CHAPTER-V
SUMMARY, CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS

INTRODUCTION

Education plays a paramount role in educating and talenting children. It is being treated as a basic human need as it endows people with knowledge, skills and attitudes, which would increase their capabilities and capacity to adapt to the changing environment. It is an axis around which revolves the fullness of human beings. It forms an effective means to improve the status and character of the living patterns of the people by helping them in their intellectual, social and emotional development. Education in the contemporary society is not mere acquisition of bookish knowledge rather it is interaction among the teacher, pupils, knowledge and environment. It fills missing links and gaps created due to fast paced life and create general awareness about changing scenario where human existence is faced by many problems. The right education is the only ray of hope for helping one to adjust to one’s environment and create a ‘niche’ for oneself as a learned person of the society.

LEARNING OUTCOMES

Learning outcome is a specifiable activity, product, behaviour, skill, ability or attitude that we want students to manifest in measurable or observable ways, indicating whether desired learning has occurred and to what degree it has occurred. Students’ learning outcomes can be measured by measuring their academic achievement and non-academic achievement.

ACADEMIC ACHIEVEMENT

Academic achievement is the core of educational growth. It may be defined as the degree or level of proficiency attained by students in different academic or scholastic subjects.

NON-ACADEMIC ACHIEVEMENT

Non-academic achievement is the performance of the students in different activities in school apart from academic or scholastic activities such as, sports, cultural activities, music, fine arts, craft work, literary activities, NSS, NCC, scouts and guide etc.
EMOTIONAL INTELLIGENCE

Emotional intelligence is the ability to be aware of one’s own emotions and that of others and the ability to act wisely in various situations. Emotion is an affective state of consciousness in which joy, sorrow, fear, hate or the like, is experienced, as distinguished from cognitive and volitional states of consciousness. Emotional intelligence is the accumulation of all cognitive, non-cognitive and non-physical capabilities, competencies and skills a person has to deal with the demands and pressures of every day life. It is the ability and freedom to grow from mistrust to trust, self doubt to competence and self empowerment, following to leading, isolation to synergy and despair to hope (Singh, 2006).

METACOGNITION

Metacognition is the process of thinking about thinking. It refers to higher order thinking which involves active control over the cognitive processes engaged in learning. It is the ability to evaluate one’s own comprehension and understanding of subject matter and use that evaluation to predict how well one might perform on a task. Thus, metacognitive skills include taking conscious control of learning, planning and selecting strategies, monitoring the progress of learning, correct the errors of learning, analyzing the effectiveness of learning strategies and changing learning behaviour and strategies when necessary (Ridley, 1992).

PERSONALITY TRAITS

Personality is the organization of an individual’s distinguishing characteristics, attitudes or habits. It includes the individual’s unique way of thinking, behaving or experiencing the environment. The personality pattern is composed of traits, which refers to any characteristic in which one individual differs from another in relatively permanent and consistent way. It refers to the overall internal organization of behavioural characteristics, how they relate to each other and combine to make a complete person. It covers the nature of interaction between internal organization of these characteristics and the external world. Personality is the organized developing system within the individual that represents the collective action of that individual’s major psychological subsystems (Mayer, 2007).
STATEMENT OF THE PROBLEM

The problem selected for investigation was stated as under:

“A STUDY OF LEARNING OUTCOMES OF ADOLESCENTS IN RELATION TO THEIR EMOTIONAL INTELLIGENCE, METACOGNITION AND PERSONALITY TRAITS.”

OBJECTIVES OF THE STUDY

The study was conducted to achieve the following objectives:

1. To study the relationship between learning outcomes and emotional intelligence of adolescents.
2. To study the relationship between learning outcomes and metacognition of adolescents.
3. To study the relationship between learning outcomes and personality traits of adolescents.
4. To study and compare the learning outcomes, emotional intelligence, metacognition and personality traits of male and female adolescents.
5. To study and compare the learning outcomes, emotional intelligence, metacognition and personality traits of rural and urban adolescents.
6. To study and compare the learning outcomes, emotional intelligence, metacognition and personality traits of adolescents of government and private schools.
7. To study and compare the learning outcomes, emotional intelligence, metacognition and personality traits of adolescents of humanities and science stream.
8. To study and compare the interactional effect of gender, locale, type of school and subject stream of adolescents in relation to their academic achievement, emotional intelligence, metacognition and personality traits.

HYPOTHESES

In the present investigation, the following hypotheses were framed to achieve the objectives of the present study:

$H_01$ There exists no significant relationship between academic achievement and emotional intelligence of adolescents.
H₀₂ There exists no significant difference between the coefficients of correlation of adolescents having low and high emotional intelligence in relation to their respective academic achievement.

H₀₃ There exists no significant relationship between academic achievement and metacognition of adolescents.

H₀₄ There exists no significant difference between the coefficients of correlation of adolescents having low and high metacognition in relation to their respective academic achievement.

H₀₅ There exists no significant relationship between academic achievement and dimension-I (activity-passivity trait) of personality of adolescents.

H₀₆ There exists no significant difference between the coefficients of correlation of adolescents having low and high activity trait of personality in relation to their respective academic achievement.

H₀₇ There exists no significant relationship between academic achievement and dimension-II (enthusiastic-non enthusiastic trait) of personality of adolescents.

H₀₈ There exists no significant difference between the coefficients of correlation of adolescents having low and high enthusiastic trait of personality in relation to their respective academic achievement.

H₀₉ There exists no significant relationship between academic achievement and dimension-III (assertive-submissive trait) of personality of adolescents.

H₀₁₀ There exists no significant difference between the coefficients of correlation of adolescents having low and high assertive trait of personality in relation to their respective academic achievement.

H₀₁₁ There exists no significant relationship between academic achievement and dimension-IV (suspicious-trusting trait) of personality of adolescents.

H₀₁₂ There exists no significant difference between the coefficients of correlation of adolescents having low and high suspicious trait of personality in relation to their respective academic achievement.

