

ISSN 0973-6190



# JOURNAL OF EDUCATIONAL RESEARCH AND EXTENSION

Peer Reviewed Quarterly Journal with impact factor

Vol.55, No.4 - October to December 2018 &  
Vol.56, No.1 - January to March 2019



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**COLLEGE OF EDUCATION (AUTONOMOUS)**  
COIMBATORE - 641 020.

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ISSN 0973-6190

VOL. 55 (4) & 56 (1) OCT-2018 TO MAR-2019

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**Published by :**  
**Sri Ramakrishna Mission Vidyalaya**  
**College of Education (Autonomous),** Coimbatore - 641 020  
Phone No - 0422 - 2692441 Fax: 0422 - 2694572  
e-mail: srkvcoejere@gmail.com

**Printed at :**  
**Ramakrishna Mission Vidyalaya Printing Press**

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## ENHANCING SELF-EFFICACY OF SECONDARY SCHOOL STUDENTS BY YOGA BASED INTERVENTION

1

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### INTRODUCTION

Self-efficacy is an individual's belief in his or her innate ability to achieve goals. Albert Bandura defines it as a personal judgement of "how well one can execute courses of action required dealing with prospective situations".

Self-efficacy is the extent or strength of one's belief in one's own ability to complete tasks and reach goals (Ormrod, J. E. (2006). Psychologists have studied self-efficacy from several perspectives, noting various paths in the development of self-efficacy; the dynamics of self-efficacy and lack thereof, in many different settings; interactions between self-efficacy and self-concept; and habits of attribution that contribute to, or detract from, self-efficacy.

Tshcannen-Moran and colleagues (1998) developed a model of teacher efficacy identifying the ways in which efficacy judgments result as a function of the interaction between teachers' analysis of teaching task in context and their teachers' assessment of

their personal teaching capabilities as they relate to the task. In addition, Bandura also identified four specific sources of efficacy beliefs: mastery experiences, vicarious experiences, verbal persuasion and arousal. Mastery experiences are direct encounters with success through engagement in a behaviour that brings about a desired outcome. For example, student-teachers who facilitate laboratory experiments in which students demonstrate conceptual understanding may believe their actions led to student learning. These judgments are likely to increase their efficacy for conducting lab experiments in the future. This may be why some studies have found a connection between teacher education course-work and pre-service teacher efficacy.

This may be why some studies have found a connection between teacher education course-work and pre-service teacher efficacy. If student-teachers watch experienced teachers successfully facilitate laboratory experiments, they might also develop a sense of efficacy

because they saw how to implement the actions necessary to bring about students' success.

### **NEED FOR THE STUDY**

Yoga is a decent exercise for the emotion and the body. It gives the freshness and the callus to the emotion. Yoga assumes an imperative part in each person. It is exceptionally unique to the alternates since alternates assume a vital part in the school life. The investigation especially implied for the secondary schools students to enhance the Self-Efficacy by yoga based intervention. From this mediation, it is conceivable to know how the alternates enhance their Self-Efficacy in the learning. Considering the significance of such investigation round there, the analyst has embraced an investigation on a theme improving Self-Efficacy of secondary schools students by yoga based intervention.

### **SCOPE OF THE STUDY**

The investigation researches the marvels identified with the decreasing Self-Efficacy of secondary schools students by yoga based intervention. It distinguishes the level of Self-Efficacy and yoga based intervention in light of sexual orientation, kind of schools and area, and so onward. The investigation gives a formation in investigating yoga based intervention with respect to Self-Efficacy of understudies in their own and school life which will furthermore help

the understudies in their imaginative teaching and scholarly activities.

### **OBJECTIVES OF THE STUDY**

1. To find out the level of Self-Efficacy of secondary school students in terms of gender.
2. To find the influences of the following background variables in enhancing Self-Efficacy of secondary school students by yoga based intervention.

### **HYPOTHESES OF THE STUDY**

1. The level of Self-Efficacy of secondary school students in terms of gender is Average.
2. There is significant difference between the mean scores of the pre-test and post-test in the selected basics of Self-Efficacy.
3. There is significant difference between the mean scores of male and female students selected elements of Self-Efficacy by yoga based intervention.
4. There is significant difference between the mean scores of rural and urban teachers selected elements of Self-Efficacy by yoga based intervention.

### **METHODOLOGY**

The investigators working the experimental method for this investigation in which the single group design administered to find out the enhancing Self-Efficacy of secondary



school students by yoga based intervention.

### SAMPLE

The 40 students from secondary school constitute the sample of the study. The total sample selected through purposive sampling technique. The homogeneity was recognized verified.

### TOOL USED FOR THE STUDY

1. A questionnaire of test for Self-Efficacy of secondary school students level ( pre-test and post-test)
2. Yoga based Intervention to be developed by the investigator.

### YOGA INTERVENTION

The study consists with single group pre-test and post-test experimental design. The yoga intervention was communicated to the experimental group for one hours daily (evening), every day in a week except Sundays and holidays for a total period of six weeks. For 1-10 days, they were given introduction of Yoga Education next 30 days they were practices of Yoga programmes. The present

Yoga Practices: Loosening Exercises, Suryanamaskar, Tadasana, Parivardha Trikonasana, Sarvangasana, Matsyasana, Bhujangasana, Dhanurasana, Paschimottanasana, Nadi shodana, Kapalabathi, Bhramari, Japa Meditation and Yoga Nidra. The period of each asana was ranged from 2 to 3 minutes conditional upon the development in performance, whereas 2-5 minutes for practice.

### STATISTICAL TECHNIQUES

Statistical techniques such as mean, standard deviation, 't' test and F test were used for arriving empirical findings.

### ANALYSIS AND DISCUSSION

Analysis of data means studying the material in instruction to learn interest truths. The important issue in educational research is an analysis of data.

### HYPOTHESIS-1

The level of Self-Efficacy of secondary school students in terms of gender is Average.

Variable	Sex	Low		Moderate		High	
		N	%	N	%	N	%
Self-Efficacy	Male	4	10	8	20*	5	12.5
	Female	4	10	11	27.5*	8	20

\*Indicates the level of Self-efficacy of students.

It is inferred from the large percentage of male students has low level of Self-Efficacy (10%), moderate level (20%), high level Self-Efficacy (12.5%) and female students have low level of Self-Efficacy (10%), moderate level (27.5%) and high level Self-Efficacy (20%). This shows that the school students are in good Self-

Efficacy. Understand the teachers; the students are able to change themselves with the mood.

### HYPOTHESIS-2

There is significant difference between the mean scores of the pre-test and post-test in the selected basics of Self-Efficacy.

S.No.	Components of Self-Efficacy	Pre-test		Post-test		Calculated 't' value	Remarks at 0.05% level
		Mean	S.D	Mean	S.D		
1.	Performance experiences	60.4	4.061	61.4	5.764	5.146	Significant
2.	Observational learning	61.1	4.968	62.4	5.919	5.956	Significant
3.	Verbal persuasion	58.7	4.201	68.0	5.317	5.344	Significant
4.	Emotional arousal	62.0	5.023	68.34	5.417	5.420	Significant

(At 0.05% significance the tabulated value of 't' is 2.00).

The computed 't' values (5.146, 5.956, 5.344 and 5.420) are lesser than the table regard (2.00). It is induced from the above table there is huge difference between the mean scores of the pre-test and post-test in the selected basics of Self-Efficacy. The shows that the post-test students mean score of 60.4 of Performance experiences, 61.1 of Observational learning, 58.7 of Verbal persuasion and 62.0 of Emotional arousal are better than the

pre-test students mean score of 61.4 Performance experiences, 62.4 of Observational learning, 68.0 of Verbal persuasion and 68.34 of Emotional arousal in the selected basics of Self-Efficacy.

### HYPOTHESIS-3

There is significant difference between the mean scores of male and female students selected elements of Self-Efficacy by yoga based Intervention.

S.No	Gender	N	Mean	SD	Calculated 't' value	Remark at 0.05% level
1.	Male	18	58.528	5.439	3.347	Significance
2.	Female	22	69.727	5.610		

(At .05% significance the tabulated value of 't' is 2.00).

