The International Journal of Indian Psychology
ISSN 2348-5396 (e) | ISSN: 2349-3429 (p)
Volume 3, Issue 4, No. 66, DIP: 18.01.170/20160304
ISBN: 978-1-365-39396-9
http://www.ijip.in | July-September, 2016

Academic Achievement of Secondary School Students In Relation To Their Problem Solving Ability and Examination Anxiety

Ms. Preeti Bala[1]*, Ms. Kausar Quraish Shaafiu[2]

ABSTRACT

With special reference to Maldives the secondary school student's academic achievement is studied in the present study in relation to their problem solving ability and examination anxiety. In the present study descriptive survey method was used to obtain pertinent and precise information. The objectives of the study were to explore the relationship between academic achievement and examination anxiety and the relationship between academic achievement and problem solving ability. Study also evaluated the difference of female and male student's academic achievement, problem solving ability and examination anxiety. The sample of the study consists of 200 secondary school students of Maldives. 100 males and 100 females were randomly selected to participate in the study. Two standardized questionnaire and previous years mark sheet of the participants collected as data for the research. Examination Anxiety scale and Problem Solving Ability scale were administered on 10 different secondary schools of Maldives. The study concluded that there exists no significant difference between male and female students in academic achievement, problem solving ability and examination anxiety. The study also revealed that there exists a positive correlation between academic achievement and problem solving ability and also showed that there exists a negative correlation between examination anxiety and academic achievement.

Keywords: *Examination Anxiety, Problem Solving Ability and Academic Achievement*

The increase in educated population of the country and changes in the society have brought a number of changes in the vision towards education. As this the era of globalization and technological revolution, education is considered as the first step for every human activity. Education plays a vital role in the development of human capital and is linked with an individual's well-being and opportunities for better living (Battle & Lewis, 2002). According to Saxton (2000), it ensures the acquisition of knowledge and skills that enable individuals to

[1] Assistant Professor, Lovely Professional University, Phagwara, India
[2] Research Scholar, Lovely Professional University, Phagwara, India
*Responding Author

increase their productivity and improve their quality of life. Increase in productivity also leads towards new sources of earning which enhances the economic growth of a country. Although Maldives is a small island nation located in the heart of Indian Ocean, the country with its small population also has advanced globally and technologically which also increased the awareness in education. In Maldives, formal education starts when children are at the age of 3 and primary school education starts from the age of 6. Pupils spend 5 years at secondary level, finishing school education at 17 years of age. Traditionally children aged three and up in the Maldives were educated in Islamic "Makthab" or “Ethuruge” classes, generally using a single large room or the shelter of tree. The children learn simple arithmetic, Dhivehi and some Arabic, and practise reciting the Qur'an. These private schools still exist, but western-style schooling is becoming more pervasive. The first western-style school in the Maldives is the Majeediyya School, a secondary established in 1927. The school was originally co-educational, but it was felt necessary to create a second school for girls (Aminiyya School) in 1944. Each individual in every society wants their children to be graduates or well educated. Education has been a focus in each country all around the world. Maldives is one good example of education focused countries of the world. Today, all Maldivians parents desire their child to be well educated and respectful in the community. The parents are more than willing to provide education for their children to be successful in their life. They are very much focused in their child’s academic performances and are working very hard to provide all and the necessary assistance for them to achieve excellent marks.

Education has always been viewed as a fundamentally optimistic human endeavor characterized by aspirations for progress and betterment. It is perceived as a process where children can develop and grow according to their needs and potential. However, not all students get the chance of gratifying their needs to its maximum potential. Not all students get the chance to reach to the level where success of education is established. Educators, trainers, and researchers have long been interested to explore factors that contribute the quality of performance of learners. One of the reasons why students fail to lead towards successful academic achievement is due to the lack of problem solving ability and their anxiety towards examination. Students fail to achieve better and reach their target as they lack the ability to solve problems and their anxiety towards examination. Hence, in educational settings, problem solving ability and less anxiety towards examination plays a vital role in fulfilling students’ needs and changing the negative perspectives about education.

Academic Achievement

Academic achievement is one of the most important aspects of a student entire school life. It shows the overall performance of how well the student has performed or how low the student has performed. Education is an honored right as it is associated with social and economical benefits. It also gives freedom in context to social mobility and transforming their levels of life in the

future. The academic achievement dream still exists in all human minds as it grants a life of prosperity and wealth. Academic achievement is the distinctiveness of the capability to acquire knowledge and skills efficiently and effectively. It is the overall judgment of academic or learning performance. Educator's top priority is student's academic performance as it is believed to make a difference locally, regionally, nationally and globally. Reiger (2011), states that "Academic achievement is important for the successful development of young people in society. Students who do well in school are better able to make the transition into adulthood and to achieve occupational and economic success."

