Chapter - 5

Results & Discussion
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RESULTS AND DISCUSSION

This section strives to describe the results obtained after quantitative analysis. This chapter delves to find various research outcomes conducted by psychologists and educationists and compares with the results obtained by the researcher in the present study. The result of the Multiple Intelligence can be extrapolated to find the level of different types of Multiple Intelligences. It also highlights the Creativity and Achievement Motivation inherent among the Boys and Girls of Mysore.

The discussion of the results is carried out in five different aspects
I. The outcomes of the study pertaining to the levels of Multiple Intelligences in total and type wise, Creativity and Achievement Motivation.

II. The results of the study related to the difference in the level of Multiple Intelligences in total and type wise among the secondary school students with reference to Gender, Type of School, Locale of the School and Medium of Instruction

III. The findings of the study pertaining to the difference in the level of creativity among the secondary school students with reference to Gender, Type of School, Locale of the School and Medium of Instruction.

IV. The results of the study related to the difference in the level of Achievement Motivation among the secondary school students with reference to Gender, Type of School, Locale of the School and Medium of Instruction.

V. The outcomes of the study validating the relationship between Multiple Intelligences, Creativity and Achievement Motivation with reference to Gender, Type of School, Locale of the School and Medium of Instruction
I. The outcomes of the study pertaining to the levels of Multiple Intelligences in total and type wise, Creativity and Achievement Motivation.

A. Multiple Intelligences

In the sample studied, the quantitative analysis revealed the following when the levels of all the different types of Multiple Intelligences were compared between each other and the outcomes have been discussed hereafter.

Gardner (1983) claims that every one possess Multiple Intelligences. He stated that these intelligences are located in the different areas of the human brain, which work independently or together. Each intelligence is developed to different levels an intelligence may be very well developed, another one may be developed to the average level, another one may be in a latent state etc., Therefore every individual will have a unique cognitive profile.

In the present study also, the students have scored differently in each kind of Multiple Intelligence. In total majority of the students have obtained average level of Multiple Intelligence scores in all the different types of Multiple Intelligences.

1. The percentage of students who have obtained Average Level of scores of Multiple Intelligences type wise follows the pattern mentioned below.

   Majority of the students have obtained average level of scores compared to above average and below average level of scores which indicates that the Multiple Intelligences possessed by the students need to be nurtured and strengthened. The school curriculum must ensure that they provide ample opportunities for the development of the Multiple Intelligences to the maximum levels. The result obtained in the present study is consistent with the result of Biju, G. and Kumar, R., (2012)

   • Among the students who have obtained average level of Multiple Intelligence scores it is evident that the highest percentage i.e. 72.71% of the students have obtained average level of scores in Intrapersonal Intelligence.

   Similar findings were obtained by (Biju, G. and Kumar, R., 2012) they found that the students possessed more of intrapersonal intelligence with an average of 4.07, which is higher than the other intelligences. Intrapersonal learners need to reflect on
their learning privately, as they have strength that helps them increase their understandings (Fuini and Gray, 2000). Therefore we can conclude that majority of the students have the capacity to understand about their own self, they have a control over their emotions, feelings, values and ideas. They have pre-set goals and aims. They may not mingle much with others tend to be more reserved. The ability of self understanding makes them more confident and can take control over life. They will be intrinsically motivated. This indicates that individual projects, assignment will be much suitable, as they prefer working alone.

- **The second highest percentage i.e., 70.7% of the students have obtained average level of scores in Bodily - Kinesthetic Intelligence.**
  Consistent results were obtained by Naoe, D. G., (2010) they found that the 5th grade pupils who attended the Multiple Intelligences classes possessed Bodily-Kinesthetic Intelligences as their strongest intelligences in average level. This result strengthens the fact that the adolescent boys and girls are full of physical energy, they enjoy spending it in games, athletics, sports, dancing etc., They also like to take part in competitive games, crafts, perform drama’s role playing, imitating, creative movement etc., Bodily – Kinesthetic learners need to be active in order to gain the greatest comprehension. Students need to be involved in movement or in the manipulation of the objects to maximize their ability to focus and process information. Role playing encourages creative interpretation and the expression of positive feelings; it also enhances students’ decision – making skills (Fuini and Gray, 2000).

