

EFFECT OF AUTONOMOUS LEARNER MODEL ON SELF-ESTEEM OF SECONDARY SCHOOL STUDENTS WITH DIFFERENT LEVELS OF ACHIEVEMENT

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ABSTRACT

Students are motivated for the learning process only when they are able to take responsibility for one's own learning. Thus the Autonomous Learner Model (ALM) is a key to demonstrate responsibility for Self-learning, develop positive self-esteem, increase knowledge in a variety of areas, develop decision-making, and problem-solving skills, imbibe certain skills to interact with everyone associated with students like friends, siblings, adults, parents, develop logical and creative thinking skills, develop skills to interact effectively with peers, siblings, parents, and other adults, develop critical and creative thinking skills, and thus take initiative of one's learning by being independent and lifelong learners.

The present study aimed to study the effect of Autonomous Learner Model and Self-esteem of students studying in Class IX of Mangaluru Taluk. The study follows a Post-test only equivalent group design of research with simple random sampling technique, where a population of five hundred students were selected, out of which a representative sample of sixty students from a Private Secondary School of Mangaluru Taluk were selected. A rating scale on Self-esteem prepared by the researcher was used for the students for finding both negative and positive feelings about oneself. The paper is concluded with significant findings related to this issue and suggestions related to modifications on desirable lines. This research found out that the two instructional methods – Autonomous Learner Model and Traditional Method differed in their effects on Self-esteem of Secondary School Students. Autonomous Learner Model is significantly more effective than Traditional Method with respect to Self-esteem of secondary school students after partialling out the effect of Pre-Achievement. Levels of achievement have significant effect on developing Self-esteem among secondary school students and the Interaction effects of Autonomous Learner Model and Levels of Achievement has a significant effect on Self-esteem among secondary school students.

Keywords: Autonomous Learner Model, Levels of Achievement, Self-esteem, Secondary Schools.

INTRODUCTION

A student's readiness for secondary school lies in learner autonomy that plays a significant role. Greater learner autonomy is a quality that must be present in the high school students.

Learning is a combination of intellectual, physical, psychological, social, and spiritual growth. In every aspect of this learning process there is the potential to damage, maintain, or increase self-esteem. A mirror that appraises

others is what is known as maintaining one's own self-esteem, especially in parents and teachers. Teachers form a role model for learners' achievements. The level of learning increases over a period of time because of positive appraisals and consistent negative appraisals lowers the academic achievement of the learners.

Persons' Self-esteem development is a sum total of a wide range of experiences – scholastic, athletic, social, and emotional all that what a student accomplishes while

going to school. Students inner worth, self confidence, reliability, and self competence is enhanced through experiencing success and failure, together with reaction of parents and peers and teachers.

In creating a conducive environment for learning which nurtures and supports students' self esteem, the task lies in a teacher. Teachers need to use modelling techniques to make the learners understand their weaknesses in the learning process. Achievements of the students need to be assessed in a positive manner. Skills need to be empowered. This leads in creating autonomous learners. Being autonomous also yields in allowing students to take risk of their learning and encourage support systems both within and outside the classroom.

The investigator, in this context, thus felt the need to find out the effect of Self-esteem among the secondary school students using one of the models of teaching and learning called the Autonomous Learner Model.

1. Review of Earlier Studies

A study by Flynn (2015) describes an Autonomous Learner as one who solves problems or develops new ideas through a combination of divergent and convergent thinking and functions with minimal external guidance in selected areas of endeavor as given by George Bett. It also includes the explanation of the five dimensions, clarification of the student and the teachers' role as well as the activities and programmes planned for each of the dimensions.

In the study conducted by Maskarnas (2014) on The impact of Adjustment Behaviour and Self-esteem on Academic Achievement. An effort is made by the investigator to study the main and interaction effect of Adjustment Behaviour and Self Esteem on Academic Achievement in terms of gender and locality.

It can be said that the Adjustment Behaviour of secondary school boys is better than that of girls. The second research question says that the self-esteem of Urban Secondary Schools is better than Rural Secondary Schools. The research also says that the self-esteem has a significant effect on academic achievement of secondary school students. Secondary schools students with high self-esteem have a greater effect on academic achievement than

those of average and low levels of self-esteem.