Academic achievement refers to level of success in completing or completion of acquiring and attaining the curriculum studies in the formal environment of schooling. According to Duman, (2010) academic achievement defines as, "A measure of knowledge gained in formal education usually indicated by test scores, grade, grade points, average and degrees. Here, the achievement level of the student is judged by the marks that the students have scored in the quarterly examinations." Students spend most of their time in schools which exerts an influence on performance through curricula and teaching techniques. Student's academic performance can increase or decrease by the learning styles of individuals. There is a close relationship between academic achievement and teaching and learning techniques used in the class. A study conducted by Duman (2010) shows that "…the design of the learning-teaching processes and environments should be modeled based on Brain Based Learning." A research conducted to understand the effects of smart classroom learning environment on academic achievement of secondary students in science by Kaur (2012) shows that smart class learning environment is better to teach secondary school students than traditional method. Smart lessons are being carried out by the teachers in many schools in the Maldives. Sometimes the latest multimedia devices and information technology are being used to carry out lessons. These facilities and equipment to carry out smart lessons are not very common in all the schools of the country. Teachers are given training on how to use these smart tools in their lessons and they are also informed to take lessons with the help technological gadgets once a week.

There are two semester in the academic year of Maldives, first semester begins in the second week of January and finishes in June first week and second semester begins from third week of June till the last week of November. Cocurricular and curricular activities are arrange to enhance the learning process of the school and to encourage, instill and improve skills that are not learnt in a formal class room and skills acquired from formal classrooms. A previously conducted study on cocurricular and academic achievement shows that students who participates more in cocurricular activities scores more marks than those students who doesn't. Shaheen (2000) states that students should be given equal opportunities to participate in cocurricular and curricular activities as each and every individual student need to develop skills that would benefit them in achieving their goals in life. Cocurricular activities assists the students to develop various

numbers of skills and it helps the students to broaden their thinking which assists in working and achieving better grades academically.

Academic achievement is measured based on formative and summative assessments that are carried out based on two semesters in Maldives. Each semester has many numbers of formative assessments and at the end of each term students are tested summatively. These assessments are based on oral, written and practical assessments. According to Hassan (2012), assessment is a continuous process where students are judge based on three main areas such as oral or spoken tests, written assessment and practical examinations where student's skills can be assessed more effectively. Hassan (2012), "academic achievement should be judge based on skills rather than the ability of effectively answering questions."

Problem Solving Ability

Problem solving is based on the process of finding out solutions to a problem by using an organized thought process. This is process where creative and critical thing is processed in reasoning out or solution to problems faced by the student within a group or individually. It is a mental process which gives effective problem solving techniques in concluding and overcoming difficulties that appears to interfere with the attainment of solution. A student with effective problem solving ability can be identified through their use of wide range of strategies in tackling their problems, has good arithmetic skills, high self confidence, checks answers for reasonableness and able to understand the problem and solve it with critical and analytical skills. Students with these skills exhibit high problem solving ability and are able to attempt any type of difficulties faced by them.

Problem solving ability can be developed in students to help them effectively deal with problems that they faced daily. The ability involves critical thinking skills, analytical skills, creative thinking ability and logical reasoning of the student towards a problem that is presented in current situation or within their daily life. Developing problem solving ability enhances the student's ability to approach problems systematically and tackle the problems effectively. Mathematical problem solving approach allows students to broaden their thinking and enhances their perspectives in looking at problems. Pisa(2013), states that collaborative problem solving is fundamentally complex that includes the components of understanding found in individual problem solving in addition to the components of relationship. The reasoning components of individual problem solving include understanding and representing the problem content, applying problem solving strategies, and applying self-regulation and meta-cognitive processes to monitor progress toward the goal.

Problem solving ability in mathematics is an important aspect that would assist in building students logical reasoning and critical analysis skills. As various numbers of researches that were

conducted shows that students with high problem solving skills tackles their problems logically, creatively and critically in an organised manner. Shaheen (2000), states that students should be engage in logical activities to develop thinking as it will develop the students capabilities in approaching problems and obstacles that they face within a school and as well as outside the school. Students should be provided with lots of opportunities to enhance their life skills techniques and methods. She explains that students should be taught with skills or students should be practically involved in skill development programmes rather than just focusing them on only knowledge based learning processes. Shafir (1995) specify that reasoning and decision making are high level of thinking skills which have been investigated for the past few decades. Kirwin (1995) concluded that reasoning is the cognitive process of looking for reasons for beliefs, conclusions, actions or feelings.