- **The third highest percentage i.e., 69% of the students have obtained average level of scores in Verbal Linguistic Intelligence.**
  The third highest position is for Verbal – Linguistic Intelligence which shows that the students are conditioned to possesses a liking for Verbal – Linguistic Intelligence, Verbal – Linguistic Intelligence is exercised and enhanced in all the traditional schools as education is perpetuated mainly through Verbal – Linguistic ways. They are also used, to reading books, watching educational CD’s, participating in discussion, debate, writing essay, project etc., Verbal – Linguistic students need to process content information through spoken or written words. Their comprehension comes from the creation and the digestion of words (Fuini and Gray, 2000).
• **The fourth highest percentage i.e., 67% of the students have obtained average level of scores in Logical – Mathematical Intelligence.**

This result shows that this is also another intelligence that is much emphasized in school. These children try to understand concrete patterns and relationship between these patterns. They like to solve puzzles and problems. They try to find logical answers for everything they do. People who display an aptitude for numbers, reasoning and problem solving have this kind of intelligence. This intelligence can easily be identified as the ability to recognize long strings of numbers, possessing a considerable reasoning ability drawing upon heuristic approaches and having a sense of solution or direction of complex problems (Coskungonullu, 1998).

• **The same percentage i.e. 67% of the students have obtained average level of scores in Naturalistic Intelligence.**

Selection of *Naturalistic Intelligence* would be due to the fact that every individual is influenced, dependent and attracted by the bounty of nature surrounding us. Life is blissfully interwoven with nature. It shows their love for nature and nurturing, the flora and the fauna. Naturalistic Intelligence deals with sensing patterns in and making connections to elements in nature. Children possessing this type of intelligence may have a strong affinity to the outside world or to animals and this interest begins at an early age. Their heightened senses may help them notice similarities, differences and change in their surroundings more rapidly than others (Wilson, 1998). Naturalistic learners need to see connections between their learning and the natural world. These students would be strong in science and nature concepts (Fuini and Gray, 2000).

• **The fifth highest percentage i.e. 66.1% of the students have obtained average level of scores in Visual – Spatial Intelligence.**

This result has come down the list. Children with Visual – Spatial Intelligence learn best by seeing. They organize things spatially. They enjoy reading and making charts, graphs, maps, tables, illustrations, art, puzzles, costumes, colors, anything related with sight. They can be taught the subject matter through cartoons, witty posters, funny pictures, etc., so that they can remember better. Visual – Spatial learners need to see what they are learning. They have a unique ability to give concrete form to what they see in their minds eye. They learn best through the use of colour and many different audio-visual media (Fuini and Gray, 2000).
• The sixth highest percentage i.e. 64.6% of the students have obtained average level of scores in Interpersonal Intelligence.

Interpersonal smart learners need to interact with others to be most successful while processing their information (Fuini and Gray, 2000). These children tend to have lot of friends they empathize well with the others.

• The lowest percentage i.e. 62.3% of the students have obtained average level of scores in Musical – Rhythmic Intelligence.

Musical – Rhythmic smart students learn best when there is a musical beat to the information. These are the people who are always humming or tapping to a beat and cannot get songs or jingles out of their minds (Fuini and Gray, 2000). This result is substantiated by the following observation by Lazear. D. G. (2001) who say’s “Have you ever noticed how in a child’s educational journey the “I can’t’s start appearing? I often ask work shop participants to imagine walking into any preschool or kindergarten class-room in almost any nation of our world and asking the children, “How many of you know how to draw? How many of you know how to sing and dance? who likes to work with others? Generally, every hand will go up. Now go to your typical third-grade class and ask the same questions. How many hands will go up? usually about half. Then go to the typical middle school or junior high school and ask the same questions. Probably you will see two or three very hesitant hands being raised. And in the typical high school classroom you find yourself having to ask whether any one knows how to raise their hands, for likely no hands will be raised.

• In the Multiple Intelligence Total also majority of the students 63.9 students i.e., of the students have obtained average level of scores.

2. The percentage of students who have obtained above average level of scores of Multiple Intelligences type wise follows the pattern mentioned below:

• Among the students who have obtained above average level of scores, it was apparent that the highest percentage i.e. 22.5% of the students have obtained above average level of scores in Interpersonal Intelligences. Although the percentage of the students who have obtained above average level of scores is very less, selection of interpersonal intelligence is mainly because children prefer to learn through interaction with their peers in this age. This shows that they like co-operative learning systems Viz., Combined studies, group studies and are much
interested to discuss with peers. The present result was consistent with similar studies conducted with different intelligence types among Jordanian students. The results of t-Test indicated that interpersonal intelligence is the highest and the most common intelligence among Jordanian students. Following are Intrapersonal, Kinesthetic, Linguistic, Spatial, mathematical, and musical, respectively. Shariffudin, R. S., Foong, L. M. and Pendidikan, F., (2010) also obtained similar results where in the highest percentage of the normal and high achieving students possessed Interpersonal Intelligence.