The findings of Jobby (2014) show that 67.25% of the students exhibited average level of self-esteem. 61% of the students perform average level of academic achievement. The academic achievement of boys and girls did not differ significantly. The study said that there is a positive relationship between self-esteem and academic achievement among the students of standard nine of Kasargod District.

Dickinson (2013) conducted a study that describes the examination of research studies investigating the relationship between self-esteem and academic success indicates that it is a parallel one in which one side increases at a similar rate as the other. Therefore, a rise or fall in academic success will likely cause an equal rise or fall in self-esteem.

Self-esteem refers to the feelings and beliefs that an individual has of his own worth. This term is often confused with self-concept. Self-concept is the knowledge and understanding that an individual has of himself. Often efforts are made to help a child find or understand himself better. Though the efforts are helpful, they may not significantly affect self-esteem or academic performance. A study in 2009, 1,611 American Indian adolescents found a positive relationship between self-esteem and academic success, but cultural identity, a factor of self-concept, was not directly related to academic achievement and had very few indirect links. To best help children, a parent or teacher should understand the difference between the terms.

Tassinari (2012) conducted a study on Evaluating learner autonomy: A dynamic model with descriptors. The researcher has designed a dynamic model for learner autonomy, with descriptors for attitudes, competencies, and learning behaviors. This model allows a qualitative and dynamic approach to self-assessment and to the evaluation of learner autonomy. Three dimensions can be identified in the dynamic model: a predominantly action-oriented dimension ('planning', 'choosing materials and methods', 'completing tasks', 'monitoring', 'evaluating', 'cooperating', and 'managing my own learning'), a predominantly cognitive and metacognitive dimension

('structuring knowledge'), and a predominantly affective and motivational dimension ('dealing with my feelings', 'motivating myself'). In addition, a social dimension ('cooperating') is integrated into each component.

The findings of the study by Ranjini (2011) conclude self-esteem is an indicator of good mental health. It is about how we feel about ourselves. No matter what the age of children or adolescents is, good parent child communication is essential for raising children with self-esteem and confidence. Low self-esteem damages our internal sense of well being. A high self-esteem brings a high level of confidence and makes a person self-actualized.

In the study conducted by Sulaba (2010) discusses the traditional and modern views of teaching and learning languages, especially English as Second Language as well as different modes of classroom practices, coupled with suitable examples, useful for developing critical thinking and thereby improving language proficiency.

In the findings by Ze-Sheng (2008), the author argues for the use of strategies in promoting learner autonomy. The author explains that supporting all students to become better language learners is the aim of strategy-based instruction and that as soon as learners realize and control their own learning mechanisms; they are likely to accept more responsibility for their own learning and develop into more autonomous learners. The first step is preparation with an outlook to develop learners' awareness and knowledge about themselves through discussing and interviewing in small groups and introducing the fact that some strategies can help them learn more effectively. As the second step, students practice the learning strategies with an authentic learning task in classroom and guided the way certain strategies should be used to make autonomous learning possible. In the third step, learners are provided with the chance to evaluate the quality of their strategies in supporting their learning and finally learners are expected to use the most effective strategies they discovered and use them in new contexts and personalize their strategy learning.

In the study conducted by Luke (2006) is also pertinent for the educational institution, because it will lead teachers of

the science department to reflect on the importance of including inquiry-based science activities in the units of the current science program to help students become more autonomous while developing critical thinking skills.

The purpose was to check if they had shown improvement in terms of knowledge about the topic after studying the unit following an inquiry-based learning approach, in order to compare the results with those obtained in the pre-test and measure to what extent they had improved.

Naresh (2008) conducted a study on "Self-Esteem the base of our Personality". The author gave conclusions that everyone in some respects is like all other persons and like no other person. An individual's personality development and involves three basic determinants they are, genetic inheritance, socio-cultural inheritance, and self-structure. Each human being receives biologically inherited characteristics that provide potentialities for development and behaviour throughout a lifetime. Our heredity through the filter of our experience and environmental factors can influence our behaviour considerably.

Voller (1997) summarizes three significant roles for such teachers as facilitators, counselors, and resources. What is meant by facilitation includes a broad range of roles that are psychological, social, and technical. The teachers should motivate, raise consciousness and assist learners to plan, assess and get hold of required skills. The second key role is counseling which means that the teacher should be ready to give advice, information, and guide learners when asked or whenever they feel need be. This brings us to the third role of teachers who should act as a resource to the autonomous learner.