A student should be taught ways in how they can tackle problems they faced as an adolescent or student. These can be ways to cope with daily difficulties or academic difficulties. Shaheen (2000) shared her views on improving students' skill as an important factor of a student's life as it assists the students to develop holistically. She further explains that students with high ability of thinking skills such as logical reasoning are successful in achieving better grades and excel in school. She explained that these skills can be taught and developed or it can be adopted in teaching and learning process of the school.

Examination Anxiety

The feeling of uneasiness that is experienced by an individual due to fear and pressure is known as anxiety. Anxiety generally means a state of emotional and physical disturbance induced in a person by real or imaginary threat. Psychologists believe that some sort of anxiety is necessary in every individual as it develops motivation, sense of alertness to deal with their problems. Examination is the most permanent component of education process. Evaluation allows understanding how much the students comprehend and has attained in the process of learning. All teachers want their students to learn and retain the material they cover and at the same time enjoy the process of learning. One way to check how well students have learned is by giving exams. Students face a lot of challenges and pressure as per due to high expectations, excessive load of learning materials and assignments. This develops sense of fear and tension in the young minds creating anxiety towards examinations.

Among students, great deal of anxiety prevails especially related to academic achievement as students need to maintain their parents and teachers expectation besides their capabilities and abilities to work. Researches show that even though some students are intelligent yet they tend to score poor marks in examination especially because of anxiety. Examination anxiety refers to the distress experiences when being evaluated or when thinking about prospective evaluations which typically lead to reduce performance levels. Students experiencing examination anxiety are a real

cause for concern. Few signs of students experiencing anxiety are sleeplessness, headaches, upset stomach and lack of concentration, change in appetite and depression. Starcevic & Berle, (2006) states that anxiety sensitivity is fear of internal anxiety symptoms arising from the belief that the symptoms have harmful physical, psychological, and/or social consequences. Students getting ready for examinations feel a lot of stress which leads in anxiety towards examination. Although small amount of pressure or stress can be motivational, if ignored or untreated may lead to excessive stress or anxiety which is harmful. A research conducted by Hassan (2012) to understand the anxiety and depression in students of democratic and authoritative parents and found out that anxiety levels of students from authoritative parenting background was higher than the democratic parenting styles. Examination anxiety can be effects females more than male students as the spirit of competition amongst females are higher than the male students. Hameed (1995) states that examination anxieties of girls are comparatively higher than boys and girls are more prone to develop examination stress and anxiety rather than boys. Examination anxiety can cause negative effects on students such as alter their day to day functions and causing poor performance in examinations. Students develop uncertainty in their capabilities and strengths it could be a cause of high expectations. Examination anxiety may be the cause of wanting to please parents or competition among peers and meeting the unattainable goals. If the student is afraid of supposed failure, fear of not performing well and frequent worries about grades are signs of negative or unhealthy stress which need to be taken into attention and providing help for these students. Feeling anxious before exam is part of any student's life but development of anxiety or is not. A research conducted by Holler (2004) concluded that anxiety has an effect on performance in examination. It was also revealed in the study that evaluating and grading students performance in many collegiate business courses are done through exams. However, exam anxiety experienced by students hampers their ability of learning the course materials. Examination anxiety is developed among Maldivian students due to the high expectations from parents, teachers and school management in pushing them towards achieving the best grades and also be on the national top ten students. Hameed (1995), states that the current situation in Maldivian schools are that students are given extra work within the school and at home they are given tuition without giving the students time to relax. Students are under pressure from the beginning of grade 8 till the end of grade 10. The education system of Maldives is very much focused on examination. The students who achieve the best results are recognized as the national top ten achieves and the students who achieve world best grades are given brilliance award at a grand ceremony. Due to these reasons students are being put under a lot o pressure even before the students are close to take their O' level examination.

Objectives

1. To study academic achievement of secondary school students of Maldives
2. To study problem solving ability of secondary school students of Maldives
3. To study examination anxiety of secondary school students of Maldives

4. To find out the difference in the academic achievement of male and female secondary school students of Maldives
5. To find out the difference in the problem solving ability of male and female secondary school students of Maldives
6. To find out the difference in the examination anxiety of male and female secondary school students of Maldives
7. To explore the relationship between academic achievement and problem solving ability of secondary school students of Maldives
8. To explore the relationship between academic achievement and examination anxiety of secondary school students of Maldives

