

Correlation between I.Q. and Teaching Aptitude of Secondary School Teachers

Mr. Dhaval B. Solanki¹, Dr. Dharmistha Panchal²

¹Research Scholar, Sabarmati University, Ahmedabad, Gujarat, India

²Retired Professor, Gujarat University, Ahmedabad, Gujarat, India

ABSTRACT

Teaching is not just transferring content from the given syllabus but it is an art of imparting knowledge from teacher to the students, a live object. Hence, it demands articulate ways of modification of teaching-learning process as and when require as well as according to the student learning capacity. In short, creating a persuasive learning environment would be a key factor for classroom engagement. So, the teachers should have high teaching aptitude that helps them to design various strategies for teaching-learning practices. Designing such processes definitely involves high-end thinking involving collaborative thinking to channelize the content into various activities and discussions. There is a possibility that it might depend on the intelligence of the teacher. Hence, the researcher, in this study, have worked to find out the correlation between the I.Q. and the teaching aptitude of the teachers teaching in the secondary schools. The researcher could find the relationship positively dependent on each other at the end of the study stating the directional correlation between I.Q. and Teaching Aptitude of secondary school teachers.

KEYWORDS: Intelligence Quotient, Teaching Aptitude

INTRODUCTION

Teaching learning process is an important phenomenon for teachers and students both. In any formal or informal set up of educating a child, may it be an ancient Gurukul or the current day school format, the role of teacher has always been very crucial and important as the teacher participation is a crucial one when teaching. It is the only teacher who decides the entire teaching process, he decides there points when he need to be very active and commanding, doing many activities, taking the complete control by his own side and at the same time he also knows when to allow the students for self-learning, observation and working on their own. Well, that is why it has been said that teaching is an art not just a process of imparting knowledge or completing syllabus.

Teaching aptitude plays a major role here for teachers helping them and leading them to design their teaching-learning process. A teacher who has high teaching aptitude, clearly knows what to emphasize and what to leave upon the students, has a clear road map of his teaching process with rationales that leads him towards goals by setting up timely benchmarks. When we talk about the aptitude of a person, it is his present condition or a trait that indicates about the future outcomes considering his potential.

With reference to the New Dictionary of Psychology (1947), it defines aptitude as a capacity in any given skill set or any field of knowledge, according to which a prediction can be made about the amount of improvement that might be

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affected by further training. More specifically, Hahn & Maclean (1955) defines the aptitude as latent potentialities, undeveloped capacities to acquire abilities & skills and to demonstrate achievements.

According to Bingham's definition that finds support from Freeman (1955) as aptitude is a combination of characteristics that suggests an individual's capacity to acquire (with training) some specific knowledge, skill, or set of organized responses, like the ability to speak a language, to become a singer, to do some computer programming work or teaching etc.

So far teaching aptitude is considered, there are many factors that affects it and it also depends upon certain personal traits, intellect of the person and his/her temperament. A high teaching aptitude often supports the teacher to get over even drastic constraints are imposed on his/her performance. Research studies on teacher aptitude also revealed that many factors have dominant roles in teaching aptitude.

As per the view of Hadfield (1952), "Mental ability is the full and harmonious functioning of the whole personality". A teacher who is mentally able can teach, guide and motivate his students precisely to achieve the goals of life.

Aptitude test actually measures many or specific factors unlike the intelligence test that measures general factors. While in a hasty examination of the test format these days,

aptitude test also somewhat looks similar to the achievement test only that lies for the measurement purpose. Still, the main difference is, an achievement test is mainly used to measure an individual's current level of knowledge or skills or performance while an aptitude test is used to predict how better an individual would learn and perform for the required skill set or task. Intelligence helps a person to adapt various methodology with due understanding, make a person curious, has a clear understanding about their knowledge which in turn helps a person to do better in his profession.

Hence, the researcher wanted to understand the relationship of intelligence with the teaching aptitude. A teacher with high teaching attitude can bring about desired changes in his teaching methodology that can incur positive changes in the performance of the students. Working to improvise the performance in the own profession demands clear understanding of various factors involved to enhance the performance and logically it clearly demands the intellect of the person as well. The researcher focuses on the teaching aptitude as good teachers can lay down the foundation of bright future and nation. Students after 12th grade choose a specific stream to pursue their career. Secondary schooling also plays an important role in defining the leniency of the students towards various streams which ultimately has direct link with their career in future. So, the researcher proposes to understand the relationship of I.Q. and Teaching aptitude of teachers teaching in Secondary schools.

The title of the study is as under,

A study of the relation between I.Q. and Teaching Aptitude of secondary school teachers of Ahmedabad city.

To study the above topic, the researcher did a minor research in Ahmedabad city.

