activity test. The correlation in the oral activity and total was moderate.

From the above table it can be inferred that the achievement of the students improved significantly in post tests in comparison to pretests. One of the major reason for this can be attributed to the intervention programme which was implemented by the researcher after conducting the pretests.

From the table it can be interpreted that with regard to comprehensive test, the improvement was highest in case of oral test. In case of written test and activity test, the improvement was equal. This could be due to the reason that by the time comprehensive test was conducted, students got acquainted with activity form of examination.

Thus, after the entire analysis of the pre-test, post-test score of the students it can be inferred that the difference between pre-test and post-test score was significant for all the seven units and within each unit for all the four types of test. This shows the effectiveness of developed intervention programme implemented on the students. The overall effectiveness of the intervention programme in terms of difference between pre-test and post-test mean scores of unit tests (I to VII plus comprehensive examination) has been plotted on the graph shown below.



5.2.0 Opinion of Students

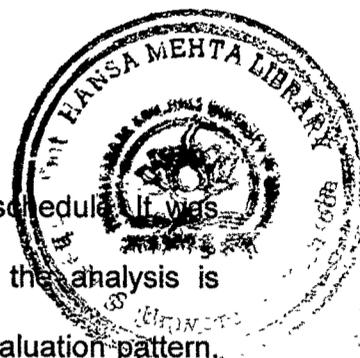
The data was collected with the help of information schedule. It was analyzed with the help of percentage. The interpretation of the analysis is presented here itemwise. The items were related to interest, evaluation pattern, activities, methods, media's etc., that they liked.

In response to the question whether they enjoyed intervention programme, all the students expressed that they very much enjoyed the entire programme. This was evident from their enthusiasm in participating in various activities which were provided to them.

When they were asked whether they liked the programme very much right from the beginning or gradually, 83.3% said they liked the program right from the first day. Whereas 16.6% said that they liked the intervention programme gradually.

Thus, this indicates that the program was successful in arousing interest among learners, right from the beginning and this must have been one of the important factor for their higher performance in post test.

The next question was that which unit was found most interesting by the students. The following responses were found 33.3% of students found unit number 5 **weather** most interesting unit, followed by Our food (26.6%) unit VI, Living and Nonliving (20%) unit I, Matter (10%) unit VII and all the remaining (3.33%) unit II Plants and Animals , unit III Earth and Sky and unit IV Soil . The probable reason on the part of students to like unit V could be that, it was taught with the help of puppet. The students liked the baby puppet with whom



they could easily identify themselves. Therefore they could involve themselves in the learning process with interest.

Regarding the media through which they enjoyed learning most and the reasons for the same, teaching through video and tape recorder was liked by all the students. When further probed 76.6% students' mentioned that when they learnt through charts and models, retention was more but 23.3% of students, although they liked learning through charts, models, their retention was poor.

On question pertaining to the method of teaching which they liked the most, it was found that the methods liked by all the students were, team teaching, role play, story telling and puppets. When further probed, they mentioned that they could involve themselves more in case of these methods. These methods were able to arouse their curiosity and interest. Further, they also mentioned that the most important reason to like these methods was that they could learn on their own and it was automatic and joyful for them.

The next question was whether they would like to study regularly through such intervention programme. All the students opined that they were interested to learn through different media's and strategies. This shows the success of intervention programme developed and implemented by the researcher.

The question regarding whether they would like to study other subjects also through such intervention programmes, all the students opined that they would be extremely happy if they would be taught other subjects like mathematics and gujarati through such intervention programmes.

The question pertaining to, ninety percent students mentioned that they liked evaluation pattern adopted by the researcher. While 10% of students did not like it. This is because different types of tests prevented monotony and they enjoyed activity test very much. From this it can be inferred that the majority of students enjoyed the combination of different types of test. The 10% of students who did not like the test was perhaps due to the reason that they scored higher in the written (conventional test) but could not perform well in the oral and activity test so their performance suffered a bit.

The last question was whether the students liked activity form of evaluation or not. 96.6% students enjoyed this type of test but 3.33% of students did not like this type of test. This shows that such type of innovative tests should be used more frequently so that students due to interest factor would be able to perform better. Moreover, such test help in achieving objectives related to affective domain and psychomotor skill. With reference to this particular study, this is confirmed through the findings, that on the whole mean score for activity test was higher than other tests.