H₀₁₃ There exists no significant relationship between academic achievement and dimension-V (depressive-non depressive trait) of personality of adolescents.
H₀14 There exists no significant difference between the coefficients of correlation of adolescents having low and high depressive trait of personality in relation to their respective academic achievement.

H₀15 There exists no significant relationship between academic achievement and dimension-VI (emotional instability-emotional stability trait) of personality of adolescents.

H₀16 There exists no significant difference between the coefficients of correlation of adolescents having low and high emotional instability trait of personality in relation to their respective academic achievement.

H₀17 There exists no significant relationship between non academic achievement and emotional intelligence of adolescents.

H₀18 There exists no significant relationship between non academic achievement and metacognition of adolescents.

H₀19 There exists no significant relationship between non academic achievement and dimension-I (activity-passivity trait) of personality of adolescents.

H₀20 There exists no significant relationship between non academic achievement and dimension-II (enthusiastic-non enthusiastic trait) of personality of adolescents.

H₀21 There exists no significant relationship between non academic achievement and dimension-III (assertive-submissive trait) of personality of adolescents.

H₀22 There exists no significant relationship between non academic achievement and dimension-IV (suspicious-trusting trait) of personality of adolescents.

H₀23 There exists no significant relationship between non academic achievement and dimension-V (depressive-non depressive trait) of personality of adolescents.

H₀24 There exists no significant relationship between non academic achievement and dimension-VI (emotional instability-emotional stability trait) of personality of adolescents.

H₁25 Significant mean difference exists between academic achievement of male and female adolescents.

H₁26 Significant mean difference exists between academic achievement of rural and urban adolescents.

H₁27 Significant mean difference exists between academic achievement of adolescents of government and private schools.
H_{28}  Significant mean difference exists between academic achievement of adolescents of arts and science stream.
H_{29}  Significant mean difference exists between non academic achievement of male and female adolescents.
H_{30}  Significant mean difference exists between non academic achievement of rural and urban adolescents.
H_{31}  Significant mean difference exists between non academic achievement of adolescents of government and private schools.
H_{32}  Significant mean difference exists between non academic achievement of adolescents of arts and science stream.
H_{33}  Significant mean difference exists between emotional intelligence of male and female adolescents.
H_{34}  Significant mean difference exists between emotional intelligence of rural and urban adolescents.
H_{35}  Significant mean difference exists between emotional intelligence of adolescents of government and private schools.
H_{36}  Significant mean difference exists between emotional intelligence of adolescents of arts and science stream.
H_{37}  Significant mean difference exists between metacognition of male and female adolescents.
H_{38}  Significant mean difference exists between metacognition of rural and urban adolescents.
H_{39}  Significant mean difference exists between metacognition of adolescents of government and private schools.
H_{40}  Significant mean difference exists between metacognition of adolescents of arts and science stream.
H_{41}  Significant mean difference exists between male and female adolescents on dimension-I (activity-passivity trait) of personality.
H_{42}  Significant mean difference exists between rural and urban adolescents on dimension-I (activity-passivity trait) of personality.
H_{43} Significant mean difference exists between adolescents of government and private schools on dimension-I (activity-passivity trait) of personality.

H_{44} Significant mean difference exists between adolescents of arts and science stream on dimension-I (activity-passivity trait) of personality.

H_{45} Significant mean difference exists between male and female adolescents on dimension-II (enthusiastic-non enthusiastic trait) of personality.

H_{46} Significant mean difference exists between rural and urban adolescents on dimension-II (enthusiastic-non enthusiastic trait) of personality.

H_{47} Significant mean difference exists between adolescents of government and private schools on dimension-II (enthusiastic-non enthusiastic trait) of personality.

H_{48} Significant mean difference exists between adolescents of arts and science stream on dimension-II (enthusiastic-non enthusiastic trait) of personality.

H_{49} Significant mean difference exists between male and female adolescents on dimension-III (assertive-submissive trait) of personality.

H_{50} Significant mean difference exists between rural and urban adolescents on dimension-III (assertive-submissive trait) of personality.

H_{51} Significant mean difference exists between adolescents of government and private schools on dimension-III (assertive-submissive trait) of personality.

H_{52} Significant mean difference exists between adolescents of arts and science stream on dimension-III (assertive-submissive trait) of personality.

H_{53} Significant mean difference exists between male and female adolescents on dimension-IV (suspicious-trusting trait) of personality.

H_{54} Significant mean difference exists between rural and urban adolescents on dimension-IV (suspicious-trusting trait) of personality.

H_{55} Significant mean difference exists between adolescents of government and private schools on dimension-IV (suspicious-trusting trait) of personality.

H_{56} Significant mean difference exists between adolescents of arts and science stream on dimension-IV (suspicious-trusting trait) of personality.

H_{57} Significant mean difference exists between male and female adolescents on dimension-V (depressive-non depressive trait) of personality.
H₅₈ Significant mean difference exists between rural and urban adolescents on dimension-V (depressive-non depressive trait) of personality.

H₅₉ Significant mean difference exists between adolescents of government and private schools on dimension-V (depressive-non depressive trait) of personality.

H₆₀ Significant mean difference exists between adolescents of arts and science stream on dimension-V (depressive-non depressive trait) of personality.

H₆¹ Significant mean difference exists between male and female adolescents on dimension-VI (emotional instability-emotional stability trait) of personality.

H₆² Significant mean difference exists between rural and urban adolescents on dimension-VI (emotional instability-emotional stability trait) of personality.

H₆₃ Significant mean difference exists between adolescents of government and private schools on dimension-VI (emotional instability-emotional stability trait) of personality.

H₆₄ Significant mean difference exists between adolescents of arts and science stream on dimension-VI (emotional instability-emotional stability trait) of personality.

H₆₅ There exists no significant interactional effect of gender, locale, type of school and subject stream on academic achievement of adolescents.

H₆₆ There exists no significant interactional effect of gender, locale, type of school and subject stream on emotional intelligence of adolescents.

H₆⁷ There exists no significant interactional effect of gender, locale, type of school and subject stream on metacognition of adolescents.