- The second highest percentage i.e. 20.2% of the students have obtained above average level of scores in Visual – Spatial Intelligence. Children possess good visual – spatial intelligence at early stages. This proves that they like knowledge to be understood through drawing, graphic representations which seems much easier and long – lasting to them.

- The third highest percentage i.e. 19% of the students have obtained above average level of scores in Logical – Mathematical Intelligence. This is mainly because certain percentage of students do possess very well developed Logical – Mathematical Intelligence and it is also one of the more stressed intelligence in our education system.

- The fourth highest percentage i.e. 18.5% of the students have obtained above average level of scores in Musical – Rhythmic Intelligence. It is a well – known fact that all individuals do not possess Musical – Rhythmic intelligence. Every one might like to listen to Music but not everyone can catch the tune, sing or compose music. This kind of intelligence is one of the most astonishing, awesome intelligence, possessed by the gifted individuals only. Moreover, the students are under the notion that it is an extra – curricular activity and need not be nurtured in the school practices. We are also aware that as children pass on from kindergarten to primary, middle and high-school, they start to refrain from musical activities in their busy schedule of school education. While it is understood that music education can have an important impact on musical intelligence, there is a significant amount of research supporting the impact of music education on all seven intelligences (Harvey, 1997).

- It was apparent that the fifth highest percentage i.e. 18.1% of the students have obtained above average level of scores in Verbal – Linguistic Intelligences. The above result is mainly because of the fact that our educational system is heavily foccussed on the Verbal Linguistic intelligences and the students are conditioned to learn by Verbal – Linguistic methods.

- The sixth highest percentage i.e. 17.5% of the students have obtained above average level of scores in Naturalistic Intelligences.
• The seventh highest percentage i.e. 16.8% of the students have obtained above average level of scores in Bodily - Kinesthetic Intelligences. The Bodily - Kinesthetic Intelligence was chosen by the students at the seventh position. This shows that they like to learn through touch and playful physical activities.

• The lowest percentage i.e. 16% of the students obtained above average level of scores in Intrapersonal Intelligences. They do not have the inclination of thinking about themselves. Their self awareness is less at this age, they tend to be more interested in understanding their peers and the external world. They prefer to be in the company of their friends most of the time, which is also one of the characteristic features of Adolescents.

• More number of students in comparison to below average level of scores 165 i.e., 16.4% of the students have obtained high level of scores.

3. The percentage of students who have obtained below average level of scores in Multiple Intelligences type wise follows the pattern mentioned below.

The results of the percentage of below average level of Multiple Intelligences is comparatively the other to levels viz., average and above average. Even though the percentage of below average level of scores is less it cannot be ignored, these individuals need to be addressed, their intelligences need to be emphasized much and developed otherwise if neglected they may become very weak.

• Among the below average level of Multiple Intelligences scores, it is interpreted that the highest percentage i.e. 19.2% of the students have obtained below average level of scores in Musical - Rhythmic Intelligence. It shows that this is the most rarest of all the intelligences.

• The second highest percentage i.e. 15.5% of the students have obtained below average level of scores in Naturalistic Intelligence.

• The third highest percentage i.e. 14.0% of the students have obtained below average level of scores in Logical – Mathematical Intelligence.

• The fourth highest percentage i.e. 13.7% of the students have obtained below average level of scores in Visual – Spatial Intelligence.

• The fifth highest percentage i.e. 12.9% of the students have obtained below average level of scores in Verbal – Linguistic Intelligence.

• The same percentage i.e. 12.9% of the students have obtained below average level of scores in Interpersonal Intelligence.
• The sixth highest percentage i.e. 12.4% of the students have obtained below average level of scores in Bodily – Kinesthetic Intelligence.

• The lowest percentage i.e. 11.2% of the students have obtained below average level of scores in Intrapersonal Intelligence.

• In Multiple Intelligence Total 14.6% of the students have obtained low level of scores.

B. Creativity

Most of the times the students who do best academically are usually primarily hard workers and the actual potential comes down the list. Furthermore many of those rated of high academic intelligence often have little or no originality in their thought, i.e. they cannot be original but mug up what has been taught and reproduce the same. Our educational system appreciates and rewards this kind of students. Who are very creative, have diversified thoughts most of the times they are suppressed in classrooms and not much appreciated. Sometimes the thoughts of the creative students even go above the head of the teachers.

1. The percentage of students who have obtained average level of scores in the level of Creativity Total and Components wise follows the pattern mentioned below.

   Majority of the students have obtained average level of scores in Creativity compared to above average and below average level of scores.

