Differences Between Self-Perceived Multiple Intelligences of Urban & Rural Schools Students

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Abstract *The purpose of this study was to investigate the differences between self-perceived multiple intelligences of urban and rural schools students. Measurement of central tendency, mean score, SD for the measurement of self-perceived multiple intelligences and one sample–t test was used for mean comparison of urban and rural schools students. Result showed that there is a significant difference between self-perceived verbal/linguistic, logical/mathematical, visual/ spatial and intrapersonal intelligence of urban and rural students and there is no significant difference between self-perceived, musical, bodily/kinesthetic, interpersonal and naturalistic intelligence of urban and rural students.*

Keywords: *Self-perceived intelligence; multiple intelligences; Urban; Rural;*

1. Introduction

Intelligence is a fundamental factor and its non presence is very alarming for practical life. Gardner (1983) presented a novel idea of intelligence and speedily it has been applied in school curriculum. Gardner extended the idea of intelligence and took account of areas as special relations, interpersonal knowledge and music besides mathematical and linguistic ability.
Intelligence is "the ability to tackle problems successfully or to approach to products that are acceptable and esteemed in one or more cultures" (Gardner and Hatch, 1989). Undertaking genetic and social research, he formed a list of eight intelligences. This novel idea regarding intelligence is very much different from the conventional concept, which normally considers just two intelligences, linguistics and mathematical.

Man's cognitive competence refers to his/her abilities or mental skills often they are termed as "intelligences" although all mentally sound people have these skills, yet they are not of equal degree in all humans. These proportions vary from person to person (Walters and Gardner, 1999).

All human beings do not receive the same intelligence and the distribution is not the same. As health and wealth is distributed exactly according to the same pattern and law, intelligence is distributed among different people. It is a normal distribution which is controlled and done by a specific principle which shows that the majority of people fall in the category of the average intelligent, some in the category of most intelligent and some people fall in the category of very tedious.

Many researchers have examined whether a particular caste, race or group of particular society or culture is better in term of intelligence. It has been a burning issue in America since long. The results of earlier researches which consider the whites to be a superior race by intelligence compare to the Negroes have been challenged. It has now been accepted that intelligence is not the inheritance of a particular group or race. There can be 'bright' and 'dull' in any race and caste. Cultural group and the environmental factors and influences make the

differences in intelligence among different people of the societies (Chauhan, 1991).

2. Theory of Multiple Intelligences

Gardner proposed, in his theory of Multiple Intelligences, eight types of intelligences: linguistic, logical/mathematical, visual/spatial, musical, bodily/kinesthetic, interpersonal, intrapersonal and natural intelligence. Gardner proposed eight types of intelligence. He further says that there is a chance of presence of more intelligence which needs to be explored.

2.1 Verbal/Linguistic Intelligence

Verbal/linguistics intelligence demands susceptibility to spoken as well as written languages, the potential and capability to use language theory to achieve particular goals. (Gardner, 1999:37). It is the effective use of language (Christion and Kennedy, 1999). This is concerned with written and spoken expression. It is the manipulation of language and communication of words skillfully (Mbuva, 2003).

A person having sound verbal/linguistics intelligence background not only listens to but also responds carefully to sounds, rhythm, colour and variety of the spoken words. Similarly, he/she acquires and learns through the practice of listening, reading, writing and discussing. Likewise, his or her listening is strong as he or she understands through, expresses the meaning in a better way, elucidates and can recall what he or she has listened to; more over he/she studies and speaks clearly, explains, explicates or clarifies and brings to mind what he or she/has read, and last but not the least, he or she shows the potential to become proficient in other languages and uses the skills of listening, speaking, writing and reading and thus to convey and explain in order to convince others.(Laughlin, 1999).

This kind of intelligence is exhibited by people such as poets, lawyers and authors, writers, speakers. These people are capable of using written as well as spoken words in the most appropriate manners. The world most famous English critic and poet of 20th Century Thomas Eliot is one of the most beautiful examples of Gardner linguistic intelligence.