H₆₈ There exists no significant interactional effect of gender, locale, type of school and subject stream on dimension-I (activity-passivity trait) of personality of adolescents.

H₆₉ There exists no significant interactional effect of gender, locale, type of school and subject stream on dimension-II (enthusiastic-non enthusiastic trait) of personality of adolescents.

H₇₀ There exists no significant interactional effect of gender, locale, type of school and subject stream on dimension-III (assertive-submissive trait) of personality of adolescents.

H₇¹ There exists no significant interactional effect of gender, locale, type of school and subject stream on dimension-IV (suspicious-trusting trait) of personality of adolescents.
There exists no significant interactional effect of gender, locale, type of school and subject stream on dimension-V (depressive-non depressive trait) of personality of adolescents.

There exists no significant interactional effect of gender, locale, type of school and subject stream on dimension-VI (emotional instability-emotional stability trait) of personality of adolescents.

SAMPLE OF THE STUDY
A sample of 1000 adolescents studying in class 10+2 was raised from different senior secondary schools of three districts in Punjab, viz. Ludhiana, Moga and Jalandhar.

TOOLS USED
(i) Mangal Emotional Intelligence Inventory (MEII) by Dr. S. K Mangal and Mrs. Shubra Mangal.
(ii) Metacognition Inventory (MCI) by Dr. Punita Govil.
(iii) Dimensional Personality Inventory (DPI) by Dr. Mahesh Bhargava.
(iv) Academic achievement comprised the aggregate marks of students in previous examination.
(v) Non-academic achievement scale was constructed by the investigator.

DELIMITATIONS OF THE STUDY
(i) The study was restricted to adolescents studying in class 10+2 only.
(ii) The number of students taken for the present study was one thousand only.
(iii) The study was confined to only three districts in Punjab viz. Ludhiana, Moga and Jalandhar.
(iv) The study was restricted to only arts and science students of class 10+2.

STATISTICAL TECHNIQUES USED
(i) In order to ascertain the normalcy of distributions of different variables, the statistical techniques like Mean, Median, Mode, Standard Deviation, Skewness and Kurtosis were employed.
Product Moment Correlations and Chi Square test were used to determine the relationship between different variables.

Fisher's z-test was applied to test the significance of difference between coefficients of correlation.

Median test and t-test were applied to test the significance of differences with regard to different factors, viz. gender, locale, type of school and subject stream.

Analysis of Variance was applied to see the interactional effect of gender, locale, type of school and subject stream in relation to different variables.

Formation of high and low groups was done using the formula $M \pm 0.675 \text{ SD}$.

Data was presented graphically in form of frequency polygons and bar graphs wherever required.

Non academic achievement was judged on five point rating scale, i.e., A, B, C, D and E grades.

RESULTS
The results of the study were:

I Description of the Obtained Distributions

(i) The distribution of academic achievement scores was tended to be almost normal. The values of mean (58.337), median (59) and mode (60) were quite proximate to each other. The value of standard deviation was 12.566. The value of skewness and kurtosis were 0.125 and 0.049 respectively showing the distribution as positively skewed and platykurtic (vide Table 4.1).

(ii) The distribution of emotional intelligence scores was found to be almost normal. The values of mean (59.993), median (60) and mode (61) were very near to each other. The value of standard deviation was 10.932. The value of skewness and kurtosis were 0.089 and -0.734 respectively showing the distribution as positively skewed and leptokurtic (vide Table 4.2).

(iii) The distribution of metacognition scores was near to normal. The values of mean, median and mode were 89.420, 91 and 96 respectively. The value of standard deviation was 14.969. The value of skewness and kurtosis were -0.491 and -0.139 respectively showing the distribution as negatively skewed and leptokurtic (vide Table 4.3).
(iv) The distribution of scores of dimension-I (activity-passivity trait) of personality was near to normal. The values of mean (13.410), median (14) and mode (14) were quite proximate to each other. The value of standard deviation was 3.285. The value of skewness and kurtosis were -0.475 and 0.393 respectively showing the distribution as negatively skewed and platykurtic (vide Table 4.4).

(v) The distribution of scores of dimension-II (enthusiastic-non enthusiastic trait) of personality showed that the values of mean (13.229) and median (13) were quite proximate to each other. The value of mode was 16. The value of standard deviation was 3.421. The value of skewness and kurtosis were -0.486 and 0.298 respectively showing the distribution as negatively skewed and platykurtic (vide Table 4.5).

(vi) The distribution of scores of dimension-III (assertive-submissive trait) of personality was tended to be almost normal. The values of mean (11.398), median (12) and mode (12) were very near to each other. The value of standard deviation was 3.352. The value of skewness and kurtosis were -0.051 and -0.234 respectively showing the distribution as negatively skewed and leptokurtic (vide Table 4.6).

(vii) The distribution of scores of dimension-IV (suspicious-trusting trait) of personality was found to be almost normal. The values of mean (9.088), median (9) and mode (10) were quite close to each other. The value of standard deviation was 4.330. The value of skewness and kurtosis were 0.043 and -0.741 respectively showing the distribution as positively skewed and leptokurtic (vide Table 4.7).

(viii) The distribution of scores of dimension-V (depressive-non depressive trait) of personality was tended to be almost normal. The values of mean (10.305), median (10) and mode (10) were very close to each other. The value of standard deviation was 4.115. The value of skewness and kurtosis were -0.193 and -0.153 respectively showing the distribution as negatively skewed and leptokurtic (vide Table 4.8).