   Among the students who have obtained average level of scores, the highest percentage i.e. 70.5% of the students have obtained average level of scores in Originality. This result supports the fact that every child sees the world through fresh, new eyes and then use what they see in original ways. Creativity can be understood as having the power or quality to express yourself in your own way. Children are naturally creative. One of the most rewarding aspects of working with children is the chance to watch them create.

   The second highest percentage i.e. 70.1% of the students have obtained average level of scores in Flexibility.

   The lowest percentage i.e. 66.3% of the students have obtained average level of scores in Fluency.

   In creativity total 64.2% of the students have obtained average level of scores.
2. The percentage of students who have obtained above average level of scores in the level of Creativity Total and Components wise follows the pattern mentioned below.

The most common interpretation among social scientists is that a certain minimum amount of intelligence is necessary in order to display high levels of creativity, but once that minimum is reached it is difficult to predict further gains in creativity from intelligence. So having a high IQ does not guarantee a high level of creativity and a high level of creativity does not guarantee a high level of intelligence. (Lao J, 2008).

Among the students who have obtained above average level of scores in creativity, the highest percentage i.e. 18% of the students obtained above average level of scores in Fluency.

The second highest percentage i.e. 17.4% of the students have obtained above average level of scores in Flexibility.

The lowest percentage i.e. 17% of the students have obtained above average level of scores in Originality.

In creativity total 19% of the students have obtained above average level of scores.

3. The percentage of students who have obtained below average level of scores in the level of Creativity Total and Components wise follows the pattern mentioned below

Among the students who have obtained below average level of scores in creativity, the highest percentage i.e. 16.8% of the students obtained below average level of scores in Creativity Total.

The second highest percentage i.e. 15.7% of the students have obtained below average level of scores in Fluency.

The lowest percentage i.e. 12.4% of the students have obtained below average level of scores in Flexibility and Originality.
C. Achievement Motivation

1. The percentage of students who have obtained average, above average and below average level of scores in Achievement Motivation follows the pattern mentioned below.

   The highest percentage i.e. 70.0% of the students have obtained average level of scores in Achievement Motivation.

   The second highest percentage i.e., 16.3% of the students have obtained above average level of scores in Achievement Motivation.

   The lowest percentage i.e. 13.7% of the students have obtained below average level of scores in Achievement Motivation.

II. The results of the study related to the difference in the level of Multiple Intelligences in total and type wise among the secondary school students with reference to Gender, Type of School, Locale of the School and Medium of Instruction

   - Hypothesis – 1: There is no significant difference in the level of Multiple Intelligences in total and type wise between the Boys and Girls studying in the secondary schools of Mysore city.

      The outcome of the study authenticates that there is a significant difference in the level of Multiple Intelligences in total and type wise between the Boys and Girls studying in the secondary schools of Mysore city.

      In the present study the girls excelled the boy’s in all the components of Multiple Intelligences, where Independent t-test values revealed significant values for girls and boys except for the component Bodily – Kinesthetic Intelligences. We find that the mean scores of girl students in Multiple Intelligences were significantly higher than the Boys. Lastly Multiple – Intelligences total was also found to be significant (t = -3.289, p = .001).

      The girls scored the highest for Verbal – Linguistic Intelligence followed by Naturalistic Intelligence and Interpersonal Intelligence and the lowest was for Musical – Rhythmic Intelligence. Whereas the boys also had the highest mean scores for Verbal – Linguistic Intelligence followed by Interpersonal Intelligence and Naturalistic Intelligence and the lowest was for Musical – Rhythmic Intelligence.
In the recent times, we have come across the fact that the girls excel in various fields in comparison to boys. They are even making a foray into the male dominated areas. We can say that in the present study the girls have read the questionnaire well, understood and have ticked the appropriate responses aptly well. It also proves that the girls have better self – awareness. (Intrapersonal Intelligence)

The present result of the girls having scored more than the boys shows that India a developing country which is striving to move along the egalitarian social movements.

Many studies related with Multiple Intelligences of girls and boys substantiate significant gender differences. Studies conducted by Nasser, R., Singhal, S. and Abouchedid, (2008) showed significant differences between the boys and girls. The girls had higher estimates on the Verbal – Linguistic Intelligences and Intrapersonal for the Lebanese and the Indian sample. Lebanese male students made higher estimates on the Logical – Mathematical and Bodily – Kinesthetic Intelligence where as the boys made estimates on the Naturalistic and Bodily – Kinesthetic Intelligences.