2.2 Logical/Mathematical Intelligence

It requires reasoning whether deductively or inductively. It also uses and identifies intellectual patterns and links. It is relevant to those who enquire into different issues and try to reach at scientific conclusion (Gardner, 1999:42). It is the capability to create sequence in solving a problem to make scientific analysis of a problem, recognize patterns and to use numbers and do mathematical operations easily and to deal with different phenomenon successfully.

The person, endowed with high degree of Logical/mathematical intelligence shows expertise while solving logical problems. Similarly, he is fond of complex operations i.e. computer programming and research methods. Even his anticipation and points of view are based on mathematics. Moreover, his interest lies in different professions such as computer technology, law, engineering and chemistry (Laughlin, 1999).

Different kinds of people show a high-level of this kind of intelligence. For example, scientists, mathematians, philosophers, logician, computer programmer, accountants. Apart from this, there are many instances of such people throughout the ages who showed this kind of logical or mathematical intelligence for example, Abu bakkar siddiq, Socrates, Aristotle, and Einstein.

2.3 Visual/Spatial Intelligence

It is the potential to produce visual spatial representation of the world and move that

representation either mentally or concretely. It promotes the capability to identify and operates the shape of wide space as well as the shape wide none restricted ones (Gardner, 1999: 43). It involves manipulating objects mentally in order to deal with and solve problems successfully.
A person who possesses a high degree of visual/spatial intelligence acquires skills through observation, identifies different objects, shapes, colours, scenes and other necessary details and for this purpose he makes use of visual images in calling to mind those information. He also produces solid or visual representation of information. Moreover demonstrates liking for becoming artist, photographer, engineer, architect and designer (Laughlin, 1999).

Steersmen, pilots, sculptors, sailors, engineers, painters, and the people concerned with drawing, designing and sailing show a high degree of this kind of intelligence.

2.4 Musical/Rhythmic Intelligence

It involves the potential to perform, compose or appreciate the pattern of music (Gardner, 1999: 42). It also incorporates or covers susceptibility to pitch of sound or rhythm of sound. In addition, it is also responsive to emotional suggestions to these elements.

Any person, blessed with visual/spatial intelligence generally listens to different sounds and gives positive response (White, 1995: 181). He likes and tries to find out favorable time to listen to music or sounds of the environment, replies to music by dancing, collects information regarding music and tries to enhance the ability of singing and play the musical instruments. He often likes to play with sounds, he can also conclude musical phrases in a song and he or she may have a great intention for career such as singer, instrumentalist or sound engineer (Laughlin, 1999).

Usually composers, instrumentalists, vocalists and bird singing lovers possess a high level of this intelligence.

2.5 Bodily/Kinesthetic Intelligence

It is the potential to use different organs of the body adroitly to convey ideas and feelings. It is the capability to use different types of equipments, objects and apparatuses competently. Examples of this type of intelligence are body acting, carving, sports, drawing, calligraphy, dancing, medical operations, and scientific laboratory skills. Marta Graham, the outstanding American dancer, choreographer and teacher is one of the highest achievers in the bodily-kinaesthetic intelligence (Gardner, 2001).

People with high Bodily/kinesthetic intelligence discover environment through touch and movement, learn well by direct participation and remember what was done rather than what was said, enjoy learning through activities and practical experiences, remains sensitive to physical gestures, exhibits interest in athletics, dancing, acting etc.
Pilot, sculptors, sailors, engineers, painters, athletes, dancers, surgeons, builders show high degree of this type of intelligence (Laughlin, 1999).

2.6 Interpersonal Intelligence

It indicates a person's magnitude of understanding other people such as their wishes desires etc. and as a result works efficiently and diligently with other people (Gardner, 1999:43). It is the potential to know ideas, intentions, feeling and motivation of other people and to channelize and use them properly. It is the ability to understand the importance and establishing interrelationship with people.

Any individual who is endowed with interpersonal intelligence forms social links and makes use of different ways to communicate to others, discerns and recognizes the feelings, thoughts and behaviors of others, it has an impact on opinions and actions of others,

comprehends and imparts effectively, modifies behavior according to different situations, conditions or groups, conveys and shows enthusiasm in socially oriented careers such as politics, administration, guidance, social work and teaching, (Laughlin, 1999).

Psychologists, political leaders, teachers and religious leaders show higher degree of this kind of intelligence. Hazrat Muhammad (S.A.W) is the best example of this type of intelligence.