5.3.0 Opinion of Teacher

Opinion of teacher was collected through a structured interview schedule. The aspects covered in it were related to change in behaviour of students in classroom, quality of intervention programme and effectiveness of intervention programme were covered. With regard to the quality of intervention programme, the teacher expressed the opinion that the quality was very good in terms of content coverage, language used, clarity in explanation of some of the important

concepts and particularly the combination of different methods and medias for classroom instructional process.

Regarding change in behaviour of students in classroom, the teacher expressed happiness over the positive change in students' behaviour. Earlier the students were passive, dull and docile, in classroom instructional process but after implementation of intervention programme, they have become more active and interactive and started asking questions to the teacher. Most important thing was that teacher admitted that she could see such changes which she had never expected like pupils' participation in classroom, interest, enthusiasm, curiosity and zeal among them for learning. She also observed that students have started taking keen interest in classroom learning.

Finally, about the effectiveness of intervention programme, the teacher opined that the intervention programme proved to be very effective for students not only in terms of their academic performance on all the three types of test but it was also effective to arouse interest and curiosity amongst them.

Thus, from the analysis and interpretation of data it becomes clear that the intervention programme developed and implemented by the researcher proved to be effective in terms of achieving objectives related to cognitive and affective domain, psychomotor skills and metacognitive abilities.

From this analysis and interpretation major findings have emerged. They have been discussed and reported in following paragraphs.

5.4.0 DISCUSSION OF MAJOR FINDINGS

5.4.1 Effectiveness of Intervention Programme

It was found that the difference between pre-test and post-test scores for all the units and all types of tests was significant. This clearly indicates the overall effectiveness of intervention programme. The probable reasons for this could be scope of creativity, independence, more interaction between researcher and students, activity oriented teaching, use of different methods and medias by the researcher for implementing the intervention programme. All these led to more active participation and involvement of students in classroom instructional process which was not there earlier. The implementation of programme was successful in arousing the level of interest, curiosity and various types of inquiries on part of students. Learning through intervention programme also enabled the students to get acquainted with self learning process. This also developed analytical abilities among them. Thus, on the whole the intervention programme helped the learner not only to improve upon their previous academic performance, but also helped them to develop higher cognitive abilities, metacognitive abilities, psychomotor skills and some aspects related to affective domain. All these ultimately help students for their all round development. Interventions whenever taken up have shown to improve achievement of students this is proved by researchers. If there is change in the infrastructural facilities, school ecology is good and if the facilities provided at the school level are good and utilized properly the achievement of the students was found to improve. (Dave 1988, Bhattacharya 1991, Govinda and Verghese 1991 and

Gupta and Gupta 1992.) . It was found that if environment was taught with environmental approach the achievement of students have improved. (Joshi 1981, Deopuria 1984, Kaushal 1997, Lalitha 1997, Mahopatra 1997).

5.4.2 Opinion of Students

The opinion of the students was collected regarding their liking for different methods and medias used, the different types of evaluation items used and the units which they liked most while learning etc., All the students favoured learning through such intervention programme as it makes use of different teaching strategies which does not lead to monotony of one single method of teaching. Combination of different methods has helped them to feel interested in learning. The methods they liked the most were role playing, team teaching, puppet and story telling as these were the methods through which learning was enjoyable experience and they felt involved. Regarding medias for learning, they opined that learning through video and tape recorder was most effective for them as they were audio visual aids. Further they also liked learning through charts and models. Regarding evaluation pattern adopted by the researcher they liked the activity type test most, where they had a scope to exhibit their creativity and psychomotor skills. The most important thing that they mentioned was that they would also like to learn other subjects through intervention programme. On the whole they felt more involved and active because entire teaching was in form of constant dialogue with them and not one way transaction.

5.4.3 Opinion of Teachers

The opinion of teachers were collected regarding the effectiveness of intervention programme, quality of intervention programme, and change in behaviour of students as a result of the programme. The teachers opined that the intervention programme, on the whole, was effective in terms of the achievement of students and improvement in frequency and quality of interaction with the teacher. It has helped them in self learning and has also enabled them to involve themselves in learning process with lot more interest and curiosity.

Regarding the quality of intervention programme, the teachers expressed happiness over the comprehensiveness in covering the content matter and for the language used for instruction. The combination of different methods and medias used for clarifying important concepts of the subject was also liked by them. All this helped to improve academic achievement of the students.

Regarding the change in students' classroom behaviour, the teacher admitted that she could see significant changes in students' behaviour with regard to their involvement in the classroom instructional process as they became more active, dynamic, curious and interesting lot of learners. Thus, the package has not only helped students but even teachers opinion has become more positive.