A challenge that readily comes to mind is to promote autonomy and act as a resourceful teacher at the same time. In other words, the question persists that how a teacher who aims to promote greater autonomy can implement the above mentioned roles as well.

Thus the research reports conclude that learner autonomy or capacity plays a vital role in determining the self worth of individuals' practically speaking, to develop feelings of self worth one must firmly stand by an attitude of self confidence, self image, extreme commitment, and dedication to one's work.

With these research evidences and the theoretical background discussed, the present study was undertaken.

2. Rationale for the Study

Focusing on autonomous learning is currently a topic of high relevance in modern educational system. The best reason implies that independent learning forms an important part of not only in school life but continues throughout life of a student.

Independent learning implies learning by self, actively, and being autonomous. Teachers are facilitators in this teaching learning process and are likely to be the inevitable choice for the students to become masters of their own thinking and for their personal growth. Inculcating the virtue of independence in learning is a major challenge for teachers as well as students.

The Autonomous learner model consists of four aspects that enhance the self learning ability of a student. It emphasizes teaching activities, teaching methods, and curricular aspects that promote ability for learning independently. A students' prevailing position in the learning process is reflected by how well the student is able to accumulate the information, internalize it for self, modify or strengthen what is necessary, and then process it by self thinking. This involves tasks like self-organization, self-evaluation, and self-arrangement of learning content and learning activity. This type of study centralizes the creation of a situation fit for education that can stimulate the inner drive of a students participatory learning, instruct students to learn how to study, individually separate the dominate and subjective position of teachers and students in the teaching process and complement for the inadequacies of teaching in the current position.

A study by Ranjini (2011) conclude that without the foundation of a solid sense of self worth, we would be unable to take the risks and make the decisions necessary to lead a fulfilling, productive life. No matter what the age of children or adolescents is, good parent child communication is essential for raising children with self esteem and confidence. A low self-esteem damages one's career and also internalizing a sense of well being. A high self-esteem brings high self confidence, assertiveness, ability to solve problems, and also to become a self

actualized person.

In a study by Naresh (2008), the investigator speaks about the influence of self-esteem as an individual's personality development and involves three basic determinants – genetic inheritance, socio-cultural inheritance, and self-structure.

Studies suggest that students trained through autonomous learning have a greater probability of enhancing their self-esteem in an high school setting. Further, students screened for their level of autonomous learning perform better than those who possess low self-esteem.

To sum up, the Autonomous Learner Model is a kind of independent and active learning that helps in shaping good personality, good innovative skills, reforming the teaching method, and cultivating the self learning ability. Hence the study intends to examine whether the Autonomous Learner Model influences the self esteem of the secondary school students.

3. Operational Definitions of the Terms

3.1 Independent Variables

The independent variables used in this study are instructional methods and levels of achievement.

3.1.1 Instructional Methods

In the present study, the Investigator uses the following two Instructional Methods: Autonomous Learner Model and Traditional Method.

3.1.1.1 Autonomous Learner Model

A person with a combination of convergent and divergent thinking, functioning with a minimal external guidance in selected areas, solves problems with minimum effort, and develops new ideas is an Autonomous Learner.

An autonomous learner in the present study focuses on the learners being able to construct their knowledge by making connections to the prior knowledge, able to make decisions and analyzing many possibilities and performing the specified task independently.

3.1.1.2 Traditional Method

Traditional method means a holistic approach of teaching that focuses on individual students' needs and abilities.

The Investigator refers to the method commonly used by a

science teacher in his/her classroom for customary teaching.

3.1.2 Levels of Achievement

An achievement is something which someone has succeeded in doing, especially after a lot of effort. Academic achievement or (academic) performance is the extent to which a student, teacher, or institution has achieved their short or long-term educational goals.

In the present study, achievement was selected as the second independent variable. It is a measure of control by which the effect of Autonomous Learner Model and Traditional Method was studied on self-esteem. The Pre-Achievement scores which are the marks obtained by the students in the previous year's final examination led to the categorization of the sample into above average, average, and below average level of achievement. The subjects assigned to each of the three groups were 20 each. This was done by using Mean + 1SD and Mean - 1SD.

3.2 Dependent Variable

3.2.1 Self Esteem

One own worth and a person's overall personal judgment reflect ones self-esteem. Self-esteem enables a person to judge his/her attitude towards self. It is also known as the evaluative dimension of the self that contains feelings of worth, pride, and encouragement.