The computed 't' values male and female (3.347) are lesser than the table regard (2.00). It is construed from the above table there is significant difference between the mean scores of male and female students chose components of Self-Efficacy attained by the yoga based Intervention.

Female students are better than male students in their commitment to society. Usually females are very soft in

nature and they will be sincere in their duties. They understand that learning style is a facility to society and hence they are better than male students.

#### HYPOTHESIS-4

There is significant difference between the mean scores of rural and urban students selected elements of Self-Efficacy by yoga based Intervention.

S.No	Locality of students	N	Mean	SD	Calculated 't' value	Remark at 0.05% level
1.	Rural	19	66.904	5.156	3.451	Significance
2.	Urban	21	62.104	5.204		

(At .05% significance the tabulated value of 't' is 2.00).

The figured 't' values country and urban (3.451) are lesser than the table regard (2.00) it is surmised from the above table there is significant difference between the mean scores of rural and urban students' components of Self-Efficacy attained by the yoga based Intervention. Student studying in rural schools are very popular among people and they are respected by the people. The parents of the rural students are typically uneducated so they have faith in their teachers and they love the students. Hence the students studying in rural schools are psychologically good than the students studying in urban schools.

#### FINDINGS

➤ In regard to the male students 10 % have low level, 20 % of them have

moderate and 17.5 % of them have high level of Self-Efficacy.

- In regard to the female students 10% have low level, 27.5 % of them have moderate and 20 % of them have high level of Self-Efficacy.
- There is significant difference between the mean scores of the pre-test and post-test in the chose components of Self-Efficacy.
- There is significant difference between the mean scores of male and female students selected elements Self-Efficacy by yoga based Intervention.
- There is significant difference between the mean scores of rural and urban students selected

elements of Self-Efficacy by yoga based Intervention.

the Self-Efficacy of secondary school students.

## EDUCATIONAL IMPLICATION

The Yoga Education has been alluded to as the preparation and showing the procedure of Yoga, however, it ought to likewise be viewed as the utilization of Yoga methods to give better help to the instruction procedure. The objective of both the controls is the same and that is the improvement of socially helpful possibilities of human identity.

The study develops interest among investigators and students to implement yogic practices at each level of education and development of such exercise in the curriculum.

This paper also provides an educational implication which helps educators undertake creativities for proper infusion of yoga based intervention that further enhance

## CONCLUSION

The imperative discoveries of this assessment are that the yoga based Intervention has an incredible potential to enhance the teachers Self-Efficacy the same and in addition students usual execution. The experimental comes about affirm the significance of Self-Efficacy to the option up of increasing of Self-Efficacy. The yoga based Intervention recommendations a strange chance to teachers to build up these facilities. Consequently the above students are inferred that the yoga based Intervention are most improving Self-Efficacy of secondary school students. There is significant difference between the mean scores of rural and urban students chose components of Self-Efficacy talented by the yoga based Intervention.

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## INFLUENCE OF COMPLEXITY AND STUDY HABIT OF SUCCESS IN CHARTERED ACCOUNTANCY EXAMINATIONS

**2**

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Ulundurpet,  
Villupuram.

### INTRODUCTION

Different prospective students often ask, what is the difference between Chartered accountancy and other accounting qualifications? The answer is that no other professional accounting qualification provides students with the same support, structure and guidance throughout the training process. Every professional accountancy body in Ireland qualification requires in trainees to have a minimum of three year practical experience. We are unique in that we ensure our trainees are supported while they get their experience.

CA involves a combination of academic and professional training. There is a verity of education course on offer, each with different structures based on local requirements. Most students will attend lectures for the equivalent of two weekends a month from October until May.

No other carrier offers the mobility that CA qualification does. Today's CA's takes on the role of a business advisor, improving profit margins and increasing market share for their employees.

Many CA's also use their expertise to form their own business, becoming highly successful entrepreneurs. Along with the technical skills mentioned above, as generally have a solid foundation in economics, marketing and management information system, as well as dominating public accounting practices CA is found at the highest level in virtual qualification does.

### NEED OF THE STUDY

Success in Chartered Accountancy is of low incidence among the candidates. It is not and an exaggeration to state that a pass in chartered accountancy is considered to be a rare and unique privilege even as compared to other professions. To state that the growth of industries is so fast due to the economic reforms under Liberalization, Privatization and globalization. Obviously, the need of chartered accountants cannot be over emphasized due to the accelerated demand of pass-holders in the field. In this context, that the identification of factors which facilitate success in the CA examinations assumes significance and validity.

## OBJECTIVES OF THE STUDY

The study has the following objectives:

1. To find the influence of independent variable Family income is influenced the dependent variable Success in CA Examinations.
2. To find is there any significant difference between the dependent variable Success in CA Examinations with respect to the independent variable Inferiority - Superiority complex (in capacity).
3. To find the influence of independent variable study habit with the dependent variable Success in CA Examinations.

## HYPOTHESES OF THE STUDY

1. Family income is significantly associated with Success in CA Examination.
2. There is significantly associated with Success in CA Examination with respect to the Inferiority - Superiority complex - (in capacity).
3. Study habit is significantly associated with Success in CA Examination.

## SAMPLE

The sample of 160 CA students / trainees constituted from the three coaching centre with due representation given to the variables family income, Inferiority - Superiority complex-(in capacity) and Study habit.

## TOOLS USED

The employment of Inferiority-Superiority complex-capacity inventory is the set of five inventories constructed and standardized for the measurement of Inferiority - Superiority complex - capacity among the college students by Krishnan. K and Subbulakshmi. C in 2009 and general information of the students has used by the investigator for the study.

## STATISTICAL TREATMENTS

Chi square test is used to find association between two variables.

## ANALYSIS AND DISCUSSION

### 1. Success In Ca Examinationsand Inferiority-Complex:

The results of chi-square test for association between Success in CA Examinations and Inferiority complex are provided as follows,

### Performance And Inferiority Complex

Table-1

	Success	Failure	Total
High group	10	91	101
Low group	14	45	59
Total	24	136	160

Chi square =5.246

The obtained value 5.246 is higher than the critical value at 0.05 level (with  $df=1$ ) is 3.841 and hence the obtained chi square value is significant. The null hypothesis that there is no significant association between Success in CA Examinations and Inferiority complex in capacity is rejected.

Hence the research hypothesis that there is a significant association

between Success in CA Examinations and Inferiority complex in one's capacity is accepted. Success in CA Examinations is negatively associated with one's Inferiority complex in capacity. i.e., it means that higher the inferiority complex of an individual lower the possibility of Success in CA Examinations.

**2. Success in CA Examinations and Superiority-Complex:  
Performance and superiority complex**

Table-2

	<b>Success</b>	<b>Failure</b>	<b>Total</b>
High group	11	83	94
Low group	13	53	66
Total	24	136	160

Chi square =13.339

It is evident that the obtained Chi square value 13.339 is higher than the critical value at 0.05 level (with  $df=1$ ) is 3.841 and hence the obtained chi square value is significant.

The null hypothesis that there is no significant association between Success in CA Examinations and superiority complex in capacity is rejected. i.e., the association of CA Examinations

and superiority complex in capacity is accepted. Further noticed that, those Successes in CA Examinations is negatively associated with superiority complex.

Those who possess superiority complex in capacity will not attain Success in CA Examinations. i.e. higher the possession of superiority complex lower the possibility of attaining success.

**3. Success in CA examinations and Family income:  
Performance and Family income**

The obtained Chi square value 3.604 is less than the critical value at 0.05 level with  $df=1$  is 3.841. Hence it is not significant. The null hypothesis

that there is no significant association between Success in CA Examinations and family income.

Table-3

	<b>Success</b>	<b>Failure</b>	<b>Total</b>
High group	24	112	146
Low group	0	14	14
Total	24	136	160

Chi square =3.604

#### **4. Success in CA Examinations and Study habit: Performance and Study habit**

Table 4

	<b>Success</b>	<b>Failure</b>	<b>Total</b>
High group	21	113	134
Low group	3	23	26
Total	24	136	160

Chi square =0.557

The obtained chi-square value 0.557 is less than the critical value at 0.05 level (with  $df = 1$ ) 3.841. It is evident that the obtained Chi square value 0.557 is not significant. The null hypothesis- that there is no significant association between Success in CA Examinations and study habit.