We come across few more research upshots with similar finding Gogebakan (2003) investigated the effect of gender and grade level of the students on their Multiple Intelligences the students at the first grade level demonstrated strong preference for Linguistic Intelligence and Logical – Mathematical Intelligence and the two intelligences were followed by spatial intelligence and Bodily – Kinesthetic Intelligence. While third grade students preferences were interpersonal intelligence, Bodily – Kinesthetic Intelligence, Musical – Intelligence.

These studies consistent with the results obtained in the present study. Loori (2005) investigated the difference in the multiple intelligence of male and female students. The results of Loori’s study showed significant difference between males and females preferences of intelligences. According to the results, male students preferred learning activities involving Logical and Mathematical Intelligence, where as female students preferred learning activities involving Intrapersonal Intelligences.
Contradictory results were obtained for Synder’s (2000) results are similar in terms of gender difference on academic success. She found that male students Logical – Mathematical Intelligence and Bodily – Kinesthetic Intelligence mean scores were higher than female students, where as female students mean of Musical Intelligence scores was higher than males.

- **Hypothesis – 2 : There is no significant difference in the level of Multiple Intelligences in total and type wise between the students of Government and Private schools studying in the secondary schools of Mysore city.**

  The result proves that, there is no significant difference in the level of Multiple Intelligences in total and type wise between the students of Government and Private schools studying in the secondary schools of Mysore city.

  Present study indicates that when the type of schools viz. Government and Private Schools were compared, the government schools students excelled private school students in Verbal – Linguistic Intelligence, Logical – Mathematical Intelligence, Visual – Spatial Intelligence, Musical – Rhythmic Intelligence, Interpersonal Intelligence, Naturalistic Intelligence and Multiple Intelligences Total, where as the private school students excelled only in Bodily – Kinesthetic Intelligence and Intrapersonal Intelligence. The independent ‘t’ test values indicate significant values only for Verbal – Linguistic Intelligences (t = .356, p = .000), Logical – Mathematical Intelligences (t=3.849, p=.000), Musical – Rhythmic Intelligence (t=2.358, p=.019) and Multiple Intelligences total (t=2.26, p=.024). All the other remaining intelligences show non-significant values.

  This is a positive trend that is evident in the modern society of to-day. It is a fact that students of government schools are also performing better than the students who are studying in private schools. The present generation of students are full of vision and have preset goals. They are not deterred by their type of school. They are moving ahead with the times it has been corroborated that the present generation is much smarter than the older generation. The individuals have better awareness, knowledge and adaptability to the world.
• Hypothesis – 3 : There is no significant difference in the level of Multiple Intelligences in total and type wise between the students of Rural and Urban schools studying in the secondary schools of Mysore city.

In view of the findings obtained, it is found that there is no significant difference in the level of Multiple Intelligences in total and type wise between the students of Rural and Urban schools studying in the secondary schools of Mysore city.

The present study revealed that rural students exceeded the urban students in all the mean scores of Multiple Intelligences, type wise as well as Multiple Intelligences total except for Interpersonal Intelligences. The independent ‘t’ test values revealed significant values for rural and urban students only with respect to two types of multiple intelligences, viz., In Verbal – Linguistic Intelligence (t=2.943, p=.003) and Logical – Mathematical Intelligence (t=2.618, p=.009), all the other Intelligences had non-significant values.

In the present scenario, the area in which the school is located is not a matter of concern at all. All the students are excelling in all the fields irrespective of their geographical background. The rural students obtaining higher mean for all the Multiple Intelligences is mainly because of the inherent native talent. Exploding knowledge and exposure to the on goings of the world through the medias and internet, making the world a ‘global village’. To a large extent, the urban students do have better facilities, infrastructure and exposure in the same wavelength, the rural students are also having a higher motivation to improve drastically.

The findings also indicate that the rural students have responded as smartly as the urban students. They have not shown any inhibitions in expressing their Multiple Intelligences. Therefore the geographical location of the school is not of much importance.

• Hypothesis – 4 : There is no significant difference in the level of Multiple Intelligences in total and type wise between the students of Kannada and English Medium studying in the secondary schools of Mysore city.

The results confirm that there is no significant difference in the level of Multiple Intelligences in total and type wise between the students of Kannada and English Medium studying in the secondary schools of Mysore city.
The study shows that the medium of instruction wise comparison indicates that the Kannada Medium studentsexcelled the English Medium students in the following components of Multiple Intelligences, as well as total Multiple Intelligences viz. Verbal – Linguistic Intelligence, Logical – Mathematical Intelligence, Visual – Spatial Intelligence, Interpersonal Intelligence, Naturalistic Intelligence and Multiple Intelligence Total where as the English Medium students excelled in Bodily – Kinesthetic, Musical – Rhythmic Intelligence and Intrapersonal Intelligence scores only. The independent ‘t’ test values revealed significant values for Verbal – Linguistic Intelligence ($t=3.650$, $p=.000$), Logical – Mathematical Intelligence ($t=4.959$, $p=.000$) and Naturalistic Intelligence ($t=2.512$, $p=.012$) only. All the other Intelligences showed non-significant values.

