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Study on aptitude test performance of secondary school students

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ABSTRACT

The objective of the present study was to find out the aptitude test performance of secondary school students (grades IX and X). Purposive sample research design was adopted and 40 students were selected from govt schools in Koppaka, West Godvari district of Andhra Pradesh. Tamanna aptitude test scale developed by NCERT was applied. The findings of the study revealed that there was significant difference in level of aptitude among higher secondary students in terms of sex. The male students were having higher level of language aptitude and abstract reasoning compared to their counterparts whereas female students had higher verbal reasoning aptitude. Significant difference was also found in the aptitude of grade IX and X students. Grade X students had higher level aptitude in terms of language, abstract and verbal reasoning.

Keywords: Aptitude; students; language; verbal; abstract; reasoning; male; female

INTRODUCTION

That development of a country is always based upon the standard of education of the citizens. Education is a continuous lifetime process. The main aim of the education is to make overall development of the citizens. Each person carries general and special qualities. Such qualities are lying since their birth. Proper environment is always required to develop such inner qualities. After knowing interest hobbies, capabilities and qualities of the students, proper education system is required to be applied (Patel 2019).

The essence of schooling is to provide learners the opportunity of acquiring requisite education and training that will enable them to adjust meaningfully in the society and contribute to the development of the nation. In psychology there are many methods of measuring human abilities in which the measurement of intelligence and aptitude is very commonly used in judging the ability of any human being. Aptitude is commonly used term in the field of vocational psychology. It is an important aspect of psychological measurements for individual differences for suitability of any occupation.

Anazia (2019) revealed that quantitative and verbal aptitudes had predictive power on the performance of senior secondary school students in economics. However quantitative aptitude had more predictive power than verbal aptitude. It was recommended that school authorities should provide learning materials that would promote the acquisition of quantitative and verbal skills; teachers should use appropriate teaching methods and promote high-order thinking and logical reasoning in the students and government should recruit adequate and qualified teachers to teach economics.

Balasico and Tan (2020) revealed that students had better general scholastic aptitude but poor entrepreneurial skill. Occupational interests of students were so varied ranging from highly preferred to least preferred. Career in the science was moderately preferred by the students. Most of the students had no highly preferred occupation. Correlation showed that creativity was not associated with student's academic performance while the rest such as general scholastic aptitude (science ability, reading comprehension, verbal ability and mathematical ability), technical-vocational ability (clerical skill and visual manipulative skill), non-

verbal ability, logical reasoning ability and entrepreneurial skill (planning and decision making, budgeting, marketing and forecasting) were positively correlated to student's performance. Stepwise linear regression analysis indicated that mathematical ability, verbal ability and logical reasoning ability were predictors of student's academic performance.

Kanimozhi and Ganesan (2017) observed that the majority of higher secondary students (54.22%) were at average level of quantitative aptitude. In differential analysis, there was significant difference in level of quantitative aptitude among higher secondary students in terms of sex. The male students were having more level of quantitative aptitude compared to their counterparts. But there seemed no significant difference in quantitative aptitude among higher secondary students in terms of locality.

Vadivu et al (2016) revealed that the scientific aptitude test for secondary students was useful to ignite their scientific temper and also useful in preparing them for future competitive examinations.

Barmola (2013) reported that there was significant difference between science and arts students in terms of abstract and verbal reasoning. No significant difference was found in terms of academic performance among students. It was concluded that there could be important role of abstract and verbal reasoning among science and arts students for their aptitude but not for academic performance.

Adesoji and Oginni (2012) in their study noted that students' aptitude was a factor responsible for poor performance. They lamented that studies had not paid adequate attention to students' aptitude while concentration had been on teachers, schools and the learning environment as variables responsible for this poor performance. Adeyemo (2010) recommended that the development of students' abilities (aptitudes) should be of great importance as it shows a high and positive significance in problem solving which also relates to effective learning and bring about high achievement. However the aptitudes of interest were quantitative and verbal aptitudes.

Olatoye and Aderogba (2011) reported that for students to perform well in the general aptitude test, they need to have high numerical and verbal abilities. There was no significant difference between male and female students' performance in verbal ability, numerical ability and general aptitude tests. The study provided an empirically based suggestion for students to develop high verbal and numerical skills in order to do well in aptitude test. It was also imply that verbal and numerical ability tests could be validated using a good aptitude test.

Newton and Moore (2009) described the relationships among scholastic aptitude, nursing aptitude, BSN student attrition prior to the final semester of the curriculum and bachelor of science in nursing (BSN) student readiness for the national council licensure examination registered nurse (NCLEX-RN). It was suggested that there was need for a parsimonious explanatory model of BSN student attrition that could be used to guide admission and progression policies and ensure that students ready for the NCLEX-RN were the ones graduating from BSN programmes.

The objectives of the present study were to find out the gender and class difference between wrt language aptitude, abstract and verbal reasoning of secondary school students. Information from this study would be helpful in shaping the teaching and learning performance of the secondary school level. Understanding the influence of language, abstract and verbal aptitudes could help teachers in designing their lessons by using appropriate teaching methods that would simplify concepts considering the abstract nature of the subject and encourage students to develop higher-order thinking skills.