Hypotheses

1. There exists no significant difference in academic achievement of male and female secondary school students of Maldives
2. There exists no significant difference in problem solving ability of male and female secondary school students of Maldives
3. There exists no significant difference in examination anxiety of male and female secondary school students of Maldives
4. There exists no significant relationship between academic achievement and problem solving ability secondary school students of Maldives
5. There exists no significant relationship between academic achievement and examination anxiety of secondary school students of Maldives

Delimitations of the study

- The study was limited to secondary school students of Male' the capital city of Republic of Maldives only.
- Only 200 students from 10 different schools were taken as a sample
- Only students of 9th class was included in the sample
- The problem solving ability was limited to numerical problem solving ability only

Research Method

The data collection process was conducted in ten different schools in Male' Republic of Maldives. The school principals were met and ascertain about the research that was going to be conducted. They were given an overview of data that is needed for the research. They were assured that the data collected from the school would only be used for the research purpose. Two sets of questionnaires administered to collect the data for the research.

Firstly, class teachers were given an overview of how the research data collection would be carried out. They provided with the class lists where students were selected randomly. These

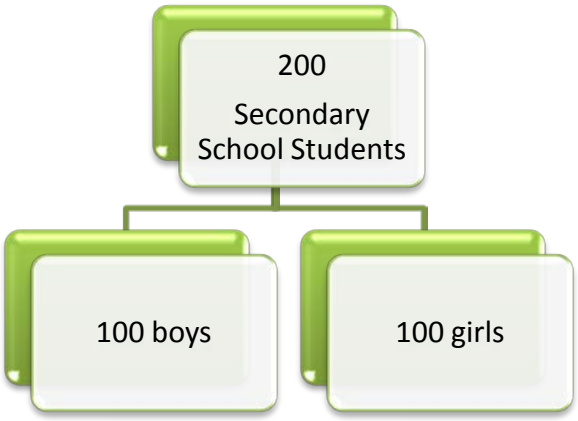
students were given a letter to gain consent of their parents for them to take part in the research. Students were assured that data collected would only be used for research purpose and their confidentiality would be maintained. The students were met after school to collect the data. They were given clear instructions about the Problem solving Ability test and they were given 45 minutes to complete the questionnaire. After they finished doing the paper they were handed with examination anxiety test. They completed the test with 20 to 25 minutes.

Sampling

The sample technique used by the investigator is random sampling. Random sampling is when there is equal probability of anyone in the population to be selected for the research study. The investigator used random sampling in selecting member to participate in the present research. The class lists were collected and students were selected randomly for the research.

Sample was collected from ten schools out of the twenty one schools situated in the capital city Male'. 200 secondary school students were selected based on stratified random sampling. Data as divided into 100 males and 100 females

Fig: 2.1 Distribution of Sample



From each selected school data of 20 students was collected as understated.

Table 2.1: List of schools

Serial No	Name of the School	Male	Female
1	Thaajudheen school	10	10
2	Majeedhiya School	20	
3	Muhuyidheen School	10	10
4	Dahrumavantha School	20	
5	Imaadhudhin School	10	10
6	Iskandhar School	10	10
7	Aminiya School		20
8	Kalaafaanu School	10	10
9	Hiriya School		20
10	Jamaaludhin School	10	10
		100	100

Tools

As the study is focused on the ability of problem solving ability, examination anxiety of the students in relation to their academic achievement, the following two tests were used for the data collection.

1. Students' Examination Anxiety Test by Dr Mandhu Agarwal and Miss Varsha Kaushal (2005)
2. Problem Solving Ability Test by L.N.Dubey (2008)
3. Student's Mark sheet of previous year

RESULTS

I. Results Pertaining to the Difference in Academic Achievement of Male and Female Secondary School Students of Maldives

Hypothesis 1: There exists no significant difference in Academic Achievement of male and female Secondary School Students of Maldives

The first objective of the study was to find out any significant difference in academic achievement of male and female secondary school students of the Maldives. The mark sheets the students were collected and was systematically analysed and the results were interpreted. The t value was calculated to find out the difference in academic achievement of male and female students. The results are presented in the table 1.1.

Table 1.1: Scores of Mean, Standard Deviation and t value of Academic Achievement of Secondary School Male and Female Students.

Groups	N	Mean	SD	t- value	Remarks
Male	100	53.98	21.49	0.01	Insignificant
Female	100	54.01	21.43		

The mean scores for academic achievement of female and male secondary school students came out to be 53.98 and 54.01. The standard deviation for academic achievement of male and female found out to be 21.49 and 21.43. The calculated t value came out to be 0.01 respectively whereas the tabulated value at 0.05 level is 1.97 and 0.01 level is 2.60. The calculated value is less than the tabulated value. As the calculated value of t is less than the tabulated at 0.05 and 0.01 level of significance, hence the hypothesis "there exists no significant difference in academic achievement of male and female secondary school students of Maldives" is accepted, it's clear that there exists no significant difference in male and female students of Maldives regarding their academic achievement. Thus, it can be understood that gender does not play any significant role in determining the academic achievement of secondary school students.