In the present study, self-esteem is measured by the scores obtained by students on a four point self-esteem rating scale prepared by the investigator.

3.2.2 Secondary School Students

Students who are studying in Class VIII and IX are considered as secondary school students. The Class IX students are considered for research by the investigator.

3.3 Control Variable

3.3.1 Pre-Achievement

Pre-achievement was selected as a control variable or a covariate as a measure of controlling the effect of Pre-achievement on self-esteem of secondary school students with different levels of achievement. The scores obtained by the students in the VIII Std., final examination in Science are considered for the present study.

4. The Present Study

A Study on Autonomous Learner Model and Self- Esteem among the Class IX Students of Secondary Schools of Mangaluru Taluk with different Levels of Achievement.

5. Objectives of the Study

The objective of the research is to study the main effect of Instructional Methods (Autonomous Learner Model and Traditional Method), Levels of Achievement, and their interaction effects on self- esteem among secondary school students with pre-achievement as co-variate.

6. Hypotheses of the Study

H_1 : There is no significant difference in the effect of instructional methods (Autonomous Learner Model and Traditional Method) on self-esteem with pre-achievement as co-variate.

H_2 : There is no significant difference in the effect of levels of achievement on self-esteem with pre-achievement as co-variate.

H_3 : There is no significant difference in the interaction effects of instructional methods (Autonomous Learner Model and Traditional Method) and levels of achievement on self-esteem with pre-achievement as co-variate.

7. Methodology

The present study is an experimental study. The students of secondary schools of Dakshina Kannada District studying the state syllabus were the population of the study. The population consisted of five hundred students studying in different schools. A total of sixty secondary school students were randomly selected from the above population as the sample. The selected sample 60 was grouped into (30+30) and the methods of teaching used were Autonomous Learner Model and Traditional Method.

7.1 The Tools used in the Study

- An Achievement Test in Science was prepared by the Investigator.
- A rating scale on self-esteem based on 'Rosenberg Self-Esteem Rating Scale' was modified and validated by the investigator.
- Instructional Material in Physics using Autonomous Learner Model and traditional method of teaching on the unit 'Light and Lens' from standard IX Science

textbook of Karnataka State syllabus was prepared for the experimental study.

The sample was administered from the Achievement Test in Science. The Pre-Achievement scores obtained from the students were classified as three categories, namely above average, average, and below average. The sample was administered from the Rating Scale on Self-esteem, which consisted of 70 items. The students were assessed based on a four point scale that included agree - 4 points, agree to some extent - 3 points, Disagree - 2 points, and do not agree at all - 1 point. The reliability and validity of data for the self-esteem Rating Scale and Science exam are given in Appendix A.

7.2 Statistical Techniques Used

Descriptive statistics, namely Mean, Standard Deviation, and Percentage were computed and Inferential Statistics, such as ANCOVA and 'F' ratio were used. The significant level was set at 0.05 level.

8. Data Analysis

The first objective of the study was to study the main effect of Instructional Methods (Autonomous Learner Model and Traditional Method), Levels of Achievement and their interaction effects on self-esteem with pre-achievement as co-variate. The analysis and interpretation of this objective is done by using ANCOVA on the scores obtained from the rating scale of self-esteem. To test the objective, the three null hypotheses were formulated.

8.1 Analysis of Co-Variance of Scores on Self-Esteem

The two factors in the analysis of data were Factor A: Instructional Methods and two levels were Autonomous Learner Model and Traditional Method; Factor B: Levels of Achievement with three levels above average, average, and below average achievement. The scores obtained by the above average, average, and below average students based on achievement from Experimental and

Control groups on Self-esteem were subjected to analysis of ANCOVA. The two factors in the analysis of this objective are Instructional Methods (Autonomous Learner Model and Traditional Method), Levels of Achievement, and their main and interaction effects were found out and given in Table 1.

8.2 Main Effect of Instructional Methods on Self-Esteem

From Table 1, F Ratio 14.9 ($P < 0.05$) for different Instructional methods is significantly greater than the theoretical value 4.0012 for Degrees of Freedom 1, 53 at 0.05 level of significance. Hence, the null hypothesis "There is no significant difference in the main effect of Instructional Methods (Autonomous Learner Model and Traditional Method) on self-esteem with pre-achievement as co-variate" is rejected and the alternate hypothesis "There is a significant difference in the main effect of Instructional Methods (Autonomous Learner Model and Traditional Method) on self-esteem with pre-achievement as co-variate" is accepted.