2.7 Intrapersonal Intelligence

It demands the ability to comprehend one's own wishes, fears and abilities. Furthermore, it also refines the use of that information which is helpful in supervising or managing one's own life (Gardner, 1999:43). It includes the understanding of own thoughts, imagination, interests, strengths, weaknesses and innermost feelings. People who are intrapersonally intelligent opt for self actualization.

Anyone who possesses intrapersonal intelligence is well informed about his limits of actions and finds approaches to give vent to his pent-up feelings, he is very careful about the provocative questions of life such as significance, relation and motive, strives to find out and to comprehend inner experiences of life, gets intuition and perception about the intricacies of self and the conditions of life, attempts for self-actualization (Laughlin, 1999).

2.8 Naturalistic Intelligence

According to Gardner (1999), Naturalistic Intelligence is the ability to recognize different things according to their prominent common characteristics and attributes among them. This capability is decisively concerned to the creation of meaningful classification of both living and non-living things. Therefore, categorization tasks of this type would appear to be of highest importance and measure of the naturalistic intelligence.

A person with high naturalistic intelligence, Gardner (1999) asserts will be able to recognize and classify objects both living and non living things, skilled in distinguishing among members of species or classes; recognizing the existence of other alike species; and establishing the bonds, among several species, classes or groups.

Gardner says that hunters, gardeners, and farmers would show a high degree of this type of intelligence as would artists, and social scientists, who are also skillful in pattern-recognition. He describes that a marketing professional who promotes the small differences between competing products, is applying naturalistic intelligence.

Howard Gardner challenged the general concept of intelligence saying that the meaning given to intelligence by our culture is very limited; he suggested in his book the presence of seven fundamental intelligences. In recent times, he has explored the eighth one also, and spoke about the existence of the ninth (Gardner, 1999). Gardner, in his theory of multiple intelligences (MI theory), has widened the compass of a person's intelligence beyond the limits of the IQ score. He challenged the validity of ascertaining man's intelligence and said that it is incorrect and unnatural when someone is taken out of his usual and normal learning environment and asked to solve some problems or write answers of some questions sitting lonely which he had never performed such type of task before nor he would like to perform again such tasks. Gardner claimed that intelligence is more the ability to deal with problems successfully and producing products which are of high importance and value in one or many cultures.

Gardner came up with the theory for the mind which asserts that, people are different from one another in their intellectual and cognitive abilities, which proves that they have diverse types of intelligences. For instance, an individual can have low musical intelligence but outstanding linguistics intelligence (Eid and Alizh, 2004) and (Sheaere, 2004). It shows that an individual may have all the multiple intelligences or some of them with varying degrees. For

example if a student participation is below than average in classroom activities, we cannot label him unintelligent on the basis of his less participation in the classroom. The student may have other intelligences that make possible to surpass people and to be more creative in other areas.

The Multiple Intelligence Theory emerged as a revolt against the classical outlook of human intelligence. This novel theory appeared simultaneously when other theories were gaining grounds to expound human intellectual capabilities.

It is of the highest significance that we take into consideration and take care of all the diverse human intelligences, and all of the set of intelligences. Human beings are different from one another because they have different set of intelligences and its familiarity will help us tackling the problems (Howard Gardner 1987). Human intelligence Gardner (1983) asserted that only IQ is not human intelligence but it is more than IQ. It contains many distinct capabilities." (Compbell, 2000).

Gardner (1983) asserted that there are two, biological and cultural, bases for the multiple intelligences. Neurobiological study reveals that learning is the result of the changes in the synaptic interrelationship among different cells. Main elements of various types of learning are found in specific areas of the brain. Thus various types of learning results in connections between nerve cells and in different areas of the brain. For instance, damage to the Broca's area of the brain will affect a person's ability to talk verbally using appropriate syntax. However, the damage to the brain will not take away the person's understanding of correct grammar and vocabulary.

Besides biological structure, Gardner (1983) claims that culture influences a person's development of the intelligences. Different societies give importance to different types of intelligences. The culture provides opportunities to certain abilities to nourish and develop and people become skillful in those areas. Therefore, specific intelligences may be greatly developed in many people of one culture; the same intelligences may not be nourished in the persons of another culture.