Further noticed that, Success in CA Examination is not associated with study habits. Study habit seems to be deviant from the common expectation that those who study throughout the academic period would perform very well. This findings can be justified few conditions. The result of family income seems to be contradictory to the popular notion that adequate family income would be an effective instrument for success in any sphere.

#### **FINDINGS**

The Success in CA Examinations is found negatively associated with the variables with inferiority complex in capacity and Superiority complex in capacity and found positively associated with Study habit and Family income.

#### **CONCLUSIONS**

1. The Success in CA Examination is found negatively associated with inferiority complex in capacity and Superiority complex in capacity. It is known that, complex in any form is a blockage in the optimum realization of the benefits of human endeavors. This is found confirmed in this study. Conscious efforts should be taken to eradicate the negative associates of Success identified in this study by



all concerned, particularly family members. The over estimation of one's capacity will lead to under preparation.

2. The Success in CA Examination is found not significantly associated with the independent variable Family income and Study habit. Study habit seems to be deviant from the common expectation that those who study throughout the academic period would

perform very well. This findings can be justified few conditions.

In this finding can be reasoned out on the ground that there is no guarantee of spending money for education just because of the possession of adequate income by the family. i.e., rich people are not concentrating much on their wards' education as compared to very poor people spending beyond their capacity for their wards' education.

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## INCLUSIVE EDUCATION FOR THE DIFFERENTLY ABLED AT THE SECONDARY LEVEL (IEDSS) AND THE STATUS OF INCLUSIVE EDUCATION

3

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### INTRODUCTION

The main task of education is to shape human beings, or to guide the evolving dynamism through which human forms humane. In ancient society, the basic needs of humans comprised food, clothing and shelter. But, as a result of civilization, in addition to the primary needs, the most important need for any person today is the need to be educated.

Inclusive education which has emerged as a reform in the education of children with special needs gained momentum since 1994 World Conference on Special Needs Education. It is significant that some countries like India have made significant advances towards promoting inclusive education in their legislation.

Inclusion is a term which expresses commitment to educate each child to the maximum in the regular classroom by bringing the support services to the child. Inclusion does not mean 'dumping' children with special needs

into the regular classroom. It is a process. According to the concept of inclusive education, all aspects in the school including curricular and physical will have to change. Inclusive education is about the participation of all children and young people and the removal of all forms of exclusionary practices (Batrons, 1998)

Education of children with special needs has witnessed several changes shifting from segregation to inclusion. Earlier, people believed that the disabled persons are not able to participate the day to day activities of regular schools. So special schools were set up in that time. In 1880's Christian missionaries started special schools. The first school for the blind was established in 1887. A school for the deaf was started in 1888. The first school for the mentally challenged was started in 1934 (Mishra, 2000). In the year 1947, the number of schools for the blind increased to 32, for the deaf 30 and for mentally challenged to 3.

## **NEED AND SIGNIFICANCE OF THE STUDY**

It is estimated that at least one child in ten is born with a moderate or severe disability. The differently abled children were one of the most neglected groups in almost every society. Only a minority of the disabled received good health care and education. Earlier, most educators believed that children with physical, sensory or intellectual disabilities were so different that they could not participate in the activities of a common school (Advani, 2002).

The introduction of Right to Education Act marked a major milestone in the history of India. The Right of children to Free and Compulsory Education Act, enacted the parliament by Ministry of Human Resource Development (MHRD) in August 2009 which aims to provide free and compulsory education up to class VIII to all children in 6-14 age group has come into effect from April 1, 2010, with this India has joined a select few countries in the world where education is a fundamental right.

## **OBJECTIVE OF THE STUDY**

The objective of the study is to analyze the nature of inclusive education based on 2011 census for the differently abled children and the progress of IEDSS programme .

## **METHODOLOGY**

Various documents were analysed to collect data for the study. The census report 2011, Report of RMSA for IEDSS, NCF 2005 are the major documents used to study the nature of inclusive education and the progress of IEDSS programme. Document analysis was used to interpret the documents related to inclusive education and the programme of IEDSS.

## **ANALYSIS AND INTERPRETATION**

The National Curriculum Framework 2005 says that the shifting approaches to disability have translated into very diverse policies and practices. The four major identifiable foundations of disability are the charity model, the biocentric model, the functional model and the human rights model. The concept of integrated education in India has emerged during the mid 1950's. The Planning Commission in its plan included a programme for integrated education in 1971. The government of India launched the Integrated Education for Disabled Children (IEDC) in 1974. The latest development in this area is inclusive education which means all students belongs to the integral part of the school community irrespective of their disabilities.

## THE CENSUS REPORT, GOVERNMENT OF INDIA, 2011

When considering the disability, in 1981 census, information on three types of disability was collected namely totally blind, totally crippled and totally dumb. In 2001 census, information on five types of disability are included namely disability in seeing, in speech, in hearing, in moving and mental disability. In 2011 census, eight types of disabilities are indicated namely disability in seeing, in hearing, in speech, in movement, in mental retardation, in mental illness and any other multiple disability.

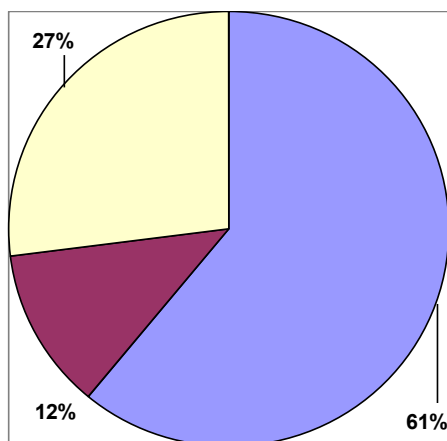
The census report 2011 shows that in our country, out of the 121 crore population, 2.68 crores are differently abled people which is 2.21% of the total population. Among this differently abled, 1.5 crores are males and 1.18 crores are females, 56% and 44% respectively. The percentage of differently abled to the total population increased from 2.13% in 2001 to 2.21% in 2011. When considering the rural urban classification, majority of the disabled person resided in rural areas, that is, 69% of the total. The remaining 31% resided in urban areas. It means, out of 2.68 crores, 1.86 crores of differently abled in urban areas and 0.82 crores in rural areas. This shows,

special care should be given to rural areas for the education of differently abled students. During the period 2001 – 2011, there was an increase in the number of differently abled persons both in rural and urban areas as well as males and females.

The census also revealed that 20% of the disabled persons are having disability in movement, 19% are with disability in seeing, 19% are with disability in hearing and 8% have multiple disabilities. It is diagrammatically shows in the figure. The number of disabled persons is highest in the age group 10-19 years. 30% are in the age group 0-19 years who are the part of inclusive education. Out of the total 0-19 years, 20% are having disability in hearing followed by 18% with disability in seeing, 9% has multiple disabilities.

### **Status of school attendance of disabled population 5-19 years of age.**

The 2011 census also shows that also shows that only 61% of the disabled children of 5-19 age are attending educational institutions. The following figure shows the status of school attendance of disabled students of 5-19 years of age.



(Source : Social Statistics Division, Ministry of Statistics and Programme Implementation)

The 2011 census also revealed that, 54% of the disabled children with multiple disabilities never attended educational institutions. Similarly, 50% of the children with mental illness never attended educational institutions. The above statistics shows that disability may act as a major hindrance in formal education. The educational attainment of disabled persons is important in improving the living conditions of such children. Here is the relevance of inclusive education by accommodating such children in common schools.

The census 2011 revealed that, Kerala has a share 2.84% of disabled persons in India. Uttar Pradesh has the highest share of 15.5% . In Kerala, 2.28% of the total population are differently abled. If showing in numbers, according to 2011 census, out of 3,34,06061 population, 76,1843 persons belong

to differently abled group. When considering the literacy rate among disabled persons, Kerala has the highest rate of 70.79%. The all India average is only 54.52%. This figure shows that, the state of Kerala is far better for providing education to the differently abled persons. The percentage of differently abled children who are attending educational institutions has been reported from Kerala is 73%, which is also the highest in India. The national level, it is 61% of the total.

