

Role of Public and Private Schools in the Development of IQ among Elementary Students

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Abstract: The present study aimed at investigating the role of public and private schools in the development of IQ among elementary students. It was necessarily a descriptive research in nature that was conducted among the 56 elementary students of two selected public and private schools in a metropolitan area of Pakistan. An IQ test was developed after pilot testing and was employed for collecting data. The findings of this study highlighted a strong role of an academe in the development of IQ among elementary students. However, the private school was found more keen towards the development of IQ among its students than the public school. The study persuasively recommends that every school must pave the way towards the development of IQ among elementary students in order to boost their self-reliance, morale and prepare them for the future challenges in life.

Keywords: development of IQ level, elementary students, public schools, private schools

1.1 Introduction and Historical Background

In the first decade of the twentieth century, intelligence was perceived primarily as a single entity by Charles Spearman (1904) who later postulated the theory of intelligence as a single entity. It renders the idea that intelligence or human excellence is shaped by the inter-connected cognitive abilities that exhibit themselves in the performance of the individuals. So, if they are able to perform some activities well, they are expected to show the equally good performance on other assignments. Thus, Spearman (1904) generalizing intelligence employed factor analysis in order to measure and quantify it. According to this statistical method, people's intelligence is partially shown by a general factor that refers to some common cognitive ability used

to connect other capabilities. The method is called as intelligence test or IQ or intelligence quotient (Lynn, & Vanhanen, 2002). Thus, "intelligence quotient, or IQ, is a score derived from one of several standardized tests designed to assess and evaluate intelligence" (Zhao, 2015, p.1). "The abbreviation "IQ" comes from the German term *Intelligenz-Quotient*, originally coined by the psychologist, William Stern" (Kutty, 2013, p.83).

The recent studies reveal that Alfred Binet, a French Psychologist, devised the first IQ or intelligence test in 1905. To Binet, intelligence involves many other mental processes like "reasoning, imagination, insight, judgement and adaptability" (Kutty, 2013, p. 83). So in his first test, Binet employed the idea of the mental age for measuring IQ. Alfred defined the mental age as "the ability level of an average child of any particular chronological age. The IQ was then calculated by the formula Mental Age divided by Chronological Age" (Lynn, & Vanhanen, 2002, p. 21). Thus, Binet calculated the mental age of an 8 year old boy by dividing his scores obtained in the intelligence tests by his real age, i.e., 8 (Lynn, & Vanhanen, 2002). In this way, IQ scores were primarily obtained by employing the mental age of a child (Barlow, & Durand, 2014). However, it is further clarified here that "the mental age was then divided by the child's chronological age and multiplied by 100 to get the IQ score" (Barlow, & Durand, 2014, p. 82).

The modern research in intelligence has also made it clear that intelligence tests or IQs comprising various verbal and non-verbal reasoning are used to measure intelligence. These tests are significantly inter-connected mostly at a magnitude of around 0.6 to 0.7. This is how they exhibit the common factor 'g' or general intelligence. The scores got through these tests are shown in a metric form in which the median raw score of the representative sample is set as 100 and the standard deviation

(SD) is set as 15 IQ points. Hence, nearly 96 % of the population scores an IQ ranging from 70 to 130. Almost, 2 % of the of the IQ scores have been shown below 70 and the individuals are considered as abnormal while another 2 % have been shown above 130 and the individuals are considered as bestowed with giftedness. Around 200 of the maximum IQs have been recorded up till now (Lynn, & Vanhanen, 2002).

However, Goertzel and Wang (2007) assert that "despite a long history of research and debate, there is still no standard definition of intelligence" (p. 17). Psychology defines intelligence as an ability to learn and retain something, to get a solution to a problem and to perform any given task tactfully and easily. American Psychological Association (as cited by Goertzel, & Wang, 2007) defines intelligence as the capability "to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought" (p. 19). On the other hand, A. Jensen's definition (as cited by Goertzel, & Wang, 2007), "Intelligence is a general factor that runs through all types of performance" seems to be working behind the metric system of IQ (Goertzel, & Wang, 2007, p. 20).

On contrary to the above discussion, A. Anastasi (as cited by Goertzel, & Wang, 2007) declares that "intelligence is not a single, unitary ability, but rather a composite of several functions. The term denotes that combination of abilities required for survival and advancement within a particular culture" (p. 19). A. Anastasi's this assertion takes the readers to another fact about IQ bringing forth that IQ has long been related to the academic intelligence but so far as the reality is concerned, it has least to do anything with the academics only. Rather, it should be better referred to as giftedness merging all aspects i.e., analytical, practical and emotional aspects, of intelligence (Sternberg, Jarvin, & Grigorenko, 2011). Likewise, IQ is misconstrued and

solely associated with wittiness, sensitivity or humorous nature of individuals. So, the individuals having such qualities are called smart so as to be expected with high IQ. Hence, it is taken as a measurement of intelligence in scores. However, our daily life examples emphasize us not to take it as a synonym for the holistic excellence covering an integrated development of all dimensions of a personality (Herrnstein, & Murray, 2011).

