

A study of scientific attitude and academic achievement subject of secondary school students

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Abstract

The present study, the investigator **study of scientific attitude and academic achievement subject of secondary school students, the population in this study is 97 students, the findings show that the level** of scientific attitude of secondary school students is 12, 4% is high level of scientific attitude of secondary school students, 75, 2% is average level of scientific attitude of secondary school students, 12, 4 % is low level of scientific attitude of secondary school students.

Level of academic achievement subject of secondary school students, 18,6% is high level of academic achievement subject of secondary school students, 54,6% is average level of academic achievement subject of secondary school students, 26,8% is low level of academic achievement subject of secondary school students.

Mean, SD, and t-value of male and female of academic achievement of secondary school students. The obtained t-value is 3,03, t-table value is 2,62, so that the obtained t-value is more than the t-table value, in addition, it shows that the null hypothesis is rejected at 0,01 level, hence the researcher constructed alternative hypothesis as there is significant difference between male and female of academic achievement of secondary school students. **Mean, SD, and t-value** of male and female of scientific attitude of secondary school students the obtained t-value is 4, 92, t-table value is 2, 62, so that the obtained t-value is more than t-table value, in addition show that the null hypothesis is rejected at 0, 01 level. Hence the researcher constructed alternative hypothesis as there is significant difference between male and female of scientific attitude of secondary school students, **r-value** of academic achievement and scientific attitude of secondary school students. The coefficient of correlation is R-value 0.46, which show that the moderate are substantial position correlation positive correlation between scientific attitude and academic achievement of secondary school students.

keyword: scientific attitude and academic achievement subject of secondary school students

INTRODUCTION

Science has become an essential part of our daily lives by expressing in every aspect of our lives. From a young age, humans are naturally curious and try to find the solutions through the problem. Teachers must understand and explain the phenomena around them and the experience of them, and showed that inhabit will be from childhood. They have to try to understand the world in which they exist by asking questions about their encounter daily lives.

Erdoğan (2011)¹, discusses the positive contribution to the responsible behavior of students attending the study. Balım (2013)², includes activities in which students are highly engaged and allows students to think and ask questions. At the conclusion of the project, it was concluded that the project activities were effective in increasing the scientific process skills of secondary school students.

Lena Raved and Orit Ben Zvi Assaraf (2010)³, the 21st century features many frequent and remarkable scientific advances, which have important implications for decisions that govern everyday life. It is therefore important to provide a comprehensive scientific education to the population and to provide the appropriate tools for decision making. On the other hand, we want to encourage good attitudes among students to study science and encourage them to choose science as their major discipline. The following study examines the 10th grade students in understanding and recording the factors that influence their attitudes toward teaching science. The research was conducted through qualitative research method. This approach expresses the feelings, attitudes and beliefs of students, and explores the characteristics of factors influencing student's attitudes. Based on these factors, we find that the most important thing for secondary school students is the interaction between teachers and students, the relevance and accuracy of the topic being studied, and the variety of teaching methods. Therefore, we recommend that these three elements will be highlighted, especially by teachers and teachers in secondary school.

Dr. Rajib Mukhopadhyay (2014)⁴ explained that the scientific attitude is important for students and teachers. The student's scientific attitude should be the primary concern of the science teacher. The knowledge of the different operational dimensions of scientific attitudes and measurement may help science teachers to identify the inclination of scientific learners to different scientific endeavors. Considering the psychometric attitude of science, this is an important part of the current study. The results show that the general and specific attitude towards science. Dimensions of the structure are discussed with reference to a detailed review of the relevant literature. There is an emphasis on the scientific attitudes of students in secondary schools. Tools that are based on sound psychology and are appropriate for the current purpose are also identified in this review, which may be used by science teachers in secondary schools.

¹ Erdoğan, M. (2011). The Effects of ecology-based summer nature education program on primary school students' environmental knowledge, environmental affect and responsible environmental behavior. *Educational Sciences: Theory & Practice*, 11(4), 2223-2237.

² Balım, A. G., Çeliker, H. D., Türkoğuz, S., & Kaçar, S. (2013). The effect of reflections of science on nature project on students' science process skills. *Journal of Research in Education and Teaching*, 2(1), 149-157.

³ Lena Raved and Orit Ben Zvi Assaraf (2010) Attitudes towards Science Learning among 10th-Grade Students: *International Journal of Science Education*, 2010, 1–25,

⁴ Dr. Rajib Mukhopadhyay (2014) Scientific attitude some psychometric considerations, *IOSR Journal of Humanities and Social Science*, ISSN: 22790837, Volume 19, Issue 1, Ver. VII (Jan. 2014), PP 9

Nilay S, Cumhuri T, Erol, T. (2015)⁵ expressed the study that was designed as a one-group pre-test post-trial experimental study. In addition, an open-ended interview was used to find students' views on the project, for non-parametric quantitative data analysis and for qualitative data analysis. The results showed that the project was effective in enhancing students' attitude towards science and creative thinking. At the same time, it was found that using different learning environments attracted students' interest in learning science and positively impacted them.

Objective

- To study the level of scientific attitude of secondary school students
- To study the level of academic achievement subject of secondary school students
- To study the significant difference between male and female of scientific attitude of secondary school students
- To study the significant difference between male and female of academic achievement of secondary school students.
- To study the relationship between academic achievement and scientific attitude of secondary school students.