#### **INCLUSIVE EDUCATION FOR DISABLED AT SECONDARY STAGE (IEDSS)**

The above statistical figures show the status of the level of literary and education of differently abled compared to all India average. Definitely, Kerala is in the forefront of providing education to the differently abled children. But the

concept of inclusive education ensures education for all children irrespective of their disabilities. That means, it is not 73%, all children with disabilities should attend the normal schools. So various programmes and policies were introduced by the Government of India and the state of Kerala to ensure the presence of all children in schools irrespective of their disabilities. The Right to Education Act (RTE Act) which was introduced in India in 2009 based on zero rejection policy means no one is eliminated from the normal schools and all differently abled children should get admission to their neighbouring schools whether it is Government, Aided or Unaided. According to this act, it is the responsibility of the parents to send their children to schools without considering the disabilities.

The various census figures shows that children with disabilities constitute one of the largest groups that are still outside the field of the general education system. Often, no conscious effort has been made to target all the disabled children. Sarva Shiksha Abhiyan (SSA) with its policy 'zero rejection' focuses inclusion of children with special needs at the elementary education level, it is necessary to introduce a scheme for disabled at the secondary stage. So Inclusive Education for Disabled at Secondary Stage (IEDSS) is introduced which enable all children and young persons with disabilities to have

access to secondary education and to improve their enrolment, retention and achievement in the general education system. The scheme of IEDSS has been launched from the year 2009-10 by the Department of School Education and Literacy, Ministry of Human Resource Development, Government of India. This scheme subsumed under Rashtriya Madhyamic Shiksha Abhiyan (RMSA) from 2013. The scheme provides assistance for the education of disabled children in the classes IX-XII

The document of IEDSS consists of ten sections from background and rationale of IEDSS to monitoring and evaluation. The I section describes about background and rationale of the scheme of IEDSS. It mainly focusing on the policy frameworks like National Policy on Education, 1986 programme of Action 1992, Sadamanka Statement 1994, IEDC 1973 etc. stress on the education of disabled children which leads to the formation of IEDSS. SSA and NCF also recommended to make curriculum flexible to accommodate the diversity of school children.

The II section of the document give aims and objectives of IEDSS. The main aim of IEDSS is to provide education to the disabled students who complete eight years of elementary schoolings. It also focus on the training of general teachers to meet the needs of such children. The target groups are covered in the III section. The scheme will

cover the children of age 14+ passing and elementary school and studying at secondary stage. Eleven disabilities are covered under IEDSS. The type of the scheme is mentioned in the IV section. This is a centrally sponsored scheme and the central government will assist the states for the implementation of the programme. The V section speaks about the components of the programme. IEDSS scheme include two kinds of components namely, student oriented components and other components. The financial assistance and its utilization is described in detail in the subsection of student oriented components. Other components include teacher training, physical facilities, research and monitoring etc.

Other support services are included in section VI. Some disabled students require some sort of adaptations and this section discuss various facilities for this. Here the document discuss adaptations in examination procedures and provisions for alternative modes of examination. Section VII describes partnership and linkages with different organisations, authorities etc. which will help in creating resources and funds. Various community groups are formed for the benefit of such children through IEDSS.

Regulations for relaxation of rules are included in section VIII. The rules are released relate to admission, promotion examination procedure

etc. for the benefit of disabled children. A description about the major implementing agencies are described in section IX. The scheme will be implemented by the education departments of state governments. There will be flexibility in the implementation of the programme according to the needs and contexts. Monitoring and evaluation of IEDSS programme is come under section X. Appropriate structures will be established from the central to the block level. The administrative cell consists of many officials to implement the programme successfully. 5% of the total budget of IEDSS programme will be utilized towards administrative cost, research, monitoring and evaluation.

The appendix I of the programme document shows the financial parameters that is, the provisions under the revised IEDSS scheme. In the case of student oriented components, the appendix shows the revised aids and allowances of the disabled children. It includes expenses on levels of stationary, uniform, transport allowance, stipend for girl students etc. In section II of the appendix I, other components include honorarium for special education teacher.

## CONCLUSION

The primary focus of the study was to give a picture on the relevance of inclusive education and to show the reality in the field of inclusive

education. The study also analyzed the major features of IEDSS. The Right to Education Act ensures education of all children in the neighbouring school irrespective of the disabilities. Zero rejection is the principle behind Education for all (EFA). Inclusive education has been one of the most discussed areas in the current context. A lot of reforms are there in the area of inclusive education and the education

of differently abled children at the secondary level. Due to its educational importance, IEDSS scheme provides all facilities for the differently abled children at the secondary level. In the context of 2011 census, we can say that the authorities should give more importance to the education and welfare of the differently abled children to bring them in the stream of mainstream.

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## A STUDY ON ACADEMIC ANXIETY OF HIGH SCHOOL STUDENTS

4

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### INTRODUCTION

Education is a persistent feature characterizing all human societies. In broad sense, it aims at all round development of personality of child. In other words education aims at harmonious development of cognitive, affective and psychomotor domains. There are various agencies which contribute at different stages and to different degrees in achieving the said aim. These agencies can be broadly classified in to two categories viz, formal and non formal. School is a formal agency. Various activities carried out in school contribute in shaping the personality of child. Apart from this, the various activities of school are organized so that students' academic anxiety can be reduced.

Anxiety research has also led to a distinction between trait anxiety and state anxiety. Trait anxiety is a relatively enduring personality trait, a disposition to be anxious in many different situations, whereas state anxiety is the anxiety an individual experiences

in a specific situation at a specific time. Two are of commonly measured with statetrait anxiety inventory. The concept of trait and state anxiety has individual difference in their frequency and intensity of their becoming anxious on different teaching-learning situation under state anxiety, attempts are made to measure academic anxiety too, which is a kind of state anxiety which relates to the impending danger from the environments of the academic institutions including teacher certain subjects like Mathematics English etc.

Academic anxiety is a common issue that students cannot if they want to succeed in school. In often lead to problems concentrating while studying and remembering information while completing tests, which makes the student feel helpless and like failure. If academic anxiety is not properly addressed, if can have serious and lasting consequences, such as causing a student to procrastinate perform poorly on school work, fail classes and withdraw from socializing with peers or our suing activities that interest him.

## **NEED AND SIGNIFICATION OF THE STUDY**

Anxiety is one of the determinants of human behavior. It is most likely to arise internal response or behavior that conflict with the satisfaction of other needs or motives. The concept of anxiety is utilized for explaining many psychological problems and has become useful construct in the field of psychology. In the developing country like ours we see economic difference in society. Parents who can not to afford expensive private school education for their children send them to government which is comparatively cheap. Theses difference affects some personality traits of the children academic anxiety. This thinking of researcher motivated him for present investigation.

## **OBJECTIVES OF THE STUDY**

1. To find out the academic anxiety of high school students with respect to their gender.
2. To find out the academic anxiety of high school students with respect to their locality of students.
3. To find out the academic anxiety of high school students with respect to their medium of instruction.
4. To find out the academic anxiety of high school students with respect to their locality of school.

## **HYPOTHESES OF THE STUDY**

1. There is no significant in academic anxiety of high school students with respect to their gender.
2. There is no significant in academic anxiety of high school students with respect to their locality of students
3. There is no significant in academic anxiety of high school students with respect to their medium of instruction.
4. There is no significant in academic anxiety of high school students with respect to their locality of school.

## **METHODOLOGY**

The method adopted for the study is the survey method.

### **Population for the Study**

The population for the study consists of high school students in Dindigul and Karur district.

### **Sample**

The sample for the study consists of 334 high school students of Dindigul and Karur district.

### **Tool**

Academic anxiety questionnaire was developed by investigator and supervisor.

## STATISTICAL TECHNIQUES

Descriptive Analysis

Mean (M)

Standard Deviation (S.D)

Differential Analysis

't' – Test

## ANALYSIS AND DISCUSSION

The data were subjected to statistical treatment leading to the findings which may satisfy the requirements of the objectives of the study.

### HYPOTHESIS- 1

There is no significant in academic anxiety of high school students with respect to their gender

Table 1

#### Mean difference in Academic Anxiety of high school students with respect to Gender

Gender	Sample	Mean	SD	't' value	0.05 Level of Significance
Boys	177	16.64	4.87	0.73	Not significant
Girls	157	17.05	5.28		

From the table 1 inferred that the calculated 't' value 073 is less than the table value 1.96 at 0.005 level. Consequently the girls students (17.05) are better than the boys students (16.64) in their academic anxiety. Hence the hypothesis is accepted. Therefore it is

concluded that there is no significant in academic anxiety of high school students with respect to their gender.