Strichow (2013) declares that "IQ scores are used as predictors of educational achievement, special needs, job performance and income" (p.77). However, it does not appeal to the mind that IQ test should be used to predict someone's capabilities to do something in future. On the other hand, it is suitable to measure someone's present status of ability and IQ scores may predict that the present capability is possibly exerted to the extent that someone might go beyond. On the other hand, it is also a fact that IQ is not an exact scale to determine someone's potentialities. So, increase in IQ scores encourages further polishing of the evident ability (Dweck, 2007).

However, the advocates of IQ tests are of the belief that these tests are a significant measuring tool that can be used to discover the natural and innate discrepancies in intelligence of individuals. In this way, IQ makes it easier to scrutinize the intelligence variations within one person or the total population. "This is based on the theory that people are born with a certain level of intelligence, inherited from their parents, which does not vary greatly throughout their lifetime" (Livesey, 2014, p.162) Keeping in view the importance of intelligence test or IQ, the modern education system emphasizes the efforts for nurturing it among students so that to help them plan their future selecting their career. Moghaddam (2013) concurs with the idea saying that "intelligence tests have had great impact on modern life., because they

serve to screen people, to select for advancement in education and jobs, and to influence how scarce resources are allocated" (p. 23).

The modern research also brings forth that numerous techniques and methods are being invented not only to study the phenomenon of IQ but also to put an effort in increasing it among individuals. Piana (2010) regarding the fact points out that Jose Silva invented 'The Silva Method' which emphasizes problem solving through the idea of self- support, help or comfort. This method teaches many scientific skills as well as unscientific skills. The examples for the former include deep sleep, meditation, retention power, pain control, intuition and energy exertion etc. while the latter refer to recognition of physical challenges, use of self-medication techniques and empathy etc. In one way or the other, it resembles with yoga techniques. Thus, this method "claims to increase an individual's IQ and sense of personal well-being through relaxation and by developing their higher brain functions" (Jennings, & Holmwood, 2016, p. 346). Hence, intrigued and fascinated by the idea of implementation of various methods for the development of IQ among students, the researcher of the present study ventured to investigate the role of public and private schools in the development of IQ among elementary students particularly in a metropolitan area of Pakistan. However, before proceeding further to the methodology of this study it was considered important to have a bird's eye view on the present education system in Pakistan.

1.2 Education System in Pakistan

"The education system of any country plays a vital role in upbringing and shaping minds of the youth of that nation. The stronger and well built the education system, the more powerful and stronger the minds it produces" (Spolsky, & Sung, 2015, p. 163). Shah (2012) concurs with the idea asserting that "education performs a

vital role in nation building, and the attention paid to the education sector by any governments shows the amount of commitment of that government to its people" (p. 18). Concurrent to this, education is undoubtedly a vital indicator of a country's development as it produces human asset for a nation and thus, makes it take an ardent part in the social and economic progress. So, the quality of a country's human resource is indicated by the quality of education provided to its people. Spending on the betterment of education system is, in fact, a kind of investment which a country retrieves as an interest in the form of human asset enhancement. Thus, the nations exceeding in advancement and progress spend generously on their education in order to pace up with the demands of the modern world of science and technology (Govt. of Pakistan, 2009).

Compared with the economically developed countries, those who have just started their journey of development also allocate their budget to their education system in accordance with their economy and other material resources. However, these developing countries also want to adorn their people with the ornaments of education eagerly and readily. Hence, Pakistan gives out 2 % of its GNP which is indeed not sufficient for accommodating the total population that is increasing rapidly with the flux of 2.7 % and so for meeting the challenges in the modern educational system (Govt. of Pakistan, 2009). Resultantly, dropout rate increases in the government / public schools in Pakistan. As a solution to this issue, the government of Pakistan encourages the private sector to come up with its resources in the service of its people (Govt. of Pakistan, 2011 & 2012). Thus, the private sector is standing by the public sector taking it as its counterpart since the very first year of the independence of Pakistan (Isani & Virk, 2003). Although, these private schools are solely run by their owners without any financial aid from the government, they are extending day-by-day

in the urban as well rural areas of the country. Hence, the government also appreciates these institutes giving them recognition as their registration with various educational boards in the country (Wotson, 2005).