3. Role of Environment in Intelligence

The unfavorable effects of environmental deprivation and positive favourable affects of environmental enrichment upon the children's cognitive development have been noted in many studies. In a study, Gottfried (1984) concluded that if the children are subjected to certain forms of environmental discouragement earlier in life, their intellectual development gets adversely affected. Similar conclusions were drawn in another study conducted by Sherman and Key (1932) in a poor remote hilly area of U.S.A to the effect that lack of language training and schooling accounted for the very poor scores of the children in the standardized intelligence tests.

However, when the children were provided with favourable environmental situations in the form of appropriate adopted homes such as better schooling and learning experiences etc., the results were better and encouraging in terms of intellectual development. A well known adoptation study (Schiff et al., 1978) conducted in France is a good example. The researcher has compared in this study the IQ scores of the children who were adopted by parents belonging to higher socio-economic class with those of their siblings who were not adopted. The average score of the adopted children was 111 in comparison to the average score of 95 of their siblings reared by their true parents. The privileged environment may thus be said to be responsible for raising the average lQ score by 16 points. Family environment like education of the parents, economic and social status of the family, nutrition, physical and social surroundings of the home etc. are also found to add significantly to the intellectual growth of the children. Geneticists and environmentalists, to support their respective viewpoints, have put enough experimental evidence forward.

According to Chauhan (1991), Pasricha has made a very exciting observation in respect of these experiments. She says that, "It is quite customary for the psychologists wedded to either side namely genetics and environment, to carry out experiments and refer to findings in favour of either of the factors". It has also been found that the results of these experiments can be interpreted either way and can be easily made to support the opposite view. When analyzed in an objective way, it indicated clearly that the two are so closely interwoven that it is impossible to separate the cause of one from that of the other.

It is difficult to perform real experiments for the study of the impact of pure heredity or environment on the growth and development of intelligence.

4. Statement of the Problem

The problem understudy was to find out the difference between self- perceived multiple intelligences (verbal/linguistic, logical/mathematical, visual/spatial, musical, bodily/kinesthetic, interpersonal, intrapersonal, natural) of urban and rural schools students.

5. Objectives of the Study

1. To investigate the differences between self-perceived multiple intelligences of urban and rural schools students.
2. To give recommendations and suggestions in the light of the findings of the study.

6. Research Question

1. Is there any difference between self-perceived multiple intelligences of urban and rural schools students.

7. Research Methodology

Review of relevant literature revealed that numerous studies have been conducted in order to explore the relationship of academic achievement with different variables. No specific study was found regarding the difference of multiple intelligences of urban and rural schools students in Pakistan. Therefore researcher was keenly interested to conduct study on this topic. The following research methodology was adopted.

7.1 Population

Students enrolled in 1st year, in all government higher secondary schools, session 2010, in district Bannu constituted population of the study.

7.2. Sample

Seven government higher secondary schools four from urban and three from rural were randomly selected through basket random techniques. Keeping in view the strength of the students in sample schools using convenient sample method 382 students from urban and 332 students from rural altogether 714 were selected as total sample of the study.

7.3 Instrumentation

Some psychologists have developed different scales for the measurement of multiple intelligences. Multiple intelligence inventory based on Howard Gardner multiple intelligences

theory, developed by Armstrong (1994) was used to measure students perceived multiple intelligences. This inventory contains 40 items five statement for measuring each intelligence. This inventory was translated in Urdu with the help of English and Urdu expert in order to make it easier and understandable to the students in local environment.

For the validity and reliability and to remove language ambiguity the multiple intelligence inventory was personally distributed among 50 subjects as a pilot run. The subjects were part of the population but were not included in the selected sample of the study. Data was analyzed through SPSS–16. The reliability of forty items at Cronbach's alpha obtained was .784 which is quite reasonable.

8. Data Analysis

The collected data was entered in SPSS-16 and was analyzed using appropriate statistical tests. The central tendency and variability of the multiple intelligences of the sampled students was measured using Mean and SD respectively. Independent Samples t- test was used to compare the mean scores of multiple intelligences of the urban and rural schools students.