It is exhilarating to declare that the Kannada Medium students excelled the English Medium students. In practicality, there is always a discrimination between the regional language (Kannada) and English Medium students. The English Medium students are always thought of as better achievers, the present study has disproved this fact.

### III. The outcomes of the study pertaining to the difference in the level of creativity among the secondary school students with reference to Gender, Type of School, Locale of the School and Medium of Instruction.

- **Hypothesis – 5** : There is no significant difference in the level of Creativity between the Boys and Girls studying in the secondary schools of Mysore city.

  The result proves that there is no significant difference in the level of Creativity between the Boys and Girls studying in the secondary schools of Mysore city.

  The results reveal that the girls do not differ significantly in all the components of Creativity viz., fluency, ($t=-.215$, $p=.830$), flexibility ($t=-1.254$, $p=.210$) and Creativity total ($t=-1.472$, $p=.141$). They differ significantly only in originality ($t=-3.240$, $p=.001$) from the boys.

  Although similar results were found for Siddiqui. S (2011), where in they established that the boys do not differ significantly in all the components of Creativity viz fluency ($t=0.14$), flexibility ($t=0.58$) and creativity total ($t=0.17$) except for the
measure of originality \(t=2.14\) from the girls. The difference in their study was that the mean scores of the boys were found to be higher than the girls. Another research demonstrating non-significant results w.r.t. gender was that of Patel, K. P., (2012) they found that the mean and Standard deviation of girls were not significantly higher than the mean score of boys of secondary and higher secondary schools. Contradicting results were found for Ghosh, S. M., (2013) they found that the boys and girls differed significantly.

- **Hypothesis – 6 :** There is no significant difference in the level of Creativity between the students of Government and Private Schools studying in the secondary schools of Mysore city.

  The outcome of the study substantiates that there is a significant difference in the level of Creativity between the students of Government and Private Schools studying in the secondary schools of Mysore city.

  The results shows that creativity is not a trait that is present only among the elite private schools but it is present even among the students belonging to the lower socio-economic status students of the Government Schools also.

- **Hypothesis – 7 :** There is no significant difference in the level of Creativity between the students of Rural and Urban Schools studying in the secondary schools of Mysore city.

  The result of the study establishes that there is a significant difference in the level of Creativity between the students of Rural and Urban Schools studying in the secondary schools of Mysore city.

  Contradictory results were indicated in the studies of Patel, K.P., (2012), were in they found that the mean scores of rural students were higher than the mean scores of urban students but the ‘t’ values obtained were not found to be significant among the secondary and higher secondary school students on the verbal test of creative thinking. According to Singh, O. P., (1982) the mean creativity scores of the urban students were higher than that of the student from rural areas.
• Hypothesis – 8 : There is no significant difference in the level of Creativity between the students of Kannada and English Medium studying in the secondary schools of Mysore city.

In view of the findings obtained it is found that there is a significant difference in the level of Creativity between the students of Kannada and English Medium studying in the secondary schools of Mysore city.

Even with respect to English medium, all the three components of Creativity viz., Fluency, Flexibility, Originality and Creativity total with Creativity were found to be significant. Therefore it proves that the creativity is inherent in the students of Kannada as well as English Medium, irrespective of their medium of instruction.

IV. The results of the study related to the difference in the level of Achievement Motivation among the secondary school students with reference to Gender, Type of School, Locale of the School and Medium of Instruction.

• Hypothesis – 9 : There is no significant difference in the level of Achievement Motivation between the Boys and Girls studying in the secondary schools of Mysore city.

The result of the study establishes that there is a significant difference in the level of Achievement Motivation between the Boys and Girls studying in the secondary schools of Mysore city.

Earlier it was the boys who had higher Achievement Motivation compared to the girls. As girls were retracted by various reasons like societal, emotional, physical and the family bindings. Now the times have changed. The girls are putting much effort they are having greater inner urge and motivation to achieve better. They are confronting all odds and are procuring credible achievements.

The difference in the achievement motivation between the boys and girls has always been a very interesting topic in psychology. McCleland found that in achievement orientation context, male’s achievement intention raise significantly while females do not. Some researchers show that the Achievement Motivation of female students in preliminary school is higher than that of male students in preliminary school. From Junior High School, male students Achievement Motivation
in higher than that of female students and the difference grows larger and larger with
time passing on. During college stage, the difference of Achievement Motivation
between college male students and female students reaches significant level (Jing,
1995). The results of the present study are contradictory to most researches, that is the
Achievement Motivation of girls is higher than that of the boys.