Hypothesis

- There is no significant difference between male and female of scientific attitude of secondary school students
- There is no significant difference between male and female of academic achievement of secondary school students.
- There is no significant difference between the relationship between academic achievement and scientific attitude of secondary school students.

Methodology

- The present study had taken 97 secondary school students.
- The tools were construction by the researcher and validity and reliability are also.
- This tools have 36 items that items score will be 5,4,3,2,1,positive.the negative items will be score 1,2,3,4,5.the tools maximum score is 180.maximum score will be 36.

Analysis

Objective1; to study the level of scientific attitude of secondary school students

Table1; Shows the level of scientific attitude of secondary school students

Sl.no	level	%	N
1	High	12.4	12
2	Average	75,2	73
4	low	12.4	12

⁵ Nilay Şener, Cumhuri Türk, Erol Taş(2015) Improving Science Attitude and Creative Thinking through Science Education Project: A Design, Implementation and Assessment, Journal of Education and Training Studies,ISSN 2324-805X E-ISSN 2324-8068, Vol. 3, No. 4; July 2015.

	total	100	97
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The table above shows that 12,4% is high level of scientific attitude of secondary school students,75,2% is average level of scientific attitude of secondary school students,12,4 % is low level of scientific attitude of secondary school students.

Objective2; to study the level of academic achievement subject of secondary school students

The table2; show the level of academic achievement subject of secondary school students

Sl.no	level	%	N
1	High	18,6	18
2	Average	54,6	53
4	low	26,8	26
	total	100	97

The above table shows that 18,6% is high level of academic achievement subject of secondary school students,54,6% is average level of academic achievement subject of secondary school students,26,8% is low level of academic achievement subject of secondary school students.

Hypothesis1; There is no significant difference between male and female of academic achievement of secondary school students.

The table3; show that mean, SD, and t-value of male and female of academic achievement of secondary school students.

Sl.no	gender	n	mean	SD	df	t-value	remark
1	male	53	117,25	9,45	95	3,03	Rejected at 0,05 at 0.01 levels
2	female	44	124,27	13,33			

The table above shows that the obtained t-value is 3,03,t-table value is 2,62,so that the obtained t-value is more than t-table value, in additional show that the null hypothesis is rejected at 0,01 level, hence the researcher constructed alternative hypothesis as there is significant difference between male and female of academic achievement of secondary school students.

H2; There is no significant difference between male and female of scientific attitude of secondary school students

The table4; show that mean, SD, and t-value of male and female of scientific attitude of secondary school students

Sl.no	gender	n	mean	SD	df	t-value	remark
1	Male	53	41,94	16,14	95	4,92	Rejected at 0,05
2	female	44	59,27	18,48			

The table above shows that the obtained t-value is 4,92 ,t-table value is 2,62,so that the obtained t-value is more than t-table value, in additional show that the null hypothesis is rejected at 0,01 level, hence the researcher constructed alternative

hypothesis as there is significant difference between male and female of scientific attitude of secondary school students

H3; There is no significant difference between the relationship between academic achievement and scientific attitude of secondary school students.

The table5; shows that r -value of academic achievement and scientific attitude of secondary school students.

Sl.no	variable	R-value	remark
1	Scientific attitude	0,46	Moderate are substantial position correlation
2	Academic achievement		

The above table shows that coefficient of correlation is R-value 0.46, which show that the Moderate are substantial position correlation positive correlation between scientific attitude and Academic achievement of secondary school students.

Finding

level of scientific attitude of secondary school students, 12,4% is high level of scientific attitude of secondary school students,75,2% is average level of scientific attitude of secondary school students,12,4 % is low level of scientific attitude of secondary school students.

level of academic achievement subject of secondary school students, 18,6% is high level of academic achievement subject of secondary school students,54,6% is average level of academic achievement subject of secondary school students,26,8% is low level of academic achievement subject of secondary school students.

Mean, SD, and t-value of male and female of academic achievement of secondary school students. the obtained t-value is 3,03,t-table value is 2,62,so that the obtained t-value is more than t-table value, in additional show that the null hypothesis is rejected at 0,01 level, hence the researcher constructed alternative hypothesis as there is significant difference between male and female of academic achievement of secondary school students.

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r -value of academic achievement and scientific attitude of secondary school students. The coefficient of correlation is R-value 0.46, which show that the Moderate are substantial position correlation positive correlation between scientific attitude and Academic achievement of secondary school students.

Conclusion

The present study,the researcher will summary that finding show that level of scientific attitude of secondary school students, 12, 4% is high level of scientific attitude of secondary school students, 75, 2% is average level of scientific attitude of secondary school students, 12, 4 % is low level of scientific attitude of secondary school students.

Level of academic achievement subject of secondary school students is high level of academic achievement subject of secondary school students, **Mean, sd, and t-**

value of male and female of academic achievement of secondary school students. show that the null hypothesis is rejected at 0,01 level, hence the researcher constructed alternative hypothesis as there is significant difference between male and female of academic achievement of secondary school students. **R -value** of academic achievement and scientific attitude of secondary school students. The coefficient of correlation is R-value 0.46, which show that the moderate are substantial position correlation positive correlation between scientific attitude and academic achievement of secondary school students.

Reference

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