Education is a cornerstone of economic growth, social change and a principal means of improving the welfare of individuals. It increases the productive capacity of individual and that inturn helps all the segments of the society. Primary education has two major purposes: to produce a literate and

numerate population that can deal with problems at home and work and to laydown a foundation upon which further education is built. The effects of primary education on development of individuals are largely a result of various cognitive skills it imparts - literacy, numeracy and problem solving skills. Poor primary schools affects the entire system for human capital development. They produce graduates who are poorly prepared for secondary and tertiary education and ill equipped for lifelong learning. The consequence is an insufficient number of truly educated managers, workers and parents who would contribute to the development of their own children and society as a whole in an effective way.

The most visible signs of ineffective primary education system are high rate of wastage and stagnation. Low level of effectiveness of primary education system in developing countries results from the failure to provide the minimal inputs necessary for successful learning. Given both the impoverished conditions and the severe resource constraints faced by poor countries, it is critical to concentrate resources on such interventions which would improve learning, are cost effective and can be widely implemented. There are five basic areas where investment in terms of all types of resources can produce desired results. They are the curriculum, learning materials, instructional time, classroom teaching and students learning capacity. Improving students performance requires reallocation of different types of resources to ensure adequate levels of the five above mentioned inputs.

Children's learning is a function of family background and school inputs. Family background characteristics that enhance childrens teachability are

investments in health, nutrition and pre school experience. The school related inputs discussed in this section curriculum, learning materials, instructional time and teaching methods are those that have been found to have the most significant effect on student learning (World Bank 1990). They are discussed briefly over here.

1. Curriculum :- Curriculum in primary education is same all over the world. There are 3 subjects - Language, Mathematics and Environmental science. Weightage given to language is more in lower classes. Generally, the first language taught is the mother tongue. Second subject is mathematics which is helpful in developing numeracy skills. The third preference is given to Environmental Science which is a combination of social studies and science. Apart from these subjects, there is variation like drawing, craft, physical education etc., This gets translated in to syllabus which ultimately is transacted in classrooms.

Despite commonalities in official curricula, there are great disparities in what is ultimately taught in classrooms. The actual curriculum in many developing countries is poor in scope and sequence of instructional material (World Bank 1990). A study of the reading and mathematics curricula in fifteen developing countries found that expectations for student achievement in the earlier grades were inappropriately high. Furthermore, school textbooks in most developing countries also suffer from factual inaccuracies, inappropriate illustration, poor writing and a lack of material cannot develop higher order thinking skills such as problem solving, critical thinking and reasoning.

Successful curriculum reform efforts must tackle the difficult issues like preparing a coherent, appropriately paced and sequenced instructional program and developing effective instructional materials.

2. Learning Materials:- The learning materials are key ingredients in learning. They provide information, organize the presentation of information, offer students the opportunities to use what they have learned and in the case of tests and quizzes allow teachers to assess student learning. The learning materials known to enhance student achievement most significantly are textbooks and teachers guides.

3. Instructional time:- Researches from a number of countries has shown that the amount of time available for academic studies is consistently related to how much children learn in school. In general, the more time teachers spend in actual teaching, the more students learn. While classroom instruction is valuable for all students, it is especially more important for those students, whose out of school time and opportunities for learning are limited.

4. Classroom Teaching :- The quality of teaching plays a critical role in students achievement. Effective teaching strategies may differ with respect to subject, grade, nature and size of learners groups etc., Effective teaching involves, at a minimum. (a) presenting material in a rational and orderly fashion, pacing the class to the students level and taking into account individual differences; (b) providing students with opportunities to practice and apply what they have learned; (c) letting students know what is expected of them ; and (d)

monitoring and evaluating student performance in such a way that students can learn from their own mistakes.

Much teaching in developing countries is characterized by such teaching practices which are not conducive to student learning, such as heavy reliance on teachers' lectures with few opportunities for students' questions and participation, student memorization of material rather than application of knowledge and lack of continuous monitoring and assessment of student learning through homework and classroom tests.

5. Students' Learning Capacity:- The success of classroom instructional process, in ultimate analysis depends on learning capacity of students. Teachers will have to see that through their efforts, they can increase the learning capacity of learners. This requires sustained efforts on their part. It can be increased through constant motivation, use of different medias, strategies and methods for classroom instruction, continuous evaluation and involvement of learners. These measures would enhance their interest which would enable them to increase their learning capacity. This would help them to improve their academic performance.