### HYPOTHESIS 2

There is no significant in academic anxiety of high school students with respect to their locality of students.

Table 2

#### Mean difference in Academic Anxiety of high school students with respect to Locality of Students.

Locality of students	Sample	Mean	SD	't' value	0.05 Level of Significance
Rural	255	16.89	5.05	0.38	Not significant
Urban	79	16.64	5.15		

From the table 2 inferred that the calculated 't' value 0.38 is less than the table value 1.96 at 0.005 level.

Consequently rural students (16.89) are better than the urban area students (16.64) in their academic anxiety. Hence

the hypothesis is accepted. Therefore it is concluded that there is no significant in academic anxiety of high school students with respect to their locality of students.

### HYPOTHESIS -3

There is no significant in academic anxiety of high school students with respect to their medium of instruction.

Table 3

**Mean difference in Academic Anxiety of high school students with respect to Medium of instruction**

Medium of Instruction	Sample (N)	Mean	SD	't' value	0.05 Level of Significance
Tamil	210	16.53	4.85	1.39	Not significant
English	124	17.35	5.39		

From the table 3 inferred that the calculated 't' value 01.39 is less than the table value 1.96 at 0.005 level. Consequently the English medium students (17.35) are better than the Tamil medium students (16.53) in their academic anxiety. Hence the hypothesis is accepted. Therefore it is concluded

that there is no significant in academic anxiety of high school students with respect to their medium of instruction.

### HYPOTHESIS-4

There is no significant in academic anxiety of high school students with respect to their locality of school.

Table 4

**Mean difference in Academic Anxiety of high school students with respect to Locality of School**

Locality of School	Sample(N)	Mean	SD	't' value	0.05 Level of Significance
Rural	272	16.84	4.96	0.08	Not significant
Urban	62	16.79	5.55		

From the table 4 inferred that the calculated 't' value 0.08 is less than the table value 1.96 at 0.005 level. Consequently the rural area school (16.84) are better than the urban area school (16.79) in their academic anxiety. Hence the hypothesis is accepted. Therefore it is concluded that there is no

significant in academic anxiety of high school students with respect to their locality of school.

### FINDINGS

- There is no significant in academic anxiety of high school students with respect to their gender

- There is no significant in academic anxiety of high school students with respect to their locality of students
- There is no significant in academic anxiety of high school students with respect to their medium of instruction.
- There is no significant in academic anxiety of high school students with respect to their locality of school.

4) Girls are more prone to anxiety as to boys. It may be because of family obligations gender biasness etc, they be given appropriate attention inside the school so that they can get relieve from academic anxiety.

5) This study may helpful for the teacher, parents, educationists, and counselors and concerned with the field of know the extent of academic anxiety among students. Necessary actions may be taken up to reduce the extent of academic anxiety.

### RECOMMENDATION

1) The study will be helpful in orienting and guidance programmers in high schools to improve academic performance by lowering academic anxiety.

2) Parents can be guided to encourage and appreciate their view helps their child to motivate and perform well in academics and face less anxiety.

3) Teachers must create an environment in classroom free from anxiety by providing extra attention to those who are form section of society and lower socio economic status because they suffer more from academic anxiety.

### CONCLUSION

Findings of the study reveal that gender and habitat does not play a role in the academic anxiety experienced by the high school students. While the types of school play a major role in the academic anxiety of the students. The facilities available, the school climate, mass media and other such factors make the private school students better achievers and less anxious compared to their counsterparts. Students centered and life centered curricula should be implemented in school for promoting students interest in learning. Teachers and parents should not students for achievements beyond their intellectual ability.

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# EDUCATIONAL ADJUSTMENT AND ACADEMIC ACHIEVEMENT OF HIGHER SECONDARY SCHOOL STUDENTS

5

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## INTRODUCTION

Adjustment is the process of finding and adopting modes of behaviour suitable to the environment or the changes in the environment. The aim of education is to bring up or leading or making manifestation of the inherent potentialities in a student. Educational adjustment is the process through which a student could very well accommodate certain new features incorporated into the academic field. Academic achievement is a combination of ability and effort. It is the accomplishment or acquired proficiency in the performance of an individual in a given skill or body of knowledge. It refers to a student's success in meeting short term or long term goals in education. It is commonly measured by examinations or continuous assessment but there is no general agreement on how it is best tested or which aspects are most important, whether procedural knowledge or declarative knowledge.

## SIGNIFICANCE OF THE STUDY

Adjustment is the process whereby an individual enters into harmonious or healthy relationship with his environment. It plays an important role in the overall development of children. A well-adjusted child establishes a harmonious, stable and satisfying relationship with his environment. He meets his needs and fulfils his desires with the resources available in the environment. In schools, students beginning higher secondary usually have some expectations. They look forward to school and are eager to experience more freedom and adventure. Some may be enthusiastic about school initially, but then discover that the actual experience falls short of their expectations. They don't feel happy, comfortable or secure in their new environment. If they adjust with the environment and challenging the experience in a positive way, they will shine in their academic side. This would take the students to a long way in the

path of their progress in the academic realm. Therefore, there is a relationship between educational adjustment and academic achievement of students. The study tries to investigate the relationship between educational adjustment and academic achievement of higher secondary school students.

## **REVIEW OF RELATED LITERATURE**

Suman Nehra (2014) studied the relationship between adjustment and emotional maturity of IX class students. The findings revealed that there was no significant difference between the adjustment of boys and girls studying in class IX. Surekha (2008) studied the relationship between students adjustment and academic achievement. The findings revealed that the students of private schools have better adjustment than the students of government schools. John Louis Maoharan and Christie Doss (2007) studied the relationship between home environment and adjustment of higher secondary students. The findings revealed that there was no significant difference between boys and girls students in their adjustment. From the studies reviewed, it is inferred that the educational adjustment and academic achievement of higher secondary school students has not been studied so far so deeply. The variables mentioned above are found to be left out. So, the investigator wishes to choose the topic

“relationship between educational adjustment and academic achievement of higher secondary school students’.

## **OBJECTIVES OF THE STUDY**

1. To find out the level of educational adjustment of higher secondary school students.
2. To find out whether there is any significant difference between male and female, XI and XII, government and aided, nuclear and joint family higher secondary school students in their educational adjustment.
3. To find out whether there is any significant relationship between educational adjustment and academic achievement of higher secondary school students.

## **NULL HYPOTHESES**

1. There is no significant difference between male and female higher secondary school students in their educational adjustment.
2. There is no significant difference between XI and XII standard students in their educational adjustment.
3. There is no significant difference between higher secondary school students from government and aided schools in their educational adjustment.
4. There is no significant difference between higher secondary school students from nuclear family and joint family in their educational adjustment.



5. There is no significant relationship between educational adjustment and academic achievement of higher secondary school students.

## METHODOLOGY

The investigator adopted survey method. The population for the study is higher secondary school students in Nagercoil Educational district. The investigator has used simple random sampling technique for collecting the data. The sample consists of 103 higher

secondary school students. Among them 53 are male and 50 are female students. Educational Adjustment Scale developed by A.K.P. Sinha and R.P. Singh (2007) was used for collecting the data. Marks Obtained in Quarterly Examination of higher secondary school students have been taken for estimating their Academic Achievement. 't' test and Karl Pearson's Product moment correlation were used to analyse the data.

## ANALYSIS OF DATA

### Educational Adjustment of Higher Secondary School Students

Table 1

#### Level of Educational Adjustment of higher secondary school students

Variable	Low		Moderate		High	
	No	%	No	%	No	%
Educational Adjustment	13	12.6	75	72.8	15	14.6

It is inferred from the above table that 12.6% of higher secondary school students have low, 72.8% of them have moderate and 14.6% of them have high level of educational adjustment.

**Null Hypothesis 1:** There is no significant difference between male and female higher secondary school students in their educational adjustment.