In order to determine the effectiveness of the instructional methods on self-esteem, the Adjusted Mean and Standard Deviation were computed. The details are given in Table 2.

8.3 Main Effect of Levels of Achievement on Self-Esteem

From Table 1, F Ratio 38.19 ($P < 0.05$) for levels of achievement is significantly higher than the theoretical value 3.1504 for Degrees of Freedom 2, 53 at 0.05 level of significance. Hence, the null hypothesis "There is no significant difference in the effect of Levels of Achievement on self-esteem with pre-achievement as co-variate" is rejected and the alternate hypothesis "There is a significant difference in the effect of Levels of Achievement on self-esteem with pre-achievement as co-variate" is accepted.

In order to determine the effect of the levels of achievement on self-esteem, the Adjusted Mean and Standard Deviation were computed. The details are presented in Table 3.

From Table 3, it is observed that

Source of Variation	df	SS	MSS	F Ratio	P-Value	Table Value	Results
Autonomous Learner Model A	1	25853.41	25853.41	14.9	<0.0003	4.0012	Significant at 0.05 level
Levels of Achievement B	2	132503.64	66251.82	38.18	<0.0001	3.1504	Significant at 0.05 level
AXB	2	9270.03	4635.01	2.67	>0.0786		Not Significant at 0.05 level
Error	53	91967.49	1735.24				

Table 1. Summary of 2x3 Factorial Design ANCOVA for Self-esteem

- The adjusted means of the scores on self-esteem of the students of average achievement level is significantly higher than the students of above average achievement level.
- The adjusted means of the scores on self-esteem of the students of average achievement level is significantly higher than the students of below average achievement level.
- The adjusted means of the scores on self-esteem of the students of above average achievement level is significantly higher than the students of below average achievement level.

From the above findings, it can be concluded that Levels of Achievement has a significant difference in developing self-esteem among secondary schools irrespective of instructional methods.

8.4 Interaction Effects of Instructional Methods and Levels of Achievement on Self-Esteem

From the Table 1, F Ratio 2.67 ($P > 0.05$) for interaction of different methods and levels of achievement is significantly lower than the theoretical value 3.1504 for Degrees of Freedom 2, 53 at 0.05 level of significance. Therefore the null hypothesis "There is no significant difference in the interaction effects of Autonomous Learner Model and Levels of Achievement on self-esteem with pre-achievement as co-variate" is accepted and the alternate hypothesis "There is a significant difference in the interaction effects of Autonomous Learner Model and Levels of Achievement on self-esteem with pre-achievement as co-variate" is rejected.

Instructional Methods	Mean	Adjusted Means	SD
Autonomous Learner Model	164.7667	172.2186	5.27
Traditional Method	120	112.548	5.29

Table 2. Adjusted Mean Scores of Self-Esteem with respect to the Instructional Methods

Levels of Achievement	Means	Adjusted Means
Above Average	197.4	151.3
Average	201.4	253.5
Below Average	104.3	102.3

Table 3. Adjusted Mean Scores of Self-esteem with respect to Levels of Achievement

This indicates that the instructional methods had no effect in boosting the self-esteem of the students. The Levels of Achievement has a significant difference in developing self-esteem among the students. Since the 'F' Ratio for the interaction between instructional methods and Levels of Achievement is not statistically significant, it is suggested not to go for further analysis of data. Hence, it can be concluded that when the Instructional Methods and Levels of Achievement were combined there was no inconsistency in the development of self-esteem.

8.5 Graphical Representation of the Interaction Effect of Levels of Achievement with respect to Self-Esteem

To visualize the interaction effect of instructional methods and levels of achievement, a graphical representation of the mean scores of the above average, average and below average students' achievement levels with respect to self-esteem is given below.

From Figure 1 and Table 4, it is observed that

- There is no Interaction effect of instructional methods and levels of achievement on developing self-esteem among the secondary school students.
- Autonomous Learner Model is more effective than Traditional Method in case of above average and average level of achievement.
- Autonomous Learner Model is more effective on above average level of achievement.

From the above findings, it can be concluded that Autonomous Learner Model has significant effect in developing self-esteem among secondary school students irrespective of their levels of achievement. The above average group scored significantly higher than the other two groups. The students in this group were high achievers and moreover the instructional material prepared was easily analyzed by them. This group was highly motivated and was very confident. They were also highly receptive in their learning than the other two groups.