The present study was conducted with a view to improve the quality of environment education. It was carried out in a primary school of Baroda city which was selected randomly. Further, the study was delimited to standard IV and ten chapters of environmental science. The objectives of the study were related to improvement in quality parameters like increasing participation / involvement of learners in classroom instructional process, arousing interest and

curiosity among learners, promoting inquiry among learners, developing motor skills, developing critical thinking, zeal for learning, increasing retention, developing initiative, and finally through all this increasing the performance of the students. Thus, the objectives of the present study were related to cognitive, meta cognitive, affective and psychomotor aspects of the personality of learners. All these were supposed to contribute to quality improvement of primary education. In order to achieve these objectives, after carrying out the detailed content analysis, learning material was developed by the researcher. It was implemented in the classroom with the help of different methods and medias. Methods used were lecture, discussion, story telling, demonstration, dramatisation, role play etc., While charts, picture, audio cassette, video cassette, flash cards, puppets, models, etc., were also used. In order to monitor the changes among learners with reference to different parameters of quality as mentioned earlier in this study. It was decided to adopt continuous evaluation system. Tests were conducted for each unit and a final comprehensive test was also conducted. It was decided to have three types of tests like paper pencil, oral and activity tests so that changes in different quality parameters can be measured effectively. Further researcher herself was observing the learners behaviour regularly and did keep anecdotal records. All these helped her for detailed analysis and interpretation of data collected by her.

At the end of her study, she could find considerable improvement with regard to following parameters of quality .

6. Academic Performance :- One of the objectives of this study was to improve learning among sample students. Results of all the tests have clearly shown that students have improved their academic performance significantly. This could be due to use of different methods and medias used during the study. It prevented monotony and increased interest and motivation level among learners. This further increased retention on their part. Moreover continuous evaluation too helped them to improve their performance as it provided regular feed back for them as well as researcher. It also removed " Examination Phobia" as revealed by them. All these factors helped them to improve their performance. Further, use of different type of tests were also found interesting by them and that too helped them to attain higher scores. Thus, all in all they did improve their academic performance significantly which was one of the objective of this study.

7. Involvement / Participation of Learners in Classroom Instructional Process

In any classroom instructional process, it is extremely important that there is maximum amount of involvement of learners. It prevents the whole process from becoming one way process. It also helps them to achieve higher cognitive abilities. But when teachers use lecture method alone, it fails to have greater amount of involvement of learners. As revealed by number of research studies in India, unfortunately in number of instances heavy reliance on lecture method led to non participation/ less participation of learners in instructional process. Keeping in view this, in present study, researcher made use of number of methods and medias for different content units. Although in the initial stage, as observed by the researcher, students were rather hesitant to participate, slowly

and gradually they improved on it. Infact, different methods such as discussion, experimentation etc. Provided them ample opportunity to involve themselves in the instructional process. They were, an important component of the instructional system. They too felt that if they involve themselves more and more, it would make learning “ Joyful and pleasant task” thrusted upon them. Further it also helped them to remove “ examination phobia” from their mind as they became more confident about what they learnt and what they could retain for longer time. The involvement of learners increased in number of ways as observed by the researcher like posing a number of questions to know something, seeking explanation on something described by the researcher, expressing their own views on content being of some methods / medias verbally and non observations on something, enthusiastic participation in experiment or some motor activities given to them. All these were clear evidences of their academic performance. Their teacher expressed the opinion in the beginning about them that it was very difficult to involve them in learning process and researcher herself also observed initially they were subdued passive and demotivated lot but slowly and gradually they turned out to be spirited enthusiastic and active lot of learners.

8. Arousing Curiosity of learners:- One of the objectives of this intervention was that is should help to arouse interest curiosity of learners curiosity depends on motivation from teachers to learners, using different methods and medias and providing ideal climate for it. In this study, researcher while instructing, made all possible efforts to arouse their curiosity. Because, researcher believed that if we are interested in all round development especially higher cognitive abilities like

analysis synthesis and meta cognitive abilities like thinking to think etc., then it is very much necessary that the curiosity level has to be increased. Researcher observed that compared to their initial level of curiosity towards the end of the intervention their curiosity had increased considerably which was reflected in questions they started asking to the researcher as well as their increased participation in activities assigned to them. This was possible due to variety of medias and methods used for instructional purpose and motivation was given to the learners by the researcher.