Table 2

#### Difference between Male and Female higher secondary school students in their Educational Adjustment

Variable	Male (N=53)		Female (N=50)		Calculated value of 't'	Remarks at 5% level
	Mean	S.D	Mean	S.D		
Educational Adjustment	9.34	3.430	8.92	3.029	0.659	NS

(At 5% level of significance, the table value of 't' is 1.98)

It is inferred from the above table that there is no significant difference between male and female higher secondary school students in their educational adjustment, as the calculated 't' value 0.659 is lower than the table value 1.98

at 5% level of significance. Hence the null hypothesis is accepted.

**Null Hypothesis 2:** There is no significant difference between XI and XII standard students in their educational adjustment.

Table 3

**Difference between XI and XII standard students in their Educational Adjustment**

Variable	XI (N=55)		XII (N=48)		Calculated value of 't'	Remarks at 5% level
	Mean	S.D	Mean	S.D		
Educational Adjustment	8.64	3.129	9.71	3.287	1.688	NS

(At 5% level of significance, the table value of 't' is 1.98)

It is inferred from the above table that there is no significant difference between XI and XII standard students in their educational adjustment, as the calculated 't' value 1.688 is lower than the table value 1.98 at 5% level of

significance. Hence the null hypothesis is accepted.

**Null Hypothesis 3:** There is no significant difference between higher secondary school students from government and aided schools in their educational adjustment.

Table 4

**Difference between higher secondary school students from Government and Aided Schools in their Educational Adjustment**

Variable	Government (N=48)		Aided (N=55)		Calculated value of 't'	Remarks at 5% level
	Mean	S.D	Mean	S.D		
Educational Adjustment	8.73	3.023	9.49	3.393	1.205	NS

(At 5% level of significance, the table value of 't' is 1.98 )

It is inferred from the above table that there is no significant difference

between higher secondary school students from government and aided

schools in their educational adjustment, as the calculated 't' value 1.205 is lower than the table value 1.98 at 5% level of significance. Hence the null hypothesis is accepted.

**Null Hypothesis 4:** There is no significant difference between higher secondary school students from nuclear family and joint family in their educational adjustment.

Table 5

**Difference between higher secondary school students from Nuclear family and Joint family in their Educational Adjustment**

Variable	Nuclear (N=96)		Joint (N=7)		Calculated value of 't'	Remarks at 5% level
	Mean	S.D	Mean	S.D		
Educational Adjustment	9.18	3.241	8.57	3.309	0.468	NS

(At 5% level of significance, the table value of 't' is 1.98 )

It is inferred from the above table that there is no significant difference between higher secondary school students from nuclear family and joint family in their educational adjustment, as the calculated 't' value 0.468 is lower than the table value 1.98 at 5% level of

significance. Hence the null hypothesis is accepted.

**Null Hypothesis 5:** There is no significant relationship between educational adjustment and academic achievement of higher secondary school students.

Table 6

**Relationship between Educational Adjustment and Academic Achievement of higher secondary school students**

Variables	Calculated 'γ' value	Remarks at 5% level
Educational Adjustment and Academic Achievement	0.272	S

(At 5% level of significance for 101df the table value of 'γ' is 0.194)

It is inferred from the above table that there is significant relationship between educational adjustment and academic achievement of higher secondary school students, as the

calculated 'γ' value 0.272 is greater than the table value 0.194 at 5% level of significance. Hence the null hypothesis is rejected.

## FINDINGS

1. 14.6% of higher secondary school students have high level of educational adjustment.

2. There is no significant difference between male and female higher secondary school students in their educational adjustment.

3. There is no significant difference between XI and XII standard students in their educational adjustment.

4. There is no significant difference between higher secondary school students from government and aided schools in their educational adjustment.

5. There is no significant difference between higher secondary school students from nuclear family and joint family in their educational adjustment.

6. There is significant relationship between educational adjustment and academic achievement of higher secondary school students.

## INTERPRETATIONS

The 'γ' test result reveals that there is significant relationship between educational adjustment and academic achievement of higher secondary school students. This may be due to the fact that unless educational adjustment is carried out, academic achievement could not be a positive one. A number of hurdles may be there on the way of educational adjustment but all the negative features be overcome by the students with the help of their teachers and elders as outside talents for the academic achievement. Thus the two variables are correlated with each other.

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## AWARENESS OF ENVIRONMENTAL DEGRADATION AMONG HIGH SCHOOL STUDENTS

6

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### INTRODUCTION

Environmental education is an integral process which deals with man's interrelationship with his natural and manmade surrounding, including the rate of population growth, pollution resource allocation and depletion, conservation technology and urban and rural planning to the total human environment. Environmental education is a study of the factors influencing eco systems, mental and physical health, living and working conditions decaying cities and population pressures. Environmental education is intended to promote among citizens the awareness and understanding of environment our relation to it and the concern and responsible action necessary to assure our survival and to improve the quality of life.

### ENVIRONMENTAL AWARENESS

Environmental Awareness means to help social groups and individuals to acquire an awareness and sensitivity to the total environment and its allied problems. The importance of

environmental awareness cannot be over emphasized we must understand that the environmental awareness will improve the quality of life. "Protect, preserve and improve the environment" the terms environmental education and environmental awareness are used interchangeably for the same meaning but there is significant difference in these two terms. The study of physical and biosciences, geography, agriculture etc. provides the environmental awareness. But the awareness does not help in developing skills and attitudes for improving of environment.

### GOALS OF ENVIRONMENTAL EDUCATION

- To improve the quality of environment.
- To create an environment among people on environmental protection.
- To develop the capabilities of decision making
- To enjoy nature and society

## **SIGNIFICANCE OF THE STUDY**

Environmental education seeks to develop the ability to assess environmental situations and the causal chains of relationships leading to environmental damage; the interaction among social, economic, and physical factors: mutually related and overlapping developments, networks and feedback responsibility for future generations' economy and care in the use of all natural resources; respect of revolution, nature and life; recognition of the limits of nature, human action and self restriction; and re-acquiring the ability to perceive nature.

Environmental education aims at ultimately for reaching and manifold behavioural changes in everyday life and at the workplace. The guiding principle and pedagogical ideal of environmental education is the environmentally responsible consumer, industrial producer, employee, citizen, policy maker, traveler, athlete, tourist and farmer – every human who is aware of nature and lives in harmony with it. The investigator has selected this particular topic because most of the students have no awareness on environmental degradation and attitude towards environmental education. Having known and experienced the students' lack of awareness on environmental degradation the investigator has decided to use magazines and mass

media, to give more awareness to the students. The awareness and attitude of students towards environment can be increased by conducting seminar on environmental degradations giving programmes on TV or Radio about environment, giving articles in the school magazine

## **OBJECTIVES OF THE STUDY**

To find whether there is any significant differences in the awareness of environmental degradation with respect to

- Gender
- Location of the school
- Type of the school

## **HYPOTHESES OF THE STUDY**

1. There is no significant difference between male and female students in their awareness of environmental degradation between male and female higher secondary school teachers.
2. There is no significant difference between urban and rural students in their awareness of environmental degradation between male and female higher secondary school teachers.
3. There is no significant difference among the government, aided and private students in their awareness of environmental degradation between male and female higher secondary school teachers.

## **TOOL SELECTED FOR THE STUDY**

The investigator made a view of other questionnaires and consulted several standardized books to know the characteristics of a good questionnaire with due care and attention, the investigator constructed a set of questions based on objectives of the study.

## **SAMPLE**

A small proportion of a population, selected for observation and analysis is known as sample. The method of sampling is based on the nature of the problem, size of the universe, availability of finance and personnel. the sample for the study consists of 300 high school students 15 higher secondary schools of Tirunelveli educational district selected by random sampling method.

## **REVIEW OF LITERATURE**

Sahaya Mary, R. and Paul Raj,I. (2005), conducted a study on “Environmental awareness among high school students”.

Findings: The findings of the study reveal that the environmental awareness among the high school students is above average. The medium of instruction in the school and locality of the school influence the environmental awareness among the students. The gender, type of the family and size of the family do not affect the environmental awareness

among the students. The different type of schools and different type of religions do not affect the awareness among the students. The caste of the students within the group affects the environmental awareness among the students.

Sarala (2008) conducted a study on Environmental awareness of higher secondary school students.