Objectives

The researcher could clearly penned down the objectives of his research, which are also known as the statements that helps designing the path of research. For this study, the researcher has following objectives.

1. To find out correlation between I.Q. and Teaching aptitude of secondary school teachers.
2. To find out the correlation between I.Q. and Teaching aptitude of male teachers of the secondary schools.
3. To find out the correlation between I.Q. and Teaching aptitude of female teachers of the secondary schools.
4. To find out the correlation between I.Q. and Teaching aptitude of the teachers teaching in the granted secondary schools.
5. To find out the correlation between I.Q. and Teaching aptitude of the teachers teaching in the non granted secondary schools.
6. To study the correlation between I.Q. and Teaching of male teachers teaching in the granted secondary schools.
7. To study the correlation between I.Q. and Teaching of female teachers teaching in the granted secondary schools.
8. To study the correlation between I.Q. and Teaching of male teachers teaching in the non granted secondary schools.
9. To study the correlation between I.Q. and Teaching of female teachers teaching in the non granted secondary schools.

Hypothesis

The research hypothesis is a statement describing positive outcome of the research or study. The researcher has put forwarded following hypotheses for his study, they are as following.

1. **H₀₁** – There will be no significant correlation between I.Q. and Teaching aptitude of secondary school teachers.
2. **H₀₂** – There will be no significant correlation between I.Q. and Teaching aptitude of male teachers of the secondary schools.
3. **H₀₃** – There will be no significant correlation between I.Q. and Teaching aptitude of female teachers of the secondary schools.
4. **H₀₄** – There will be no significant correlation between I.Q. and Teaching aptitude of the teachers teaching in the granted secondary schools.
5. **H₀₅** – There will be no significant correlation between I.Q. and Teaching aptitude of the teachers teaching in the non granted secondary schools.
6. **H₀₆** – There will be no significant correlation between I.Q. and Teaching of male teachers teaching in the granted secondary schools.
7. **H₀₇** – There will be no significant correlation between I.Q. and Teaching of female teachers teaching in the granted secondary schools.
8. **H₀₈** – There will be no significant correlation between I.Q. and Teaching of male teachers teaching in the non granted secondary schools.
9. **H₀₉** – There will be no significant correlation between I.Q. and Teaching of female teachers teaching in the non granted secondary schools.

Population of the study

For the said study, the researcher has considered the teachers teaching in the granted and non granted secondary schools of Gujarati as well as English medium teaching all the subjects of Ahmedabad city.

Sample of the study

The researcher divided the city in three main zones :

1. Central Ahmedabad
2. East Ahmedabad
3. West Ahmedabad

For this the researcher collected data from 12 granted schools, 4 from each zone and 10 non granted schools, 3 from central zone, 3 from East zone and 4 from West Zone. In all researcher took 100 teachers as a sample of the study, i.e. 50 from Granted secondary schools and 50 from non granted secondary schools. For the study between the relation between the male teachers group and female teachers group, the researcher took 25 males and 25 females from Granted secondary schools and same way 25 each from non granted secondary school.

Variables of the research

As the study is to know about the relationship between the I.Q. and Teaching aptitude of the teachers teaching in the secondary schools, the research is equally dependent on both the aspects that research is trying to observe. Hence, this study has 2 variables –

1. I.Q. (Intelligence quotient) and
2. Teaching Aptitude

Tools for the research

Research tool is a very important key factor to define the validity and reliability of any research. The researcher used following tow research tools in the proposed research.

A. Tool to measure I.Q.

For the measurement of Intelligence of the secondary school teachers, the researcher used Intelligence test prepared by Dr. K. G. Desai (1992) which contains 8 sub tests within, 4 verbal tests and 4 non verbal tests. The total test included 88 questions in all.

The researcher selected this test as the tool for his research due to following reasons:

1. The reliability of Test-retest of this test is 0.75.
2. The half-split reliability of this test has been seen high nearly 0.88.
3. The co-relation between the scores of verbal and non verbal test was calculated which is nearly 0.78. $M_v = 21.10$ and $M_{nv} = 20.91$. The difference between the average of both is 0.2, which is not significant.
4. The co-relation between the score of this Intelligence test and Desai-Bhatt Intelligence test is also high nearly 0.78, which indicates simultaneous validity of this test. (Source: K. G. Desai Intelligence Test Manual, 1992)

Over and above, the researcher could find that though the Intelligence Test is prepared long back in 1992, this tool is still most adaptable and have been used by many researchers of Gujarat now and then. It is quite relevant as well.

B. Tool to measure Teaching Aptitude

For the measurement of Teaching Aptitude, the researcher selected Teaching Aptitude Test (TAT) developed and standardized by Dr. Satishprakash S. Shukla (2012). The reliability of the test is done using various which is quite high, i.e.