9. Major Findings of the Study

- The two Instructional Methods – Autonomous Learner Model and Traditional Method differed in their effects on self-esteem of secondary school students.
- Autonomous Learner Model is significantly more

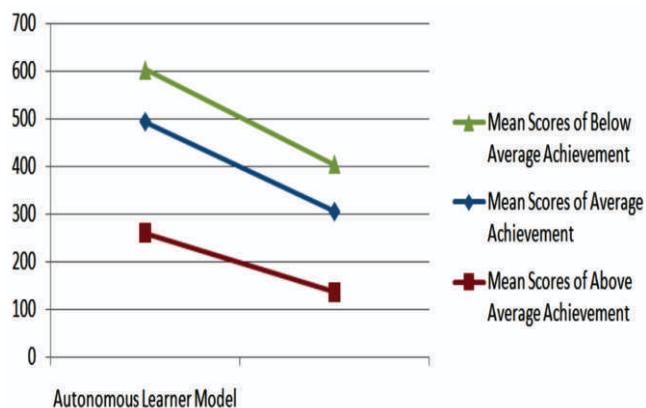


Figure 1. Interaction of Instructional Methods and Levels of Achievement on Self-esteem of Secondary School Students

Levels of Achievement Instructional Methods	Mean Scores		
	Above Average	Average	Below Average
Autonomous Learner Model	259.7	232.7	110.5
Traditional Method	135	170.1	98.2

Table 4. Means of Scores of Self-Esteem

effective than Traditional Method with respect to self-esteem of secondary school students after partialling out the effect of pre-achievement.

- Levels of Achievement have significant effect on developing self-esteem among secondary school students.
- Interaction effects of Autonomous Learner Model and Levels of Achievement have a significant effect on self-esteem among secondary school students.
- Autonomous Learner Model is more effective on above average level of achievement.

10. Educational Implications

The present study yielded some important insights into Autonomous Learning among high school students and the following recommendations are made:

- As Autonomous Learning promotes self-esteem, teachers need to create a platform for it and create a community so that students learn to respect value and support one another.
- An Autonomous Learner excels in independent thinking and this helps the students to be a part of the decision

making process that enhances their self-esteem.

- Allowing students to learn from their mistakes make them independent and develop their self confidence.
- When students are given time to build on their self-esteem by conducting various activities, it increases their academic competence.
- The students need to be valued individually for his/her strengths and abilities. Teaching them to recognize and value one another's differences boosts their morale. This makes the students do individuals contributions whenever necessary.
- Makes learning realistic and achievable by the teachers and helps the students to do task analysis by breaking down large assignments and manage their works. Making teaching learning process focus more on developing problem solving skills makes learners to be instrumental in the learning process.
- Self-esteem enhancement programmes could be organized in schools to help the students analyse their thoughts and feelings and become more positive about themselves.

Conclusion

The findings of the present study reveal that Autonomous Learner Model is significantly more effective than Traditional Method with respect to self-esteem. Levels of Achievement have significant effect on developing self-esteem among secondary school students. Interaction effects of Autonomous Learner Model and Levels of Achievement has a significant effect on self-esteem among secondary school students. This is in agreement with the study conducted by Maskarnas (2014), where the research says that the Self esteem has a significant effect on academic achievement of secondary school students. Secondary school students with high Self-esteem have a greater effect on Academic Achievement than those of average and low levels of self-esteem. Research findings by Jobby (2014) also reveal that there is a positive relationship between self-esteem and academic achievement and average level students exhibited high self-esteem.

Therefore, Independent Learning and Self-Esteem in science plays a significant role for all round development of students. The interest, abilities, attitudes, skills, needs, and

desires of the students need to be included in the syllabus and assignments.

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Appendix A

1. Measurement of Achievement Test in Physics

The test was prepared by the investigator and the reliability was measured. The value 0.78 was found from the test retest reliability of the administered test. The value indicated that the 'Achievement Test' constructed by the investigator is highly reliable. The validity of the tool was measured by using content validity and face validity.

2. Measurement of 'Self-Esteem Rating Scale'

The test was prepared by the investigator and the reliability was measured. The reliability of the whole test on the 'Self-Esteem Rating Scale' was found to be 0.91.

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