Similar results have been found out in the study conducted by Fergusson and Horwood (1997) regarding gender difference in New Zealand birth cohort in which it was found out that gender

differences in educational achievement could not be explained by gender differences in intelligence since boys and girls had very similar IQ test scores. Again in one of the study conducted by Lawrence (2012) on the school environment and academic achievement of standard IX students revealed that there was no significant difference between standard IX boys and girls in their academic achievement. The results are in line with one more previously conducted research study by Lawrence, (2013) which shows that that there is no significant difference between emotional intelligence and academic achievement of high school male and female students.

3.2 Results Pertaining to The Difference In Problem Solving Ability of Male and Female Secondary School Students of Maldives

Hypothesis 2: There exists no significant difference in problem solving ability of male and female secondary school students of Maldives

The objective of the study was to find out the difference in the problem solving ability of male and female secondary school students of Maldives. The students were presented with a standardised mathematical problem solving ability test and the results obtained were interpreted as shown in the table 1.2.

Table 1.2: Scores of Mean, Standard Deviation and t value of Problem Solving Ability of Secondary School Male and Female Students of Maldives.

Groups	N	Mean	SD	T- Value	Remarks
Male	100	8.7	4.51	0.11	Insignificant
Female	100	8.62	5.39		

The table 1.2 shows the mean scores for problem solving ability of male secondary school students came out to be 8.7 whereas females mean score came out to be 8.62. The standard deviation for problem solving ability of male and female found out to be 4.51 and 5.39. The calculated t value came out to be 0.11 respectively whereas the tabulated value of significance at 0.05 level is 1.97 and 0.01 level is 2.60. The calculated value obtained by the interpreted results is less than the tabulated value. As the calculated value of t is less than the tabulated at 0.05 and 0.01 level of significance, therefore the hypothesis “there exists no significant difference in problem solving ability of male and female secondary school students of Maldives” is accepted, it’s clear that there exists no significant difference in male and female students of Maldives regarding their problem solving ability. Hence gender makes no difference in their ability to solve the problems.

The results are in line with one more previously conducted research by Adeleke (2007), found out that there is no significant difference in the problem solving performance of male and female

students when exposed to Procedural Learning Strategy. In addition, at the initiation stage it was recorded that there were no significant difference in the performance of male and female students in finding solutions of simultaneous linear equations through Procedural Learning Strategy. It was also found out that there was no significant difference in the problem solving performance of male and female students when exposed to Conceptual Learning Strategy (CLS) based on the research conducted. Adeleke (2007) also found out that there were no differences in the performance of male and female students in problem solving in simultaneous linear equations across the three groups of students.

Similarly a research conducted by Kahney (1986) resulted in explaining that problem solving ability of low socio economic backgrounds of both female and male students remained the same (as cited by http://shodhganga.inflibnet.ac.in). Likewise a study conducted by Sharma (n.d.) regarding problem solving ability and scientific attitude as determinant of academic achievement of higher secondary students showed that there is no significant difference in the problem solving abilities of males and female students of higher secondary school students.

1.3 Results Pertaining to the Difference in Examination Anxiety of Male and Female Secondary School Students of Maldives

Hypothesis 3: There exists no significant difference in examination anxiety of male and female secondary school students of Maldives

The objective of the study was to find out the difference in the examination anxiety of male and female secondary school students of Maldives. The data were obtained for the research by a standardised questionnaire which is carefully interpreted and the results are shared in table 1.3.

Table 1.3: Scores of Mean, Standard Deviation and t value of Examination Anxiety of Secondary School Male and Female Students of Maldives.

Groups	N	Mean	SD	t- value	Remarks
Male	100	22.37	10.14	0.99	Significant
Female	100	20.96	9.95		

The table 1.3 above shows the mean scores for examination anxiety of male and female students of Maldives found out to be 22.37 and 20.96. Standard deviation for examination anxiety came out to be as 10.14 for male and 9.95 for females. The calculated t value for examination anxiety came out to be 0.99 correspondingly the tabulated value of significance at 0.05 level is 1.97 and 0.01 level is 2.60. The calculated value obtained by the interpreted results is less than the tabulated value. As the calculated value of t is less than the tabulated at 0.05 and 0.01 level of significance, therefore the hypothesis “there exists no significant difference in examination anxiety of male and female secondary school students of Maldives” is accepted, it’s clear that

there exists no significant difference in male and female students of Maldives regarding their examination anxiety.