(ix) The distribution of scores of dimension-VI (emotional instability-emotional stability trait) of personality was found to be almost normal. The values of mean, median and mode were 10.781, 11 and 16 respectively. The value of standard deviation was 4.605. The value of skewness and kurtosis were -0.170 and -0.749 respectively showing the distribution as negatively skewed and leptokurtic (vide Table 4.9).
II Relationship of Academic Achievement with Different Variables

(i) The coefficient of correlation between academic achievement and emotional intelligence of adolescents was found to be 0.321 which indicated positive and significant relationship between two variables (vide Table 4.10).
(ii) The coefficient of correlation between two groups of students having low and high emotional intelligence with their corresponding academic achievement was found to be 0.091 and 0.226 respectively. The z-value between these coefficients of correlation was 1.68 which was non significant at 0.05 level of significance (vide Table 4.11).
(iii) The coefficient of correlation between academic achievement and metacognition of adolescents was found to be 0.517 which indicated positive and significant relationship between two variables (vide Table 4.12).
(iv) The coefficient of correlation between two groups of students having low and high metacognition with their corresponding academic achievement was found to be 0.178 and 0.202 respectively. The z-value between these coefficients of correlation was 0.29 which was non significant at 0.05 level of significance (vide Table 4.13).
(v) The coefficient of correlation between academic achievement and dimension-I (activity-passivity trait) of personality of adolescents was found to be 0.202 which indicated positive and significant relationship between two variables (vide Table 4.14).
(vi) The coefficient of correlation between two groups of students having low and high activity with their corresponding academic achievement was found to be 0.127 and 0.199 respectively. The z-value between these coefficients of correlation was 0.86 which was non significant at 0.05 level of significance (vide Table 4.15).
(vii) The coefficient of correlation between academic achievement and dimension-II (enthusiastic-non enthusiastic trait) of personality of adolescents was found to be 0.259 which indicated positive and significant relationship between two variables (vide Table 4.16).
(viii) The coefficient of correlation between two groups of students having low and high enthusiastic with their corresponding academic achievement was found to be 0.112 and 0.350 respectively. The z-value between these coefficients of correlation was 2.77 which was significant at 0.01 level of significance (vide Table 4.17).
The coefficient of correlation between academic achievement and dimension-III (assertive-submissive trait) of personality was found to be 0.111 which showed positive and significant relationship between the two variables (vide Table 4.18).

The coefficient of correlation between two groups of students having low and high assertive with their corresponding academic achievement was found to be -0.012 and 0.029 respectively. The z-value between these coefficients of correlation was 0.48 which was non significant at 0.05 level of significance (vide Table 4.19).

The coefficient of correlation between academic achievement and dimension-IV (suspicious-trusting trait) of personality of adolescents was -0.104 which showed negative and significant relationship between two variables (vide Table 4.20).

The coefficient of correlation between two groups of students having low and high suspicious trait with their corresponding academic achievement was found to be 0.011 and -0.155 respectively. The z-value between these coefficients of correlation was 1.80 which was non significant at 0.05 level of significance (vide Table 4.21).

The coefficient of correlation between academic achievement and dimension-V (depressive- non depressive trait) of personality of adolescents was -0.011 which indicated negative and non significant relationship between two variables (vide Table 4.22).

The coefficient of correlation between two groups of students having low and high depressive trait and their corresponding academic achievement was found to be -0.217 and 0.159 respectively. The z-value between these coefficients of correlation was 4.08 which was significant at 0.01 level of significance (vide Table 4.23).

The coefficient of correlation between academic achievement and dimension-VI (emotional instability and emotional stability trait) of personality of adolescents was -0.040 which was found to be negative and non significant at 0.05 level of confidence. It indicated that two variables are not related to each other (vide Table 4.24).

The coefficient of correlation between two groups of students having low and high emotional instability trait with their corresponding academic achievement was found to be -0.017 and 0.027 respectively. The z-value between these coefficients of correlation was 0.53 which was non significant at 0.05 level of significance (vide Table 4.25).
III Relationship of Non Academic Achievement with Different Variables

(i) The value of $\chi^2$ between non academic achievement and emotional intelligence of adolescents was 16.05 at df=8 which was found to be significant at 0.05 level of confidence. It indicated dependency between two variables (vide Table 4.26).

(ii) The value of $\chi^2$ between non academic achievement and metacognition of adolescents was 8.11 at df=8 which was found to be non significant at 0.05 level of confidence. It indicated that the two variables were independent of each other (vide Table 4.27).

(iii) The value of $\chi^2$ between non academic achievement and dimension-I (activity-passivity trait) of personality of adolescents was found to be 20.01 at df=8 which was found to be significant at 0.05 level of confidence. It revealed that the two variables were associated with each other (vide Table 4.28).

(iv) The value of $\chi^2$ between non academic achievement and dimension-II (enthusiastic-non-enthusiastic trait) of personality of adolescents was found to be 14.46 at df=8 which was found to be non significant at 0.05 level of confidence. It indicated that the two variables were independent of each other (vide Table 4.29).

(v) The value of $\chi^2$ between non academic achievement and dimension-III (assertive-submissive trait) of personality of adolescents was 2.53 at df=8 which was found to be non significant at 0.05 level of confidence. It indicated that the two variables were independent of each other (vide Table 4.30).

(vi) The value of $\chi^2$ between non academic achievement and dimension-IV (suspicious-trusting trait) of personality of adolescents was 7.67 at df=8 which was found to be non significant at 0.05 level of confidence. It revealed that the two variables were independent of each other (vide Table 4.31).

(vii) The value of $\chi^2$ between non academic achievement and dimension-V (depressive-non depressive trait) of personality of adolescents was found to be 4.84 at df=8 which was found to be non significant at 0.05 level of confidence. It indicated that the two variables were independent of each other (vide Table 4.32).

(viii) The value of $\chi^2$ between non academic achievement and dimension-VI (emotional instability-emotional stability trait) of personality of adolescents was 6.67 at df=8 which was found to be non significant at 0.05 level of confidence. It indicated that the two variables were independent of each other (vide Table 4.33).
IV Factor differences among Different Variables

(i) The mean score of the female adolescents (60.607) on academic achievement was found to be significantly higher than the mean score of males (56.067). The calculated t-ratio was 5.806 which was significant at 0.01 level (vide Table 4.34).

(ii) The mean score of rural adolescents on academic achievement (60.388) was found to be significantly higher than the mean score of urban adolescents (56.287). The calculated t-value was 5.228 which was significant at 0.01 level of confidence (vide Table 4.35).