1. Reliability using test-retest – 0.83
 2. Reliability using Rullon – 0.93
 3. Reliability using Flangan – 0.91
 4. Reliability using Kuder Richardson – 0.84
- (Source: Teaching Aptitude Test (TAT) manual, 2012)

Methodology and Data Collection

To study the relationship between I.Q. and Teaching aptitude of teachers, researcher needed to know about the I.Q. of the secondary school teachers those who are included as sample and same time to know about the Teaching aptitude of the same teachers whose I.Q. is known.

The researcher conducted the Intelligence test of the selected sample teachers in the first meeting and after a

break of 2 hours, the researcher conducted the Teaching Aptitude test of the same teachers. After obtaining the scores of Intelligence test, the researcher converted the Intelligence test scores into I.Q. following the directives given in the manual of the Intelligence test.

The Teaching scores of the teachers were converted to Intelligence Quotient Level (I.Q. level) as per the guideline given in manual.

The researcher studied that the I.Q. levels in males and female differs. A study done in 2014, a meta-analysis about the sex differences in scholastic achievement, which was published in 'Psychological Bulletin' clearly showed that females outperformed males in teacher-assigned school marks in elementary to undergraduate and graduate level of university. The above meta-analysis was done by Daniel Voyer and Susan D. Voyer, University of New Brunswick, drew from 97 years of 502 effect sizes and 369 samples stemming from the year 1914 to 2011.

Calculation of the data

To find out the correlation, the researcher calculated correlation 'r' of Pearson. The result of the calculation is as under. Correlation is a statistical tool to know about relationships and association between variables. According to Ibanga, the two terms (i.e. "relationships" and "association") mentioned above "are often used interchangeably; and they refer to the extent to which one variable changes (in quantity or quality) in response to change in another variable" (1992:137).

The researcher, in this research, is aiming to study if there is any correlation between the intelligence and teaching aptitude of the teachers in the above overall group as well as individual set of group. So, the researcher calculated, Pearson 'r' for it. **Pearson's correlation** is used when two quantitative variables are there in study.

The value of possible correlations always ranges from +1 to -1, where the zero correlation indicates that there is no relationship between the variables taken up in the study. A negative correlation of -1 indicates a perfect negative correlation, which shows that as when the one variable goes up, the other variable goes down, while a correlation of +1 indicates a perfect positive correlation, which shows that both variables move in the same direction together.

Table No. 1: Various studies showing their correlation values

No.	Type of Study	N	Pearson 'r' value
1	Overall data I.Q. X T.A.	100	0.380160096
2	Overall I.Q. X T.A. of male teachers	50	0.519567793
3	Overall I.Q. X T.A. of female teachers	50	0.273366643
4	I.Q. X T.A. of teachers of Granted school	50	0.504487101
5	I.Q. X T.A. of teachers of Non granted school	50	0.257831332
6	I.Q. X T.A. of male teachers of Granted school	25	0.605087694
7	I.Q. X T.A. of female teachers of Granted school	25	0.416442467
8	I.Q. X T.A. of male teachers of Non granted school	25	0.559334450
9	I.Q. X T.A. of female teachers of Non granted school	25	0.149153878

Where N is the size of the sample for the each study.

Analysis and Interpretation

From table no. 2, it is clearly seen that the correlation value is positive in each case showing that value of I.Q. has positive correlation with teaching aptitude of teachers. The positive value of 'r' shows the direction of the relationship between both the independent variables taken under the study hereby, i.e. I.Q. and Teaching aptitude. The positive values indicated that if the value of one variable increases the value of another variable also increases.

As Garret has rightly said, "Even a small 'r' may be significant if computed from very large sample." Table 25 given by given by Garret is specially useful, when N is Small.

The highest value of 'r' is seen here in the correlation study of male teachers of granted secondary schools indicating a strong correlation between I.Q. and T.A. which is 0.605087694. Same way female teachers of granted secondary schools have also shown value of 'r' as 0.416442467 showing medium yet positive correlation. While same way, the 'r' value of male teachers of non granted secondary schools is 0.559334450 showing again medium correlation in them between I.Q. and T.A.

Apart of that the lowest value of 'r', 0.149153878, is seen in the female teachers of non granted secondary school which expresses very weak yet positive correlation between I.Q. and T.A. Similarly the overall correlation value 'r' of the all female teachers is, 0.273366643, also showing weak correlation still positive one.

Inference

Hence, from the above study researcher could understand that for his sample, the correlation between I.Q. and Teaching aptitude is positive. Still, it guides to have further research to study the effect levels of I.Q. on teaching aptitude. Overall, as the correlation values of entire study are positive, the researcher concludes hereby that the relationship between I.Q. and Teaching Aptitude is consistent and unidirectional.

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