METHODOLOGY

The sample consisted of 40 secondary education students of IX and X standard of both sexes from government schools of Koppaka, West Godavari, Andhra Pradesh. The age range of the students was 14-16 years. Tamanna aptitude test scale developed by National Council of Educational and Research Training was administered for the collection of data. For statistical analysis of the data, t-test was used.

RESULTS and DISCUSSION

The data given in Table 1 (Fig 1) show that language aptitude mean score of male students (7.25) was higher than the female students (5.9). Thus male students had more language ability than female students. The male students also had higher score for abstract reasoning (7.6) as compared to female students (6.05). This shows that the male students were better

Table 1. Language aptitude and abstract and verbal reasoning level of male and female secondary school students

Variable	Gender	n	Mean	SD	t-value	P-value
Language aptitude	Male	20	7.25	1.44	2.40686	0.01*
	Female	20	5.9	1.97		
Abstract reasoning	Male	20	7.6	1.39	2.047597	0.02*
	Female	20	6.05	2.99		
Verbal reasoning	Male	20	6.15	1.90	2.87112	0.003**
	Female	20	7.7	1.38		

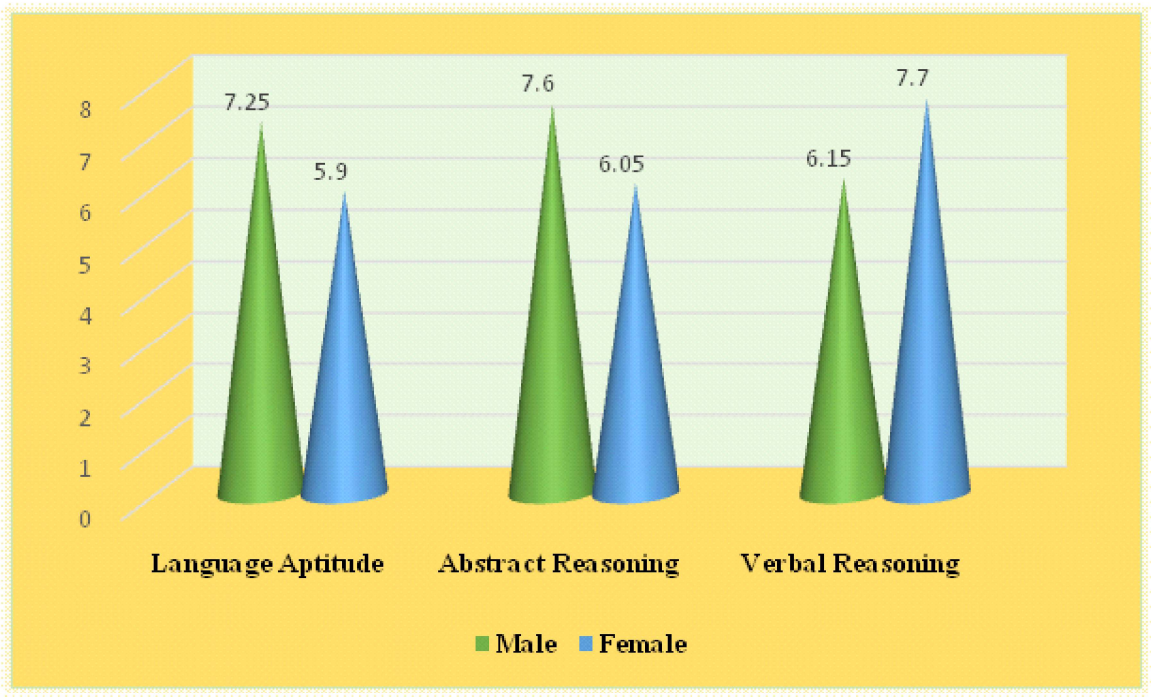

Fig 1. Aptitude performance level of male and female secondary school students

in abstract reasoning compared to their counterparts. However the female students had higher verbal reasoning aptitude (7.7) as compared to male students (6.15) that shows that female students were better in verbal reasoning as compared to their counterparts.

Table 2 (Fig 2) gives the difference between IX and X students in terms of aptitude performance. It was found that the mean score of language aptitude and abstract and verbal reasoning of X class was higher (23.7) as compared to IX class students (21). This indicates that there was significant mean difference between grade IX and X class students. Thus X class students were better in language aptitude, abstract and verbal reasoning in comparison to IX class students.

CONCLUSION

Aptitude performance is the potential of a person to learn effectively in future engagements. Findings of the present study revealed that there was significant difference in level of aptitude among higher secondary students in terms of gender (male and female students). The male students had higher level of language aptitude and abstract reasoning aptitude as compared to their counterparts whereas in verbal reasoning female students scored higher as compared to male students. There was significant difference in level of language aptitude, abstract and verbal reasoning between the students of grade IX and X the latter having higher level of aptitude.

Table 4. Language aptitude and abstract and verbal reasoning level of IX and X standard school students

Variable	Class	n	Mean	SD	t-value	P-value
LA, AR, VR test score	IX	20	21	3.36	2.19	0.01*
	X	20	23.7	4.18		

Fig 2. Language aptitude and abstract and verbal reasoning level of IX and X standard students

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