9. Promoting spirit of Inquiry:- It was observed that in the initial stage they were docile, subdued and passive lot of learners. They were taught by lecture method where teacher would mainly be reading textbook and sometimes writing something on black board. There was hardly any scope for interaction under this circumstances. They were not encouraged by a teacher for putting forward questions and queries. Due to lack of experimentation and other methods there was hardly any scope for development of inquiry approach among students. For any subject and especially science, development of inquiry approach is very important that is what, when, how and why. The curiosity is a natural phenomenon among children studying at primary level. They have that inner urge to know number of things and also raising questions on that. If their thrust is not satisfied or that spirit of inquiry is curbed, it not only prevents them from Achieving more knowledge but also affects development of aspects related to affective domain. In this study, researcher used number of teaching methods aspects related to affective domain. In this study, researcher used number of

teaching methods and especially discussion and experimentation which provided them enough scope for inquiries. Moreover constant interactions during classroom teaching also made them to ask number of questions. At the end of the study, it was quite evident that they did develop this approach and that helped them to improve upon their academic performance and also helped them to develop higher cognitive abilities such as analysis and synthesis, meta cognitive abilities such as thinking to think and aspects like interest which were related to affective domain.

10. Developing Critical thinking:- Development of critical thinking is one of the higher cognitive abilities. It gets developed when one starts viewing any phenomenon in a scientific way one would not accept it blindly but would like to examine it from all the angles and then would arrive at some inference. During this study researcher did emphasis on this. She, while instructing kept on mentioning it to the students that whatever was taught to them, they should examine it critically e.g. importance of balanced diet, importance of animals in human life etc., she could find the development of critical thinking among learners at two places (i) Interactions with teachers (ii) Their performance in the examination. This ultimately helped them to develop independent thinking also.

11. Development of Motor Skills :- One of the major lacunas on part of our primary education system is lack of development of motor skills. Ideally speaking education must aim at development of heart, head and hand. Development of motor skills is not done due to number of reasons but major reason is lack of initiatives on part of teachers. In this study, one of the major aims was

development of motor skills. Therefore, researcher, while instructing, involved learners in different activities such as planting saplings, cleaning their classrooms, sorting out living thing pictures from nonliving, matching crops according to their soil, matching clothes according to the season etc., which developed motor skills among them. It made their learning more interesting and increased their retention power as revealed by them to the researcher. This ultimately helped them to improve their examination scores significantly. The development of skills got further scope during evaluation because researcher had also given activity tests to the students which were liked by them also. Thus, she could develop some motor skills among learners at the end of her study.

12. Initiative:- In any formal educational set up it is extremely important that students are not dormant and inactive. They should not always be at the receiving end. But they must take initiative. It has to be promoted by the teachers. Although initially they were not ready to take any initiative on their own as they were not habituated to this. But as researcher through the use of different methods and her constant encouragement persuaded them to come forward with their own ideas, they started taking initiative to organise learning activities but at one or two instances, took initiatives and decided which activities to be organised. As they revealed towards the end of the study, it helped them to take greater interest in instructional process. It made them more confident too.

13. Zeal for learning :- Since researcher made use of different methods and media where instructional process was two way, it provided them with better scope for involvement / participation in classroom. This helped them to enhance

their zeal for learning. Learning was no more mechanical task but they became enthusiastic and had increased zeal for learning this was also due to development of inquiry approach and curiosity as well as development of motor skills. All these ultimately helped them to improve their academic performance.

14. Joyful learning:- Learning is very important for any human being including children. School is a place where formal learning begins. It therefore should not be a joyless activity. But unfortunately due to number of reasons, it so happens that in many instances students do not enjoy it.

Researcher knowing this, decided to develop and implement such learning material where there was scope to use different methods, medias and teaching aids. She tried to see that learners involvement was maximum and there was ample scope for development of motor skills. Efforts were there to develop critical thinking, initiative, curiosity and interest among them. All these helped them to enjoy learning. It was evident from (i) increasing participation and initiative (ii) low rate of absenteeism and late coming (iii) significant improvement in academic performance.

Thus, when researcher embarked upon this study, it was decided to set some parameters of quality so that at the end of the study changes in them can be observed. For this, the researcher developed self instructional material making use of different methods, medias and aids for seven units (ten chapters) after content analysis was carried out. It was decided to adopt comprehensive and continuous evaluation system wherein written, oral and activity tests were given to the students. As mentioned earlier, at the end of study researcher was

able to observe significant improvement in relation to the above mentioned quality parameters.

When any research study gets completed, it is always pertinent to examine its impact at micro and macro level. In case of this study, micro level i.e. students, it clearly showed that students / learners have benefited a lot. But what about macro level.?