Mean comparison of Self- perceived multiple intelligences of urban and rural schools students. (Urban students= 382 Rural students=332)

Intelligence	Variable	M	SD	t	p
Verbal/Linguistic	Urban	3.36	.72	4.86	.00
	Rural	3.10	.71		
Logical/Mathematical	Urban	3.11	.86	2.58	.01
	Rural	2.94	.88		
Visual/spatial	Urban	3.22	.67	3.47	.00
	Rural	3.04	.71		
Musical	Urban	2.12	.76	1.27	.20
	Rural	2.05	.71		
Bodily/kinesthetic	Urban	3.61	.71	.12	.89
	Rural	3.60	.72		
Interpersonal	Urban	3.43	.68	1.67	.09
	Rural	3.35	.69		
Intrapersonal	Urban	3.46	.62	2.74	.00
	Rural	3.34	.60		
Naturalistic	Urban	3.27	.67	.57	.56
	Rural	3.24	.70		

9. Findings of the Study

Mean scores and SD of the self-perceived verbal/linguistic intelligence of the urban and rural students M=3.36, M=3.10 and SD=.72, SD= 71 respectively with P value .00 which is less

than 0.01 level of significance which means that there is significant difference between the urban and rural students' self- perceived verbal/linguistic intelligence in favour of urban students.
Mean score of the self-perceive logical/mathematical intelligence of the urban and rural schools students M= 3.11, M= 2.94, and SD=.86, SD= .88 respectively with the P value 0.01 which is equal to 0.01 which means that there is a significant difference between the urban and rural student' self-perceived logical/mathematical intelligence in favour of urban students.
Mean scores of the self-perceived visual/spatial intelligence of the urban and rural students M= 3.22 , M= 3.04 and SD=.67, SD= .71 with the P value .00 which is less than 0.01 which means that there is significant difference between the urban and rural students' self-perceived visual/spatial intelligence in favour of urban students.
Mean scores of the self-perceived musical intelligence of the urban and rural students M= 2.12, M= 2.05, and SD=.76, SD= .71 respectively with the P value .20 which is greater than 0.01 which means that there is no significant difference between the urban and rural students' self-perceived musical intelligence.
Mean scores of the self-perceived bodily/kinesthetic intelligence of the urban and rural students M= 3.61 and M= 3.60, SD=.71, SD=.72 respectively with the P value .89 which is greater than 0.01 which means that there is no significant difference between the urban and rural students' bodily/kinesthetic intelligence.
Mean scores of the self-perceived interpersonal intelligence of the urban and rural students M= 3.43, M= 3.35 and SD=.68, SD= .69 respectively with the P value .09 which is greater than 0.01 which means that there is no significant difference between the urban and rural students' self-perceived interpersonal intelligence.
Mean scores of the self-perceived intrapersonal intelligence of the urban rural students M=3.46, M= 3.34, SD=.68, SD=.69 respectively with the P value .00 which is less than 0.01 which means that there is a significant difference between the urban and rural students' self-perceived intrapersonal intelligence in favour of urban students.
Mean scores of the self-perceived naturalistic intelligence of the urban and rural students M=3.27, M= 3.24, and SD=.67, SD= .70 respectively with the P value .56 which is greater than 0.01 which means that there is no significant difference between the urban and rural students' self-perceived naturalistic intelligence.

10. Conclusions

Urban schools students rated themselves higher than the rural schools students in term of verbal/linguistic, logical/mathematical, visual/ spatial and intrapersonal intelligence.

Urban and rural students rated themselves equal in term of visual/spatial, interpersonal, musical, bodily/kinesthetic and naturalistic intelligence.

11. Recommendations

1 Students should be trained in a way where they may have equal chance for the development of every intelligence.
2 Teacher should plan in a way which can involve as many of the intelligences as possible because every intelligence contributes to the students personality and achievements.
3 Teacher should create strategies to help students gain the knowledge of lesson using many different ways of knowing.
4 Students–centered approach should be used in teaching because it allows students actively use their varied forms of intelligence.
5 All types of intelligences should be equally celebrated. No intelligence should be ignored because some individuals can do wonders in the field of specific intelligences.

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