Similar results were found out one of the studies that were previously conducted by Hassan (2012) explained in his research findings that anxiety towards academic performance of authoritative and democratic parents has no significant difference in anxiety level of female and male secondary school students of Maldives. In contrast with the results Hameed (1995) states that examination anxiety of girls are comparatively higher than boys and girls are more prone to develop examination stress and anxiety rather than boys. Another research conducted previously of both female and male students. He also further explained that female and male students are prone to examination anxiety based on the parent's attitude towards education. The more importance given to achieving better results by parents are more prone to develop examination anxiety rather than gender difference.

1.4 Results Pertaining to Relationship between Academic Achievement and Problem Solving Ability Secondary School Students of Maldives

Hypothesis 4: There exists no significant relationship between academic achievement and problem solving ability secondary school students of Maldives

The present study aimed to find out the relationship between academic achievement and problem solving ability of secondary school students of Maldives. Correlation is applied to carry out the relationship between academic achievement and problem solving ability. The obtained results are presented in the table 1.4.

Table 1.4: Showing the Mean Scores and Correlation Value between Problem Solving Ability and Academic Achievement.

Variable	N	Mean	Correlation
Problem Solving Ability	200	8.66	0.75
Academic Achievement	200	53.66	

Data represented in the table 1.4 indicates that correlation between academic achievement and problem solving ability as 0.75 which means that there is a positive correlation between the problem solving ability and academic achievement. The calculated value of correlation is higher than the table value of correlation at 0.05 level is 0.138 and 0.01 level is 0.181, hence the hypothesis "there exists no significant relationship between academic achievement and problem solving ability secondary school students of Maldives" is not accepted. The level of positive relationship between problem solving ability and academic achievement is very high.

It can be understood that the higher the problem solving ability of the student the higher the academic achievement. One of the researches conducted in the past by Mayer (1998) regarding cognitive, meta-cognitive and motivational aspects of problem solving ability showed that an academic setting is important in the effective use of problem solving ability.

1.5 Results Pertaining to Relationship between Academic Achievement and Examination Anxiety of Secondary School Students of Maldives

Hypothesis 5: There exists no significant relationship between academic achievement and examination anxiety of secondary school students of Maldives

The present study was intended to find out the relationship between academic achievement and examination anxiety of secondary school students of Maldives. Correlation is applied to carry out the relationship between academic achievement and examination anxiety. The obtained results are presented in the table below.

Table 1.5: Showing the Mean Scores and Correlation Value between Examination Anxiety and Academic Achievement.

Variable	N	Mean	Correlation
Examination Anxiety	200	21.66	-0.19
Academic Achievement	200	53.66	

Data represented in the table 1.5 indicates that correlation between academic achievement and examination anxiety as – 0.19 which means that there is a negative correlation between the examination anxiety and academic achievement. The calculated value of correlation is higher than the table value of correlation, hence the hypothesis “here exists no significant relationship between academic achievement and examination anxiety of secondary school students of Maldives” is not accepted.

CONCLUSION

In consideration of interpretation of data, the researcher has to use all care and cautions in formulating conclusions and generalizations. This final step of research demands critical and logical thinking in summarizing the findings of the study and compares them with the objectives formulated in the beginning. The researcher should not draw conclusions which are inconsistent among themselves or with external realities. Conclusions are as essential in investigation. They provide a finishing touch and review to the whole of the critical work. In the present study the investigator has tried to find out the students academic achievement in relation to their problem solving ability and examination anxiety. On the basis of analyses and interpretation of data, following conclusions were drawn.

- The hypothesis that there exists no significant difference in academic achievement of male and female secondary school students of Maldives is accepted. It can be concluded that there exists no significant differences between male and female students of Maldives. It could also be concluded that gender does not exert any influence on academic achievement of students.
- The hypothesis that there exists no significant difference in problem solving ability of male and female secondary school students of Maldives is accepted. There exists no significant difference between male and female secondary school students. It can also be concluded that gender plays no significant role in problem solving ability of secondary school students of Maldives.
- The hypothesis that there exists no significant difference in examination anxiety of male and female secondary school students of Maldives is accepted. It indicates that there exists no significant difference between male and female secondary school students as far as their examination anxiety is concerned. It can also be concluded that gender plays no significant role in examination anxiety of secondary school students of Maldives.
- The hypothesis that there exists no significant relationship between academic achievement and problem solving ability secondary school students of Maldives is not accepted. As academic achievement and problem solving ability displays a significant relationship in both variables. Based on the results it can be concluded that there exists a positive relationship between academic achievement and problem solving ability of secondary school students of Maldives. It can also be concluded that higher the problem solving ability, higher their academic achievement is.
- The hypothesis that there exists no significant relationship between academic achievement and examination anxiety secondary school students of Maldives is not accepted. Examination anxiety and academic achievement has a negative correlation. Based on the results it can be concluded that there exists a negative correlation between examination anxiety and academic achievement. It could also be understood that higher the examination anxiety the lower their academic achievement will be.