Chang (2003) conducted studies in China which also shows similar results. Achievement Motivation of students from key senior schools is higher than that of
students from common high schools (Chen and Zhang, 2003). Whereas contradictory
results have been obtained by (Liu and Zhu, 2009) in their sample group, the
Achievement Motivation of senior high school students from different schools, key senior
high school and common senior high school, does not have significant difference.

There is a positive side to having peer influence in Achievement Motivation. Classmates are likely to influence classroom climate via the norms that are modeled
and valued (Nelson and DeBecker, 2008). This means that a student is affected when
he or she sees how their classmates are involved in the classroom. When surrounded
by positive hard-working classmates, the students more engaged in class work. (Sage
and Kinder man, 1999).

- **Hypothesis – 10 : There is no significant difference in the level of
  Achievement Motivation between the students of Government and Private
  Schools studying in the secondary schools of Mysore city.**

  The result obtained authenticates that there is a significant difference in the
  level of Achievement Motivation between the students of Government and Private
  Schools studying in the secondary schools of Mysore city.

Research studies related to the difference in the level of Achievement Motivation between the students of Government and Private Schools were found to be
very less in the Indian context. At the outset in the fast paced competitive world it is
evident that the present generation are having higher Achievement Motivation
compared to the older, evolution in the brain functions have lead to the increase in
intelligence aspect also. They are almost always in a hurry to achieve.
• **Hypothesis – 11**: There is no significant difference in the level of Achievement Motivation between the students of Urban and Rural Schools studying in the secondary schools of Mysore city.

The outcome of the study substantiates that there is a significant difference in the level of Achievement Motivation between the students of Urban and Rural Schools studying in the secondary schools of Mysore city.

Consistent results with respect to the present study have been obtained by Shetty and Prashanth have obtained significant difference in the level of achievement motivation of secondary school students of rural and urban locales. Research studies of Anluwalia 1985, Singh 1986 and Sodhi 1989 showed that rural and urban school students do not differ significantly in relation to their achievement motivation contradictory result were found in the research studies.

• **Hypothesis – 12**: There is no significant difference in the level of Achievement Motivation between the students of Kannada and English Medium studying in the secondary schools of Mysore city.

In view of the result obtained we can conclude that there is a significant difference in the level of Achievement Motivation between the students of Kannada and English Medium studying in the secondary schools of Mysore city.

Studies conducted both in India and abroad reveals that there is a significant difference with regard to achievement motivation among school students with reference to their sex, type of school and locale of the school and medium of instruction.

V. The outcomes of the study validating the relationship between Multiple Intelligences, Creativity and Achievement Motivation with reference to Gender, Type of School, Locale of the School and Medium of Instruction

• **Hypothesis – 13**: There is no significant relationship between Multiple Intelligences and Creativity among the students studying in the secondary schools of Mysore city.

The outcome of the study authenticates that there is a significant relationship between Multiple Intelligences and Creativity among the students.
The present study reveals that the correlations between Multiple Intelligences and Creativity shows most of the times a positive correlation and a significant relationship except for four combination pairs of the correlation coefficients between Visual – Spatial Intelligence with Originality (r = .058, p = .059) Correlation between Bodily – Kinesthetic Intelligence and Originality (r = .019, p = .537) Correlation between Musical – Rhythmic Intelligence and Flexibility (r = .059, p = .055) were found to be non-significant. All the other correlation coefficients were found to be mutually related and a linear relation was observed between them. On the whole Multiple Intelligences and Creativity were mutually and significantly related to each other.

The findings indicate a significant correlation between Creativity and Verbal – Linguistic Intelligence, Logical – Mathematical Intelligence, Visual – Spatial Intelligence (except Originality), Interpersonal Intelligence, Intrapersonal Intelligence, Naturalistic Intelligence and Multiple Intelligence total shows a greater relationship between Multiple Intelligences and Creativity.

When we scrutinize intelligence from a broad perspective of multiple intelligences and creativity it is evident that there are some apparent relationships between certain types of multiple intelligences and the components of creativity which are as follows:

- The Logical-Mathematical Intelligence are strongly linked with fluency (.168, p=.000), flexibility (r=.179) and originality (r=.179, p=.000) and Creativity total (r=.177, p=.000).
- Secondly the Interpersonal intelligence is more linked with Fluency (r=.149), Flexibility (r=.154), Originality (r=.135) and Creativity total (r=.157, p=.000).
- Thirdly the Verbal Linguistic Intelligence is found to be more linked with Fluency (r=.128, p=.000), Flexibility (r=.132, p=.000), Originality (r=.096, p=.002) and Creativity total (r=.129, p=.000).