(iii) The mean score of adolescents of private schools (61.660) on academic achievement was found to be significantly higher than the mean score of adolescents of government schools (55.014). The calculated t-ratio was 8.666 which was significant at 0.01 level (vide Table 4.36).

(iv) The mean score of adolescents of science stream (60.860) on academic achievement was found to be significantly higher than the mean score of adolescents of arts stream (55.815). The computed t-value was 6.477 which was significant at 0.01 level of confidence (vide Table 4.37).

(v) The value of $\chi^2$ (for median test) between non academic achievement of male and female adolescents (2.09) was not significant at 0.05 level of confidence (vide Table 4.38).

(vi) The value of $\chi^2$ (for median test) between non academic achievement of rural and urban adolescents (8.23) was significant at 0.01 level of confidence (vide Table 4.39).

(vii) The value of $\chi^2$ (for median test) between non academic achievement of adolescents of government and private schools (58.34) was found to be significant at 0.01 level of confidence (vide Table 4.40).

(viii) The value of $\chi^2$ (for median test) between non academic achievement of adolescents of arts and science stream (0.26) was not found to be significant at 0.05 level of confidence (vide Table 4.41).

(ix) The mean score of the male adolescents (60.810) on emotional intelligence was found to be significantly higher than the mean score of females (59.176). The t-value was 2.369 which was found to be significant at 0.05 level (vide Table 4.42).

(x) The mean score of emotional intelligence of urban adolescents (61.482) was found to be significantly higher than the mean score of rural adolescents (58.504). The calculated t-value was 4.346 which was found to be significant at 0.01 level of confidence (vide Table 4.43).
(xi) The mean score of adolescents of government schools (61.854) on emotional intelligence was found to be significantly higher than the mean score of adolescents of private schools (58.132). The calculated t-ratio was 5.461 which was significant at 0.01 level (vide Table 4.44).

(xii) The mean score of adolescents of science stream (61.316) on emotional intelligence was found to be significantly higher than the mean score of adolescents of arts stream (58.670). The computed t-ratio was 3.854 which was significant at 0.01 level of confidence (vide Table 4.45).

(xiii) The mean score of the male adolescents (89.426) on metacognition was not found to be significantly higher than the mean score of females (89.414). The t-ratio was 0.013 which was insignificant at 0.05 level (vide Table 4.46).

(xiv) The mean score of metacognition of urban adolescents (91.214) was found to be significantly higher than the mean score of rural adolescents (87.626). The calculated t-ratio was 3.816 which was significant at 0.01 level of confidence (vide Table 4.47).

(xv) The mean score of adolescents of government schools (91.852) on metacognition was found to be significantly higher than the mean score of adolescents of private schools (86.988). The t-ratio was 5.205 which was significant at 0.01 (vide Table 4.48).

(xvi) The mean score of adolescents of science stream (91.618) on metacognition was found to be significantly higher than the mean score of adolescents of arts stream (87.222). The t-ratio was 4.692 which was found to be significant at 0.01 level of confidence (vide Table 4.49).

(xvii) The mean score of the female adolescents (13.440) on dimension-I (activity-passivity trait) of personality was not found to be significantly higher than the mean score of male adolescents (13.380). The t-ratio was 0.289 which was insignificant at 0.05 level (vide Table 4.50).

(xviii) The mean score of dimension-I (activity-passivity trait) of urban adolescents (13.662) was found to be significantly higher than the mean score of rural adolescents (13.158). The calculated t-value was 2.432 which was significant at 0.05 level of confidence (vide Table 4.51).

(xix) The mean score of adolescents of government schools (13.724) on dimension-I (activity-passivity trait) of personality was found to be significantly higher than the mean score of adolescents of private schools (13.096). The computed t-value was 3.035 which was significant of at 0.01 level (vide Table 4.52).
(xx) The mean score of adolescents of science stream (13.648) on dimension-I (activity-passivity trait) of personality was found to be significantly higher than the mean score of adolescents of arts stream (13.172). The t-ratio was 2.296 which was significant at 0.05 level of confidence (vide Table 4.53).

(xxi) The mean score of the female adolescents (13.352) on dimension-II (enthusiastic-non enthusiastic trait) of personality was not found to be significantly higher than the mean score of males (13.106). The t-ratio was 1.137 which was significant at 0.05 level (vide Table 4.54).

(xxii) The mean score of urban adolescents on dimension-II (enthusiastic-non enthusiastic trait) of personality (13.874) was found to be significantly higher than the mean score of rural adolescents (12.584). The t-ratio was 6.068 which was significant at 0.01 level of confidence (vide Table 4.55).

(xxiii) The mean score of adolescents of government schools (13.236) on dimension-II (enthusiastic-non enthusiastic trait) of personality was not found to be significantly higher than the mean score of adolescents of private schools (13.222). The t-ratio was 0.065 which was insignificant at 0.05 level (vide Table 4.56).

(xxiv) The mean score of adolescents of science stream (13.494) on dimension-II (enthusiastic-non enthusiastic trait) of personality was found to be significantly higher than the mean score of adolescents of arts stream (12.964). The t-ratio was 2.456 which was significant at 0.05 level of confidence (vide Table 4.57).

(xxv) The mean score of the male adolescents (11.414) on dimension-III (assertive-submissive trait) of personality was not found to be significantly higher than the mean score of female adolescents (11.382). The t-value was 0.151 which was insignificant at 0.05 level (vide Table 4.58).

(xxvi) The mean score of urban adolescents on dimension-III (assertive-submissive trait) of personality (11.652) was found to be significantly higher than the mean score of rural adolescents (11.144). The t-ratio was 2.402 which was found to be significant at 0.05 level of confidence (vide Table 4.59).