When we say macro level, we obviously refer to the system which here means primary education system. The results of this study certainly gives us indications that if learning materials like the one which was developed and implemented overhere, are utilised in greater number, it can ultimately help the whole system.

5.5.0 Implications of the Study

The present study was conducted in standard IV for the subject of Environmental Science in a Gujarati medium primary school of Baroda city, wherein majority of students population belonged to lower economic background. The purpose for carrying out this study was to develop and evaluate the effectiveness of intervention programme through its implementation. Although researcher came across many studies in the area of primary education, most of the studies were either survey or correlation in nature. But these studies have not helped to improve quality of classroom instructional process. Even if there were some experimental studies, there was hardly any study in the subject of Environmental Science. Researcher was not interested merely in conducting an experimental study under controlled conditions but she

was interested in carrying out a study in actual classroom setting without having control and experimental groups. Therefore, keeping in mind this, the researcher has undertaken intervention study in this subject, where researcher made use of combination of various methods and media's and strategies for classroom instruction. The intervention programme was developed for seven units and was implemented in the standard IV classroom for sixty periods. The data collected was analyzed and interpreted with the help of appropriate techniques which has been discussed in the previous chapter. In the earlier portion of this chapter, major findings have been discussed. But when such type of study is conducted, it is very important to describe educational implications of findings as they have far reaching impact in improving quality of teaching learning process. Some of the educational implications are enlisted here.

Primary education is a foundation for all round development of every individual and therefore the quality of teaching learning had to be taken care of at this stage. At this stage, the purpose of providing school education is not to impart instruction for three R's - reading, writing and arithmetic. Students should also be made sensitive to their surrounding environment where they live. They must understand the problems over there and try to develop understanding for their solutions. Therefore teaching learning process must achieve these objectives. But in majority of classroom situations, teachers hardly practice any other method other than lecture method. This leads to a situation where whole instructional process becomes one-way and students are not actively involved. Even the teacher also comes to a conclusion that the situation cannot be

improved, especially in a school having majority of students from lower economic strata. But the findings of this study clearly indicate that the family background of students is not at all a barrier for implementing the various types of teaching strategies, methods and medias to improve the academic performance, and bringing positive changes in the behaviour of students. In present study such type of intervention programme has helped the students, to improve their academic achievement and enhance their interest and curiosity. Through it, they also enjoyed participation in activities. This clearly shows that this type of intervention programmes can help the students to achieve the objectives not only related to lower level of cognitive abilities but even higher cognitive abilities, psychomotor skills as well as abilities related to metacognitive and affective domain. Because, such programme helps students in self-learning independent thinking and arousing curiosity amongst them. Thus, it is necessary to see that such programme should be developed in the same subject for other units as well as in other subjects also. So that we can achieve desired improvement in quality of teaching learning process. Moreover developing and implementing such programmes provides ample scope for creativity and innovativeness on part of the teachers . Management of school also should motivate such innovative practices on a larger scale so that slowly and gradually a day would come when such programmes become inseparable part of our classroom instructional process. Then we will not only be achieving the goal of “ Education For All” but “Quality Education For All”.

5.6.0 Suggestions for Future Studies.

1. A similar type of intervention programme needs to be developed and implemented for those units of Environmental Science which were not covered in the present study. This study was confined to only seven units in the subject of Environmental Science for standard IV, similar type of Intervention Programme can be developed and implemented to see its effectiveness for other units in Environmental Science. Different medias and methods can be used depending upon the nature of content and instructional objective to be achieved.
2. Similar type of study can be conducted by developing and implementing intervention programme for other subjects like Mathematics and Languages. As revealed by the findings of this study, such programme is extremely helpful to the students for achieving different types of objectives. Therefore, such programmes should also be developed at primary level of education for subjects like mathematics and languages, keeping in mind their objectives.
3. The similar type of programme developed can be tried out in a school in rural area. This study was carried out in a private primary school in an urban area. Similarly such type of study needs to be conducted in a school in rural area.
4. A training programme could be developed for training teachers to prepare and implement such intervention programmes. If the teachers learn to prepare and implement such programmes interest of students will increase and also the achievement of pupils will increase.

Similar programmes can be developed at different levels to bring environmental awareness and sensitivity among people. Such a programme at secondary, higher secondary, university or even at adult education level would play a significant role in improving the environmental sensitivity of the people.

5.7.0 Conclusion

The current chapter discusses data analysis of the study and its interpretation. The interpretation was followed by the discussion of the findings. The next chapter discusses the summary of the study under focus.