The present results of the study is in accordance with the studies of Ferrando (2004), he establishes that the Logical-Mathematical Intelligences and Visual-Spatial Intelligences appear to be more linked with fluency, flexibility and originality. Studies in the field of Intelligence and Creativity were very popular. After the advent of the Multiple Intelligence theory by Dr. Howard Gardner. There is a shift from the psychometric approach of Intelligence. Similar result to our studies is seen in an
empirical study validating the relationship between Creativity and Intelligence is low. It could be argued that there is a greater relationship between Creativity and Multiple Intelligences. This finding can be explained as the evaluation tasks for multiple intelligences are much open and dynamic than those for the BADYG (IQ Test); in Gilford terms, the measure of an IQ test focuses in the convergent thinking. (Only one correct solution), where as Gardner allows the use of divergent thinking (Various solutions can be correct for one problem). (Ferrando et.al., 2005).

For Howard Gardner, a professor at Harvard University, Creativity is one of the most important aspects of mental functions. In addition, it turns out that creativity and intelligence are only mildly correlated, hovering between .20-.30.

Based on the research findings, Creativity may very well be correlated with the type of intelligences possessed by individuals based on the theory of Multiple Intelligences. However, contradictory findings had been obtained from researchers done in the area of Intelligences and Creativity. Therefore, creativity is neither completely domain-specific, than towards domain generality (Sternberg and Lubart, 1995).

- **Hypothesis – 14 : There is no significant relationship between Multiple Intelligences and Achievement Motivation among the students studying in the secondary schools of Mysore city.**

  *The result proves that there is a significant relationship between Multiple Intelligences and Achievement Motivation.*

  It is observed that the correlation between Multiple Intelligences and Achievement Motivation indicates a positive correlation and a significant relationship for all the types of Multiple Intelligences and Achievement Motivation. Verbal-Linguistic Intelligence ($r = .193, p = .000$), Logical-Mathematical Intelligence ($r = .232, p = .000$), Visual-Spatial Intelligence ($r = .233, p = .000$), Bodily-Kinesthetic Intelligence ($r = .182, p = .000$), Musical-Rhythmic Intelligence ($r = .165, p = .000$), Interpersonal Intelligence ($r = .244, p = .000$), Intra-Personal Intelligence ($r = .234, p = .000$), Naturalistic Intelligence ($r = .244, p = .000$) and Multiple Intelligences Total Intelligence ($r = .308, p = .000$) All the correlation coefficients were found to be mutually related and a linear relation was observed between them.
There are many studies on intelligence and achievement motivation but very few on Multiple Intelligences and Achievement Motivation. Implementation of Multiple Intelligences theory enhanced students Achievement Motivation and thereby resulted in improved academic achievement. Ablard (2002) found that while it would seem logical, intelligence does not necessarily lead to high motivation to achieve. Contrasting results to the present findings were obtained for Gowen, C. D. (2010) their findings showed that no correlation was found between Multiple Intelligences and Achievement Motivation.

One Study obtained showed similar findings in par with the present study. The source of motivation remains a complex issue. A conflict exists in the literature with some studies showing a zero correlation between Motivation and IQ, while others show that the intellectually gifted have higher intrinsic motivation or that their motivation is a part of their giftedness [Gagne and St Pere, 2000].

We come across students in addition to the intelligent, highly motivated, high achieving students. There are students who have multiple forms of intelligences, but are very lazy to put efforts there fore obtain low scores viz. Bright under achievers. We can also find students who are not very bright, does not understand quickly, but put in lot of hard work and have good scores. Finally we can say having different Multiple Intelligences in various levels is not the only criterion, should possess adequate levels of Achievement Motivation in order to do well either in school or in society.

Educators and parents have always pondered over whether intelligence or hard work and motivation leads to success. To a certain extent we may say irrespective of your Multiple Intelligences, if you have the inner urge to achieve you can succeed. But at some instance we realize that certain level of intelligence is necessary for success. Leslic – owen a teacher, says, “In addition to the intelligent, highly motivated, high achieving students, I see students who are intelligent, but put forth little or no effort and have low academic achievement. I also have observed the opposite students who do not catch on right away, but put in 110% effort and have high academic achievement. I have rarely had a student for whom intelligence alone can lead to high academic achievement.

In the succeeding chapter six summary of the major findings and implications of the study are presented.