(xxvii) The mean score of adolescents of private schools (11.692) on dimension-III (assertive-submissive trait) of personality was found to be significantly higher than the mean score of adolescents of government schools (11.104). The calculated t-value was 2.783 which was significant at 0.01 level (vide Table 4.60).
The mean score of adolescents of science stream (11.422) on dimension-III (assertive-submissive trait) of personality was not found to be significantly higher than the mean score of adolescents of arts stream (11.374). The t-value was 0.226 which was insignificant at 0.05 level of confidence (vide Table 4.61).

The mean score of the females (9.354) on dimension-IV (suspicious-trusting trait) of personality was not found to be significantly higher than the mean score of males (8.822). The t-value was 1.945 which was insignificant at 0.05 level (vide Table 4.62).

The mean score of urban adolescents on dimension-IV (suspicious-trusting trait) of personality (9.172) was not found to be significantly higher than the mean score of rural adolescents (9.004). The t-value was 0.613 which was insignificant at 0.05 level of confidence (vide Table 4.63).

The mean score of adolescents of private schools (9.572) on dimension-IV (suspicious-trusting trait) of personality was found to be significantly higher than the mean score of adolescents of government schools (8.604). The t-value was 3.555 which was significant at 0.01 level (vide Table 4.64).

The mean score of adolescents of arts stream (9.110) on dimension-IV (suspicious-trusting trait) of personality was not found to be significantly higher than the mean score of adolescents of science stream (9.066). The t-ratio was 0.161 which was insignificant at 0.05 level of confidence (vide Table 4.65).

The mean score of the female adolescents (10.918) on dimension-V (depressive-non depressive trait) of personality was found to be significantly higher than the mean score of male adolescents (9.692). The t-value was 4.762 which was significant at 0.01 level (vide Table 4.66).

The mean score of urban adolescents on dimension-V (depressive-non depressive trait) of personality (10.506) was not found to be significantly higher than the mean score of rural adolescents (10.104). The t-value was 1.546 which was insignificant at 0.05 level of confidence (vide Table 4.67).

The mean score of adolescents of private schools (10.862) on dimension-V (depressive-non depressive trait) of personality was found to be significantly higher than the mean score of adolescents of government schools (9.748). The t-value was 4.318 which was found to be significant at 0.01 level (vide Table 4.68).
(xxxvi) The mean score of adolescents of arts stream (10.540) on dimension-V (depressive- non depressive trait) of personality was not found to be significantly higher than the mean score of adolescents of science stream (10.070). The t-ratio was 1.808 which was insignificant at 0.05 level of confidence (vide Table 4.69).

(xxxvii) The mean score of the female adolescents (11.824) on dimension-VI (emotional instability-emotional stability trait) of personality was found to be significantly higher than the mean score of male adolescents (9.738). The t-ratio was 7.351 which was significant at 0.01 level (vide Table 4.70).

(xxxviii) The mean score of urban adolescents on dimension-VI (emotional instability-emotional stability trait) of personality (10.976) was not found to be significantly higher than the mean score of rural adolescents (10.586). The t-value was 1.340 which was insignificant at 0.05 level of confidence (vide Table 4.71).

(xxxix) The mean score of adolescents of private schools (11.314) on dimension-VI (emotional instability-emotional stability trait) of personality was found to be significantly higher than the mean score of adolescents of government schools (10.248). The t-value was 3.683 which was significant at 0.01 level (vide Table 4.72).

(xl) The mean score of adolescents of arts stream (11.182) on dimension-VI (emotional instability-emotional stability trait) of personality was found to be significantly higher than the mean score of adolescents of science stream (10.380). The t-value was 2.763 which was significant at 0.01 level of confidence (vide Table 4.73).

V Interactional Effect of Gender, Locale, Type of School and Subject Stream on Different Variables

(i) The interaction among Locale x School x Stream (F=36.94) of adolescent in relation to their academic achievement was significant at 0.01 level of confidence. The interaction between Gender x Locale (F=0.43), Gender x School (F=3.00), Gender x Stream (F=2.15), Locale x School (0.52), Locale x Stream (0.14), School x Stream (F=0.32), Gender x Locale x School (F=2.90), Gender x School x Stream (F=3.82), Gender x Locale x Stream (F=0.66) and Gender x Locale x School x Stream (F=0.40) was non significant at 0.05 level of significance (vide Table 4.74).

(ii) The interaction between Gender x Locale (F=10.94), Gender x School (F=8.97), Locale x School (F=7.73), School x Stream (F= 8.53), Gender x School x Stream (F=7.49) in relation
to emotional intelligence of adolescents was found to be significant at 0.01 level of confidence, while the interaction between Gender × Stream (F=1.36), Locale × Stream (F=2.38), Gender × Locale × School (F=0.04), Gender × Locale × Stream (F=0.00), Locale × School × Stream (F=0.25) and Gender × Locale × School × Stream (F=0.66) was found to be non significant at 0.05 level of significance (vide Table 4.76).

(iii) The interaction between Gender × Locale (F=9.89), Gender × School (F=15.29), Locale × School (F=24.33), Locale × Stream (13.63) and Gender × School × Stream (F=14.56) of adolescents in relation to their metacognition was found to be significant at 0.01 level of confidence. The interaction among Gender × Locale × School × Stream (F=4.72) was significant at 0.05 level of confidence whereas the interaction between Gender × Stream (F=1.60), School × Stream (F=3.69), Gender × Locale × School (F=0.04), Gender × Locale × Stream (F=0.70) and Locale × School × Stream (F=2.57) was found to be non significant at 0.05 level of confidence (vide Table 4.78).

(iv) The interaction among Gender × Locale × Stream (F=6.47) of adolescents in relation to dimension-I (activity-passivity trait) of personality was significant at 0.05 level of confidence whereas the interaction among Gender × Locale × School × Stream (F=10.15) was significant at 0.01 level of significance. The interaction between Gender × Locale (F=0.16), Gender × School (F=0.00), Gender × Stream (F=0.29), Locale × School (3.11), Locale × Stream (2.58), School × Stream (F=0.10), Gender × Locale × School (F=0.07), Gender × School × Stream (F=0.06) and Locale × School × Stream (F=0.90) was found to be non significant at 0.05 level of significance (vide Table 4.80).