Recommendations

Results of the present study reveals that examination anxiety and academic achievement has a negative correlation, which means if examination anxiety is higher the student's academic achievement can be low. Teachers and school management should work to reduce the examination anxiety in students as for them to achieve better grades in academics. Teachers and management can reconsider ways of evaluation, pedagogies used in teaching and imparting study skills that would enhance learning of the students. Government also can revise curriculum and acknowledge new evaluation policies which would enhance the academic achievement and reduce the level of examination anxiety. The approaches acquired in helping to overcome examination anxiety in order to enhance academic achievement will benefit both genders as the

study shows that there exist no significant differences in the academic achievement and examination anxiety of male and female students of Maldives.

The study also shows that problem solving ability and academic achievement has a positive correlation, which means higher the problem solving ability of students higher their academic achievement will be. Teachers can administer pedagogies of teaching where student's logical reasoning and cognitive abilities can be developed. The government can revise and formulate a curriculum where subjects involve in more logical and cognitive abilities based tasks. The approaches acquired in assist to boost problem solving ability and to enhance academic achievement will benefit both genders as the study shows that there exist no significant differences in the academic achievement and problem solving ability of male and female students of Maldives.

Suggestions for further research

The investigator by virtue of experience in the field of the study offers following suggestions for further research that could be undertaken by the prospective researchers.

- The sample size could be increased in order draw more clear and reliable results.
- The study can be extended to a large area beyond the capital city of Maldives.
- The study could be comparative study between two islands or island school and Male'
- The study could also be a comparative study between the rural and urban schools or private and government of schools. It also could be between two countries.
- The time for the study could be extended.
- Problem solving ability could be studied with other variables such as logical reasoning, motivation, knowledge and skills or learning styles.
- Experimental studies can also be conducted to justify the authenticity of various strategies aimed at reducing examination anxiety in students.

Acknowledgments

The author appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interests

The author declared no conflict of interests.

BIBLIOGRAPHY

Adeleke, M. (2007). *Gender Disparity in Mathematical Performance Revisited: Can Training in Problem Solving Bring Difference Between Boys and Girls?*. . Retrieved May 28, 2014, from http://www.usca.edu/essays/vol212007/adeleke.pdf

Astrid G. (2005). *Examination Anxiety: Live with It, Control It or Make It Work for You?* Retrieved from eric.ed.gov/?q=Examination+Anxiety&id=EJ723476 on 15th November 2013

Bansal N. (2013). *Problem Solving Ability of Navodya Vidyalaya Students in relation to their Social Adjustment*. 1st ed. India (Phagawara, Punjab): Lovely Professional University.

Bell M. J. (2013). *Definition of Academic Achievement* Retrieved from ehow.com/about_4740750_define-academic-performance.html on 2nd December 2013

Binkley, H. R., & Tulloch, R. W. (1981). *Teaching Vocational Agriculture/Agribusiness*. Danville, IL: The Interstate Printers and Publishers, Inc.

Chang, Chun-Yen, Weng, Yu Hua. (2002). *An Exploratory Study on Students' Problem-Solving Ability in Earth Science.* Retrieved from eric.ed.gov/?id=EJ649511 on 15th November 2013

Choden t. (2012). *Defence Mechanism and Personality Differentials as factors related to Examination Anxiety: A study of Secondary School Students of Bhutan* 1st ed. India (Phagawara, Punjab): Lovely Professional University.

Dubey L.N.(2008). *Problem Solving Ability Test*. National Psychological Corporation, Agra

Duman, B. (2011). *Celebration of the Neurons"; The Application of Brain Based Learning in Classroom Environment* Retrieved from files.eric.ed.gov/fulltext/ED500159.pdf on 15th November 2013

Gibb, Sheree J; Fergusson, David M and Horwood, LJohn. *Sources of the Gender Wage Gap in a New Zealand Birth Cohort [online]*. Australian Journal of Labour Economics, Vol. 12, No. 3, Dec 2009: 281-298.Retrieved on May 23 2014 from *<http://search.informit.com.au/documentSummary;dn=344791167965887;res=IELBUS > ISSN: 1328-1143*

Hassan, D. (2012). Imthihaanaa Beleniverin ge Zimma. *Ugenumuge Dhuniye* (200-255). Male': 2012.