The Govt of Pakistan (1998) states that the government in its policy on education in 1972, tried to nationalize these privately run institutes and in 1974 took over the 19,432 institutes. Among these, there were 18,926 schools, 346 Madrassas, 155 colleges and 5 technical institutions. But again due to the fiscal constraints the government, in its educational policy 1979, had to realize that it was a wise decision to let the private schools run on their own by their owners. So, they are run by any social organization, individuals or co-partners and extract their expenditures by charity donations or funds / fee. Hence, the National Education Policy (1998) estimates thirty

thousand privately managed intuitions at various levels all across the country. Iqbal, (2012) adding to the information says that "most of these institutions are 'English medium' schools and impart education from play-group to secondary level, for example, Beacon House School System, City School, Aizer Kindergarten and secondary schools" (p. 2).

Shami and Hussain (2007) report that in 2005, 81,103 private institutions were working in Pakistan. In the Punjab province the number was 48,541, in the province of Sindh, it was 12,574, in the province of Khyber Pukhtunkhaw it was 11,276, in the province of Balochistan there were 1,750 educational institutes; similarly, in ICT 750, in FATA 640, in FANA 2,861 and in AJK 2,711 educational institutes were functioning. Iqbal (2012) agrees with the idea saying that since it is the foremost duty of the government to provide education to the people. So, if the private sector is

supporting the government in this regard, it must be appreciated and encouraged. Resultantly, not only the number of privately run schools is increasing rapidly in almost all areas of the country but they are being found competitive to the public schools in their methods being used for delivering curriculum in classes, conducting co-curricular activities and developing their students. Hence, taking the present status of public and private schools in Pakistan quite concurrent with the present study, the researcher of this study undertook a research in order to delineate the role of public and private schools in the development of IQ among elementary students.

2. Methodology of the Study

The underlined study is descriptive in nature. It worked on the following questions:

1. Do public and private schools play any role in the development of IQ among elementary students?
2. Which sector, public or private, is paying more attention to the development of IQ among elementary students?

Thus, the study was conducted mainly to investigate the role of public and private schools in the development of IQ among elementary students. For this purpose, it involved 56 students (28 from each school) from the two public and private schools in a metropolitan area of Pakistan. The required data was collected through an IQ test that was developed carefully by the researcher after the pilot testing. Survey

method was used for collecting data. The procedure for collecting the data was carried out in two phases for the convenience.

2.1 Phase I

In this phase, the researcher visited the selected public school and gave away the IQ test among the randomly selected group of 28 students. The test was a close-ended type of questionnaire containing 15 items and it was allocated 30 minutes. Later, the data of the public school was calculated, analyzed and tabulated carefully. However, it is pertinent to mention here that before the actual administration of the research tool, its validity and reliability was checked through pilot testing and later it was revised with the help of the expert researchers.

2.2 Phase II

In the second phase, the researcher visited the selected private school and gave away the same IQ test among the randomly selected group of 28 students. Here again, the students were allowed 30 minutes to do the 15 items of the test. Later, the researcher carefully calculated, analyzed and tabulated the data of the selected private school.

3. Discussion/Conclusion

The findings of the present study show that there is a significant difference between the mean values of both the schools. The test scores of the private school are higher than the scores of public school. So the private school was found striving harder

for the development of the IQ among the elementary students than the public school. These findings made the researcher infer (while generalizing them to the public and private sectors as a whole) that private schools provide quality education through punctual, diligent, highly qualified and trained teachers with a conducive learning environment to their students. They also give them freedom of expression while dealing with problem solving activities in their syllabus. Besides, they use latest technologies in the class. Their infrastructure, selective enrolment system and merit-oriented admission system, and proper and vigilant administration are more appreciable than the public schools. This study also put forth that private schools have the flexibility to create a specialized program for their students. For example, private schools may use art or science in all classes, or take children on excursion trips that blend lessons across the curriculum. Furthermore, these schools can create their own curriculum and assessment systems, although many also choose to use standardized tests. These schools were also found habitual of the IQ test as the students reported that IQ tests were periodically for the enhancement of their intelligence by the respective teachers of every subject. So, the present study concludes on the basis of its findings that the private schools are playing their role in the development of IQ among their elementary students more keenly than public schools. Concurring with the present study, Iqbal (2006) asserts that "private English medium schools provide more instructional material and their teachers use activity based teaching methodologies and arrange more co-curricular activities than the public schools" (p.6).