(v) The interaction between Locale × School (F=7.54) of adolescents in relation to dimension-II (enthusiastic-non enthusiastic trait) of personality was found to be significant at 0.01 level of confidence. Whereas the interaction between Gender × Locale (F=0.19), Gender × School (F=0.18), Gender × Stream (F=0.07), Locale × Stream (3.21), School × Stream (F=0.50), Gender × Locale × School (F=0.40), Gender × Locale × Stream (F=0.01), Gender × School × Stream (F=3.78), Locale × School × Stream (F=2.69) and Gender × Locale × School × Stream (F=0.67) was found to be non significant at 0.05 level of significance (vide Table 4.82).

(vi) The interaction among Locale × School × Stream (F=10.10) of adolescents in relation to the dimension-III (assertive-submissive trait) of personality was significant at 0.01 level of
confidence. The interaction between Gender x Locale (F=0.36), Gender x School (F=0.21), Gender x Stream (F=1.61), Locale x School (0.33), Locale x Stream (1.97), School x Stream (F=1.93), Gender x Locale x School (F=0.89), Gender x School x Stream (F=3.52), Gender x Locale x Stream (F=1.18) and Gender x Locale x School x Stream (F=0.51) was found to be non significant at 0.05 level of significance (vide Table 4.84).

(vii) The interaction between Locale x School (F=8.00), School x Stream (F=7.01) and Locale x School x Stream (F=14.47) of adolescents in relation to the dimension-IV (suspicious-trusting trait) of personality was found to be significant at 0.01 level of confidence. The interaction between Gender x Locale (F=3.55), Gender x School (F=1.09), Gender x Stream (F=1.69), Locale x Stream (F=0.32), Gender x Locale x School (F=0.57), Gender x Locale x Stream (F=2.80) Gender x School x Stream (1.05) and Gender x Locale x School x Stream (0.47) was found to be non significant at 0.05 level of confidence (vide Table 4.86).

(viii) The interaction between Gender x Locale (F=6.47) of adolescents in relation to the dimension-V (depressive-non depressive trait) of personality was found to be significant at 0.05 level of significance whereas the interaction between Gender x School (F=6.71) and Gender x Locale x Stream (F=14.34) was found to be significant at 0.01 level of confidence. The interaction between Gender x Stream (F=3.33), Locale x School (F=1.82), School x Stream (F=3.05), Gender x Locale x School (F=1.23), Gender x School x Stream (F=1.34), Locale x School x Stream (F=1.09) and Gender x Locale x School x Stream (F=2.22) was found to be non significant at 0.05 level of confidence (vide Table 4.88).

(ix) The interaction among Gender x Locale x Stream (F=21.26) of adolescents in relation to the dimension-VI (emotional instability-emotional stability trait) of personality was found to be significant at 0.01 level of confidence and the interaction of School x Stream (F=3.99) was found to be significant at 0.05 level of significance. Whereas the interaction between Gender x Locale (F=1.82), Gender x School (F=3.82), Gender x Stream (F=3.23), Locale x Stream (0.01), Locale x School (F=0.26), Gender x Locale x School (F=0.12), Gender x School x Stream (F=0.11), Locale x School x Stream (F=2.10) and Gender x Locale x School x Stream (F=0.00) was found to be non significant at 0.05 level of significance (vide Table 4.90).
CONCLUSIONS

(i) The frequency distributions and frequency polygons drawn on the basis of the total scores of academic achievement, emotional intelligence, metacognition and different dimensions of personality i.e. activity-passivity, enthusiastic-non enthusiastic, assertive-submissive, suspicious-trusting, depressive-non depressive and emotional instability-emotional stability showed that the values of mean, median and mode did not exhibit much variations from one another. In some distributions, slight variation was observed due to departure from the value expected in the normal distributions in terms of skewness and kurtosis but it was well within the permissible limits.

(ii) A positive and significant relationship existed between academic achievement and emotional intelligence. Thus, it could be inferred that students who were emotionally intelligent and were able to manage their own emotions and emotions of others also achieved more in academics than the students who were emotionally less intelligent and were not able to manage one’s own and others’ emotions.

(iii) Academic achievement and metacognition of adolescents was positively and significantly related to each other. The result lead to the inference that adolescents with high metacognition were also good in academic achievement and adolescents with low metacognition were not so good in their academic achievement.

(iv) The relationship between academic achievement and dimension-I (activity-passivity trait) of personality of adolescents was found to be positive and significant. It could be inferred from the result that the students who were persistent, regular and showed more energetic behaviour scored academically more than the students who were passive, dull, slow, inactive and irregular in working.

(v) Academic achievement and dimension-II (enthusiastic-non enthusiastic trait) of personality of adolescents were found to be positively and significantly related with each other. Hence, it could be concluded that students who were social, outgoing, open and warm hearted, witty, courageous and enthusiastic achieved academically better than those who were reserved, shy, inhibited and non enthusiastic.

(vi) Academic achievement and dimension-III (assertive-submissive trait) of personality of adolescents showed positive and significant relationship with each other. Thus, it lead to the
inference that students who were bold, non convincing, dominant and possess leadership qualities scored more in academics than the students who were submissive, hesitant and fearful.

(vii) Academic achievement was found to be correlated negatively and significantly with dimension-IV (suspicious-trusting trait) of personality. Hence, it could be concluded that students who were apprehensive, suspicious, showed the paranoid tendencies and did not have faith on others achieved less in academics than the students who were adaptable, cheerful, tolerant and believe others.

(viii) Academic achievement was found to be negatively and non significantly correlated with dimension-V (depressive-non depressive trait) of personality. Thus, it could be inferred from the result that students who felt helpless, hopeless, depressed, unwanted, inferior, frustrated and lacked self-confidence performed academically weaker than the students who were happy, unfrustrated, composed, relaxed and satisfied.