Hameed, V. (1995). Ugnumugaa Beleniverin ge Zimma. *Dhiraasy Aharu*(136-156). Male': National Center For Higher Education.

Heller, P. Keith, R. & Anderson, S. (1992). *Teaching problem solving through cooperative grouping. Part 1: Group versus individual problem solving. American Journal of Physics, 60*(7), 627-636.

Kaur K., (2009). *Examination Anxiety in relation to Learning Style Among Students of 10th Class* 1st ed. India (Phagawara, Punjab): Lovely Professional University.

Kaur M., (2012). *Effect of Smart Classroom Learning Environment on Academic Achievement of Secondary School Students in Science* 1st ed. India (Phagawara, Punjab): Lovely Professional University.

Kirwin, C. (1995). 'Reasoning'. In Ted Honderich (ed.), *The Oxford Companion to Philosophy*. Oxford: Oxford University Press: p. 748.

Lawrence A. (2013). *School Environment and Academic Achievement of Standard IX Students,2(3).* Retrieved from www.academia.edu on 15th November 2013

Lin Huann-Shyang, Hung, Jui ying, Hung, Suchu. (2002). *Using the History of Science To Promote Students' Problem-Solving Ability*, 24. Retrieved from eric.ed.gov/?q=problem-solving+ability.&pg=2&id=EJ649512 on 15th November 2013

Lankshear, C., Knobel, M. (2004). *A Handbook for Teacher Research*: from Design to Implementation. Open University Press: New York.

Lee M. (1994) Effectiveness of Coping Strategies with Exam And Non Exam Anxiety Of Adolescence *Education and Psychology* 3(i) 47-50

Mayer R. and Wittrock M. (2009) *Problem Solving* Retrieved from education.com/reference/article/problem-solving1/ on 2nd December 2013

Marzano, R. J. (2003). *What works in schools: Translating research into action?* Retrieved Apri 22 2014 from http://pdonline.ascd.org/pd_online/whatworks/marzano2003_ch13 .html

Mae H.G. (1996). An Adolescent Anxiety Distress and Coping: A study of Senior School Students an high School Certificate Examination Anxiety *Dissertation Abstracts International* 114

Odumosu, A.I.O. (1999). *Basic Principles of Education and Methods of Teaching.* Ibadan, Nigeria. Olu-Akin Publishers.

Olowa O.W. (2009*). Effects of the Problem Solving and Subject Matter Approaches on the Problem Solving Ability of Secondary School Agricultural Education.* Retrieved from files.eric.ed.gov/fulltext/EJ868617.pdf on 15th November 2013

Saini I. K. (2012). *Problem Solving Abilities of the Senior Secondary Commerce students in relation to their Entrepreneurial Talent*. 1st ed. India (Phagawara, Punjab): Lovely Professional University.

Salami, Samuel O. Aremu, A. Oyesoji, (2006) *Relationship between problem-solving ability and study behaviour among school-going adolescents in South Western Nigeria* Retrieved from eric.ed.gov/?q=problem-solving+ability+&pg=2&id=EJ804067 on 15th November 2013

Sharma, i. (n.d.). *Problem Solving Ability And Scientific Attitude As Determinant Of Academic Achievement Of Higher Secondary Students. Problem Solving Ability And Scientific Attitude As Determinant Of Academic Achievement Of Higher Secondary Students.* Retrieved May 28, 2014, from http://www.aiaer.net/ejournal/vol19107/17.htm

Shafir, E. (1995). Compatibility in cognition and decision making. *Psychol. Learn. Motiv.* 32:247–74

Shaheen A (2000). Illimu Ugenumuga Dharivaruge Hunaru Harudhanaa Kurun., Novelty Prints Male' 2000.

Shauna (2005). Low Achievement in Mathematics in Secondary School Students of Maldives. (107- 126) *Novelty Prints.* Male' Maldives

Tobias &Hedle (1972). Examination anxiety and general Anxiety in MBA students *psychometrics and education* 32(2) , 23-25

Understanding and managing anxiety. (n.d.). *Australian Psychological Society :*. Retrieved April 1, 2014, from http://www.psychology.org.au/publications/tip_sheets/anxiety/

How to cite this article: P Bala, K Shaafiu (2016), Academic Achievement of Secondary School Students In Relation To Their Problem Solving Ability and Examination Anxiety, International Journal of Indian Psychology, Volume 3, Issue 4, No. 66, ISSN 2348-5396 (e), ISSN: 2349-3429 (p), DIP:18.01.170/20160304, ISBN:978-1-365-39396-9