Findings: The major finding of the study (i) Boys and girls don't differ significantly in environmental awareness. (ii) Higher secondary student from urban and rural areas differ significantly in environmental awareness. Higher secondary students from rural areas have more environmental awareness than the students from urban areas. (iii) Higher secondary students residing in own houses and in rental houses don't differ significantly in environmental awareness.

## **LIMITATIONS**

1. The study is limited to high school students of Tirunelveli district only.
2. The study is conducted among 300 students drawn as a sample from 15 schools of Tirunelveli educational district.
3. The study is limited to awareness degradation among high school students.



## TESTING OF HYPOTHESIS

### HYPOTHESIS -1

There is no significant difference awareness of environmental degradation between male and female students in their among high school students.

Table 1  
**Difference in Awareness of Environmental Degradation of students with respect to Gender**

Sex	Mean	SD	N	Calculated "t" value	Remarks at 5% level
Male	40.6	4.24	185	1.64	NS
Female	41.42	4.19	115		

(At 5% level of significance the table value of "t" is 1.96)

The calculated 't' value (1.64) is less between male and female of students than the table value (1.96) at 5% level of in their awareness of environmental significance. Hence the null hypothesis, degradation" is accepted. "there is no significant difference

### HYPOTHESIS -2

There is no significance difference awareness of environmental degradation between urban and rural students in their among high school students.

Table 2  
**Difference in Awareness of Environmental Degradation of students with respect to location of the school**

Locality	Mean	SD	N	Calculated "t" value	Remarks at 5% level
Urban	41.19	3.85	200	1.49	NS
Rural	40.36	4.87	100		

(At 5% level of significance the table value of "t" is 1.96)

The calculated 't' value is less than significant difference between urban the table value at 5% level of significance. and rural Students in their awareness of Hence the null hypothesis, "there is no environmental degradation" is accepted.

### HYPOTHESIS-3

There is no significant difference private school students in their awareness among the government, aided and of environmental degradation.

Table 3

**The 'f' value among the Government, Aided and Private school students in their Awareness of Environmental Degradation**

Variable	Source of variation	Sum of squares	Mean square variance	Degrees of freedom	Calculated value of "f"	Remark at 5% level
Type of school	Between	299.75	149.88	2	8.76	S
	Within	5084.00	17.12	297		

(At 5% level of significance the table value of "f" is 3.03)

The calculated 'f' value (8.6) is greater than the table value (3.03) at 5% level of significance. Hence the null hypothesis, "there is no significant difference among the government, aided and private school students in their awareness of environmental degradation" is rejected. There is significant different among the government, aided and private school students in their awareness of environmental degradation. Moreover government school students ( $\bar{x} = 41.52$ ) have better awareness of environmental degradation.

**FINDINGS BASED ON NULL HYPOTHESIS**

- There is no significant difference between male and female students in their awareness of environmental degradation.
- There is no significant difference between urban and rural students in their awareness of environmental degradation.
- There is significant difference among the government, aided

and unaided school students in their awareness of environmental degradation. Moreover government school students have better awareness of environmental degradation.

**INTERPRETATIONS**

I. Most of the students have average awareness of environmental degradation and attitude towards environmental education because, the use of multimedia, science programme, programmes in TV, magazine, newspaper and organizing some awareness programme by ngos and governmental organization.

II. There is significant different among of governments, aided, and unaided school students in their awareness of environmental degradation moreover government school students have better awareness of environmental degradation. It may be due to the facts that the government schools may arrange some programmes regarding awareness of environmental degradation. They may conduct many

programmes related to environmental degradation. They organize science exhibition for developing environmental degradation among students. Through these programmes government school students may get knowledge about environmental degradation.

III. There is significant difference among illiterate fathers X, XII, degree and professional course in their awareness of environmental degradation. Moreover students of illiterate fathers have better awareness of environmental degradation. It may be due to the fact that the rural area is exposed to nature.

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## MATHEMATICAL COMPONENTS COVERED IN SECONDARY LEVEL MATHEMATICS CURRICULUM

7

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Mathematics is a method of inquiry known as postulational thinking or reasoning from carefully formulated definitions and assumptions and deducing conclusions by the application of the most rigorous logic that man is capable of using. Mathematics is also a field for creative endeavour, constructing methods of proof and employing a high order of intuition and imagination.

Mathematics expresses quantitative relations and spatial forms in carefully, purposefully and often ingeniously designed compact symbolic language and express what in ordinary language would be unwieldy or ambiguous. Its language is precise, so precise that it is often confusing to people unaccustomed to its forms. NCF (2000) recommended that the study of Mathematics contributes in the development of precision, rational and analytical thinking, a positive attitude and aesthetic sense among students.

Mathematics has also a content dimension which enters into different subject and situations – e.g. Number System, Fundamental Operations, other Mathematics Calculations, Algebraic Equations, Trigonometric Functions, Differential Equations and Set Theory etc. These are the Basics of Mathematics.

Mathematics is the key to opportunity, which is no longer just a language of science. It now contributes in direct and fundamental ways to Business, Finance, Health and Defence. But in another sense, Mathematics has no content of the type that one finds in History, Geography and Science. It consists of certain structures which can be imposed upon or drawn out of any life situation which permeates into the other subject fields too. It can be read in Dance, Music and Physical Education. The world of commerce cannot run without Mathematics. Science and Technology cannot thrive without it.

## LITERATURE REVIEW

Mathematics is an abstract science which investigates deductively the conclusions implicit in the elementary conceptions of spatial and numerical relations and which includes as its main divisions Geometry, Arithmetic and Algebra (Oxford English Dictionary, 1933). Mathematics is the study of measures, properties and relationships of qualities and sets, using numbers and symbols (American Heritage Dictionary, 2000).

Courant and Robbins (1941) in their book "What Is Mathematics" states, Mathematics is an expression of the human mind reflecting the active will, the contemplative reason and the desire for aesthetic perfection. Its basic elements are logic and intuition, analysis and construction, generality and individuality.

Basics of Mathematics include the fundamental concepts, operations and skills in Elementary and Secondary Mathematics such as Number System, Fundamental Operations, other Mathematics Calculations, Algebraic Equations, Trigonometric Functions, Differential Equations and Set Theory etc. The acquisition of these skills helps the learners to think logically, mathematically and productively. It enhances the ability to pose and solve mathematical as well as real- life problems in various situations.

## OBJECTIVE

To analyze mathematics text-book from the point of view of basics of mathematics embedded at secondary level

## METHOD ADOPTED

Document analysis was the method used in the study. The analysis of Mathematics Textbooks-Standard IX (SCERT, KERALA, 2016) covering dimensions such as the mathematical components included in each chapter.

## ANALYSIS AND DISCUSSIONS

A textbook by its very nature tends to bring the child into a restricted environment and some books even tend to cut the child off from the environment. In a subject like mathematics which has more structures than content and where the process of sequencing, matching, comparison, classification, grouping etc. are more important than the products, there is the danger of memorizing tables, definitions, terminology, formulae etc. as fixed and inert content. There should be enactive, iconic and symbolic forms allowing children to conceptualize from the familiar and immediate environment, situations inviting children to explore the environment for mathematical learning etc. The investigator attempted to analyze the mathematics textbook of standard IX, (SCERT, Kerala, 2016) with a view to explore the extent of

suggestions of problem references in them for the effective learning of mathematics. The textbook of IX th standard has ten units under two parts.

### **Analysis of Mathematics textbook- Standard IX - Part I**

The textbook of IX standard has thirteen units under two parts.

#### **Unit 1 Polygons**

The chapter is divided in to the following subunits namely: Growing shapes, Sum of the angles, Exterior angles, Unchanging sum and Regular polygons. The mathematical concepts, principles and formulae included in the chapter are given below:

- Polygon, External angle and Intenal angle.
- A triangle has 3 sides and 3 angles. A quadrilateral has 4 sides. A pentagon is a figure of five sides and five angles. Six sides and six angles form a hexagon. A figure of 7 sides and angles is called a heptagon and of 8 sides and angles form an octagon.
- Polygons-Triangle, quadrilateral, pentagon, hexagon, heptagon and octagon are commonly named as polygons.
- A quadrilateral can be split into two triangles by drawing a diagonal.
- A pentagon can be divided into a quadrilateral and a triangle.