(ix) Academic achievement was found to be negatively and non significantly correlated with dimension-VI (emotional instability-emotional stability trait) of personality. So, it could be concluded that students who were emotionally less stable, annoyed, highly anxious, worrying, sad and sensitive scored academically less than the students who were emotionally matured, stable, realistic and had high level of adjustment.

(x) The coefficients of correlation of low and high emotional intelligence, metacognition, activity trait, assertive trait, suspicious trait and emotional instability trait in relation to their corresponding academic achievement do not differ significantly showing that levels of these variables do not affect the academic performance of adolescents. But the coefficients of correlation of low and high enthusiastic and depressive trait in relation to their corresponding academic achievement differed significantly showing that the levels of these variables affect the academic performance of adolescents significantly.

(xi) Non academic achievement and emotional intelligence of adolescents were found to be dependent upon each other. It showed that students who had high emotional intelligence and were more able to control their emotions were also graded higher in non academic achievement than the students who were emotionally less intelligent and were not able to control their emotions.
(xii) Non academic achievement and metacognition of adolescents were independent of each other. It lead to the inference that the metacognition of adolescents do not affect their performance in non scholastic activities.

(xiii) Non academic achievement and dimension-I (activity-passivity trait) of personality were associated with each other. It showed that students who showed high activity also perform good in non academic activities. Thus, the students who were active, energetic and organised achieved higher in non academic activities.

(xiv) Non academic achievement and dimension-II (enthusiastic-non enthusiastic trait) of personality were independent of each other. It lead to the inference that adolescents who were bold, enthusiastic and courageous might not achieve higher in non academic activities.

(xv) Non academic achievement and dimension-III (assertive-submissive trait) of personality were independent of each other. It lead to the inference that adolescents who were assertive, dominant and straight forward might not achieve higher in non academic activities.

(xvi) Non academic achievement and dimension-IV (suspicious-trusting trait) of personality were not associated with each other. It lead to the inference that adolescents who were apprehensive, suspicious and showed paranoid tendencies might not achieve higher in non academic activities.

(xvii) Non academic achievement and dimension-V (depressive-non depressive trait) of personality were independent of each other. It lead to the inference that adolescents who were depressive, frustrated and anxious might not achieve higher in non academic activities.

(xviii) Non academic achievement and dimension-II (enthusiastic-non enthusiastic trait) of personality were independent of each other. It lead to the inference that adolescents who were emotionally instable, sensitive, annoyed and worried might not achieve higher in non academic activities.

(xix) Females outperformed males academically but males showed more emotional intelligence than females. Females were found to be more depressive and emotionally instable than males. Moreover males and females were found to be indifferent in their non academic achievement, metacognition, activity, enthusiastic, assertive and suspicious trait of personality.

(xx) Rural students outperformed urban students academically but urban students were found to be more emotionally intelligent, had high metacognition, highly active, enthusiastic and assertive than rural students. Rural and urban students also showed significant difference in
their non academic achievement but they were found to be indifferent on suspicious, depressive and emotional instability traits of personality.

(xxii) Private school students excelled academically but the students of government schools scored high on emotional intelligence, metacognition and activity trait of personality. Whereas students of private schools scored more on assertive, suspicious, depressive and emotional instability trait of personality. Students of government and private schools also differed significantly in their non academic achievement but they did not show significant difference in enthusiastic trait of personality.

(xxii) Academic performance of science students was better than arts students whereas their non academic performance showed non significant differences. Science students excelled in emotional intelligence and enthusiastic trait of personality whereas arts students scored high in metacognition, activity and emotional instability trait of personality. Moreover, non significant differences were shown by them in assertive, suspicious and depressive traits of personality.

EDUCATIONAL IMPLICATIONS

The purpose of educational research is not only to contribute new facts to the field of education for the sake of knowledge alone but it should yield some recommendations for the improvement in educational process and practices. It should orient on practical or applied aspect also. The findings of the present investigation were examined in this light also and the following implications are traced out:

(i) The findings of the present investigation are quite hopeful, interesting and important for educational practices at the school level. The study has established significant relationship of learning outcomes with emotional intelligence, metacognition and personality traits. So, there is need for a collaborative and a well managed learning environment, which ensures development of child in both cognitive and affective domains. The study has also established significant differences among adolescents on the basis of their gender, locale, school and stream. So, they should be educated according to their characteristics, needs and problems. Thus, it would be reasonable to suggest that the conditions that favour adolescents should be provided to them and they should be so educated that they may successfully bring about the welfare of the society.

(ii) Teachers may utilize the findings of the present investigation in creating proper teaching-learning environment in their classrooms. They may pay their personal attention in
enhancing non academic achievement of adolescents along with their academic achievement, so that they can become emotionally, intellectually and socially developed and learned persons.

(iii) The findings of the present study may be of use from the guidance point of view. The guidance workers can make use of the findings of the present study in the prediction of the learning outcomes of the pupils. Role of emotional intelligence, metacognition and personality of pupils may also be included in the prediction of their performance.

(iv) The findings of the present study may be helpful to the administrators also. The administrators may provide such facilities and opportunities in their schools for children which may contribute to their all round development. They can even provide effective instructional material for the teachers to enhance the performance of pupils in scholastic and non scholastic activities.

(v) Parents may take advantage of the findings of the present study in building the future of their children. They should not suppress the emotions of their children. These should be sublimated through constructive activities. Parents should encourage their wards to use different thinking strategies to solve their problems. This type of attitude of parents may lead to the healthy personality development of their children.

SUGGESTIONS FOR FURTHER RESEARCH
The following are some broad suggestions on the lines of which further research studies may be conducted:

(i) A similar study with larger sample and at different levels can be conducted to make findings more reliable.

(ii) Similar studies can be replicated in different states to study certain regional variations.

(iii) Apart from emotional intelligence, metacognition and personality traits, there are some other variables like intelligence, creativity, socio-economic status and study habits etc. which enhance learning outcomes of pupils. These variables can be explored in further research.

(iv) The study can be replicated with standardized tests of academic achievement and non-academic achievement.

(v) A similar study with comparison of school and college senior secondary students can be undertaken.