Furthermore, a little glance on the past studies conducted in the same scenario also reveals that private schools are increasing speedily and flourishing swiftly because of their keenness towards the over-all development of their students. A research study reports that from 2000 to 2005 the number of private schools raised from 36,096 to

81,103 and thus indicating an average of 25 % per annum (Iqbal, 2006). Jimenez and Lockheed (2005) conclude that a lot of research is being conducted on the comparison of the public and private schools. Referring to their study conducted to analyze the condition of students in Mathematics, they (2005) report that private schools in the United States of America put more efforts in making their students develop their mathematical skills than the public schools. They (2005) assert inferring from their study that the performance of an average looking student was better in the private schools than the public institutions.

Thus,, conducting research for comparing public and private schools with any educational aspect has become quite common and widespread. Iqbal (2006) concurs with the idea saying that "many research studies have been conducted to compare the various aspects of public and private schools all over the world" (p. 42). So, the

significance of the present study lies in the fact that it deals with a universal issue, i.e., comparison of public and private schools in an educational scenario and reaches the conclusion that private schools are far ahead than the public schools in the development of IQ among the elementary students. The conclusion of this study also agrees with another widely accepted truth that private schools are a better choice for the students than public schools (Iqbal, 2006).

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Results

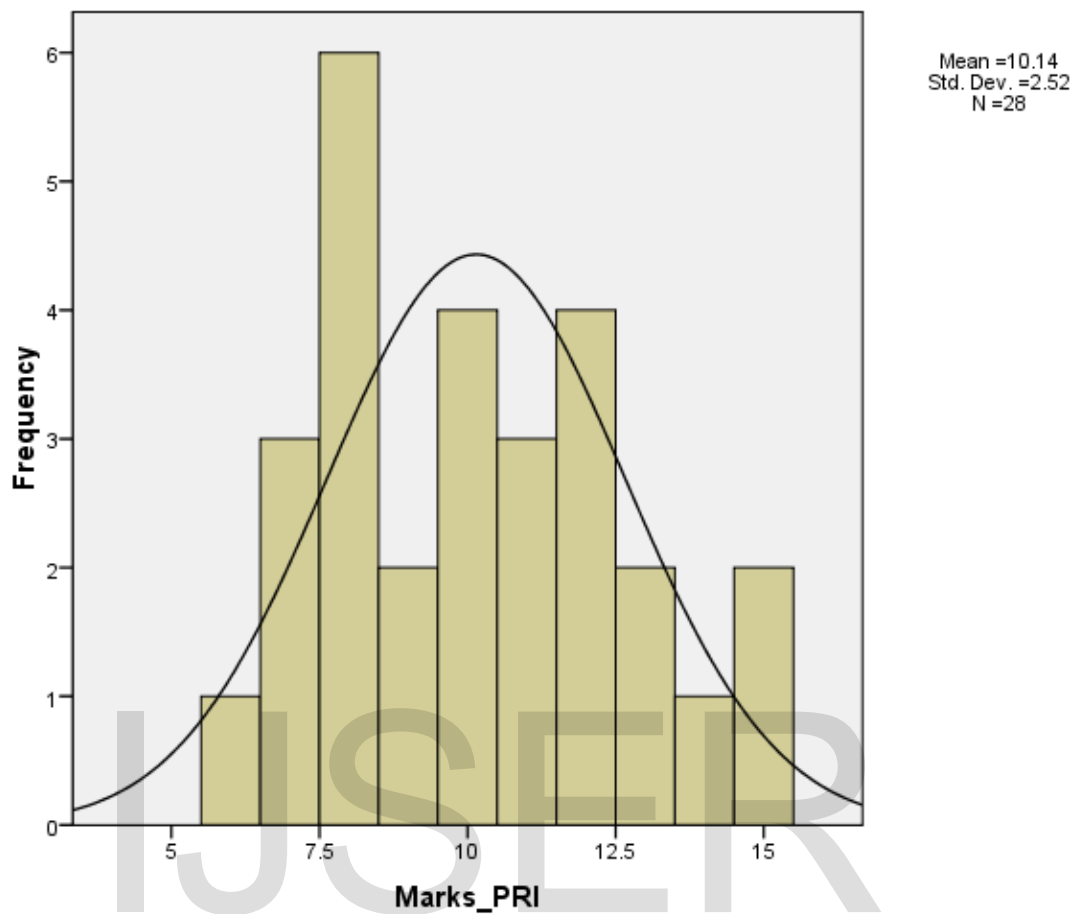
The data obtained from tests are tabulated as.

Table

Comparison of the role of public & private schools in the development of IQ among students

Sample	N	Mean	S.D	t_c	t tab
Private school	$n_1=28$	$X_1=10.14$	$S_1^2=6.35$	6.28	1.6775
Public school	$n_2=28$	$X_2=6.21$	$S_2^2=4.62$		

The students' performance in the private school is delineated through a graph as below,



Likewise, the students' performance in the public school is delineated through a graph as below,