➤ Sum of the angles of a triangle is  $180^\circ$ . Sum of angles of a quadrilateral is  $360^\circ$

➤ We can divide any polygon into another polygon with one side less and a triangle by drawing a line starting at any vertex, skipping one vertex and joining with the next

➤ The sum of the angles of a n sides polygon is  $(n-2) \times 180^\circ$

➤ An n-sided polygon can be divided into n-2 triangles.

➤ In any polygon, external angles, one at each vertex is  $360^\circ$ .

➤ An external angle and the angle of the quadrilateral at this vertex are supplementary

➤ Polygons with equal angles and length of sides equal are called regular polygon.

➤ In a regular pentagon, the perpendicular from a vertex to the opposite side bisects that side.

#### **Unit 2 Rational Numbers**

The subtopics included in the chapter are as follows: Many kinds of numbers, Various forms, Addition and subtraction, Multiplication and division, Decimal forms. The major mathematical concepts and methods included in the chapter are given below:

➤ The sum and product of two natural numbers is again a natural number.

- Natural numbers, their negatives and zero are collectively called integers.
- The result of dividing an integer by another integer may not always be an integer; it can be a fraction.
- Integers and fractions (positive or negative) are collectively called rational numbers.
- Every fraction has a numerator and a denominator (denominator  $\neq 0$ )
- Any rational number (fraction or integer) can be written in the form  $x/y$ , where  $x$  and  $y$  are integers. ( $y \neq 0$ )
- Multiplying the numerator and denominator of a rational number by the same integer, we can get another form of the same rational number (The multiplier should not be zero)
- If the numerator and denominator of a rational number has any common factor, then by eliminating, this factor, we get a simple form of the same rational number.
- If a quotient is 1, then the dividing number and the divided number should be equal.
- For the numbers  $a, b, p, q$ , if  $a/b = p/q$ , then  $aq=bp$ . On the other hand, if  $aq=bp$  and also  $b \neq 0, q \neq 0$  then  $a/b = p/q$ .
- a power of 10 can be expressed as decimals by converting the denominator to a power of 10.
- No multiple of 3 is a power of 10.

### Unit 3 Circles

The chapter is divided in to the following subunits namely: How many circles, Two points, Deeds and thoughts, Another view, Back and forth, Uses and applications, Length of a chord, Three points. The major concepts and principles included in the chapter are given below:

- Locus-The path of a point, moving according to some geometrical conditions, is called a locus.
- Circle-A circle can be described as the locus of a point which moves at a specific distance from a specific point.
- The centers of all the circles passing through two fixed points lie on the perpendicular bisector of the line joining these two points.
- The perpendicular bisectors of the line joining any pair of points on a circle are equal.
- Chord- perpendicular bisectors of all chords of a circle pass through the centre of the circle.
- All circles sharing a common chord have their centres on the perpendicular bisector of this chord

- The perpendicular through the midpoint of a chord passes through the centre of the circle.
  - The perpendicular from the centre of a circle to a chord passes through the midpoint of the chord.
  - The line joining the centre of a circle and the midpoint of a chord is perpendicular to the chord.
  - Chords get shorter as they moves away from the centre
  - If the points are on a straight line, then no circle can be drawn through them.
  - Circumcircle - A circle which passes vertices of a triangle is called the circumcircle of the triangle.
  - We can draw the circumcircle of any triangle by taking the point of a intersection of perpendicular bisectors of any two sides of a triangle as centre.
  - Circumcentre- The perpendicular bisectors of the three sides of a triangle intersect at a single point. This point is called the circumcentre of the triangle.
- and methods included in the chapter are as follows:
- Every fraction can be reduced to its lowest terms; that is, it has a form in which the numerator and denominator have no common factor.
  - The squares of odd numbers are odd numbers.
  - The squares of even numbers are even numbers.
  - For any pair of even numbers, 2 is a common factor.
  - There are lengths which cannot be represented by natural numbers of traactions.
  - Irrational numbers- Numbers which are not rational are called irrational.
  - ‘ $\approx$ ’ means ‘approximately equal to’
  - The product of rational numbers is the product of the square i.e.  $(ab)^2 = a^2 \times b^2$

#### Unit 4 Irrational Numbers

The chapter is divided in to the following subunits namely: Lengths and numbers, New numbers, Closer and closer, Approximate values, Product of irrationals, Simplification, Division of irrationals. The mathematical concepts

#### Unit 5 Area

The unit has the following subsections: Rectangle and triangle, Unchanging area, Quadrilateral and triangle, Polygons and triangles, Area of triangle again, Making a formula. The mathematical facts, concepts, principles and formulae included in this chapter are as follows:



Area of the triangle is half the area of the rectangle.

Triangles with the same base and between the same parallels are of equal area.

A pentagon can split it into a quadrilateral and a triangle by joining a vertex to another vertex skipping the one near it.

Perimeter of triangle  $s = \frac{a + b + c}{2}$

Heron's Formula:-

The area of triangle is

$$= \sqrt{s(s-a)(s-b)(s-c)}$$

### Unit 6 Pairs of Equations

- The unit has the following subsections: Algebraic description, Unification,
- The mathematical concepts included in this chapter are as follows:
- To find two unknown numbers, we must know two relations between them.
- From the two facts given in a problem, we can form two equations with two letters. Use both the equations to form a single equation with only one letter and then find the number for which this true
- Equations with the condition that the solutions should be integers are called Diophantine equations.

### Unit 7 Statistics

The subtopics included in the chapter are given below; tabulation and frequency, Data in graphical formate:- histogram and Ogive-frequency polygon, Average, Median, Mode.

The mathematical concepts involved in the chapter are given below:

- The general name for the number of entries in each class in a table is called the frequency of that class in a table; the difference between lower limit and upper limit is called the class width.
- a histogram is a two dimensional graphical representation of continuous frequency distribution. In a histogram, rectangles are drawn such that the areas of the rectangles are proportional to the corresponding frequencies.
- Frequency polygon- A Frequency polygon uses the midpoint of a class interval to represent all the data in that interval. It is constructed by taking midpoints of class intervals on the horizontal axis and the frequencies on the vertical axis and joining these points. The two extremes are joined with the base in such a way that they touch the horizontal axis at half the distance of class interval out side the extreme points.

- The average we usually called as arithmetic mean is the sum of a set of observations, positive, negative or zero, divided by the number of observations.
- Median is defined as the middle item of the given observations arranged in ascending or descending order.
- The data which is repeated most number of times is called the mode of the given data.
- The mean, median, and mode may not always be a single value.
- In a triangle, a line through the midpoint of a side and parallel to another side bisects the third side.
- In a triangle, the bisector of each angle divides the opposite side in the ratio of the sides of the angle.

### Unit 9 Similar Triangles

The chapter deals with the following subunits:, Angles equal angles, the relationship between angles and sides, similarities of triangles.

The mathematical concepts and principles included in the chapter are given below:

### Unit 8 Geometric Proportions

The chapter deals with the following subunits: Triangle division, Parallel division, another division.

The mathematical concepts and principles included in the chapter are given below:

- Equidistant parallel lines divide any line into equal pieces.
- Three or more parallel lines cut any line in the ratio of the distances between them.
- Three or more parallel lines cut any two lines in the same ratio.
- Three or more parallel lines cut any two lines proportionally
- In a triangle, a line parallel to one side divides the other two sides in the same ratio.
- If all the angles of a triangle are equal to the angles of another triangle then all the pairs of sides opposite to equal angles have the same ratio.
- Two triangles with the angle are the same also have the property that sides are proportional
- If the sides of triangle are proportional to the sides of another triangle, then the angle opposite such sides are equal
- The diagonals of a trapezium intersect each other proportionally
- If two sides of triangle are perpendicular to two sides of another triangle and if their included angles are equal, then the triangles are similar.

## Unit 10 Polynomials

The chapter deals with the following subunits: Operations and expressions, Polynomials, Polynomial peculiarities, Addition and subtraction, Polynomial multiplication, Multiplication and addition, Degree of polynomial, Meaning of remainder, algorithm and division.

The mathematical concepts and methods of solutions included in this chapter are as follows:

- Polynomials: Various positive integral powers of  $x$  are multiplied by specific numbers (it may be by 1 also), the products are added or subtracted and finally a specific number is added or subtracted (it may be 0). Such algebraic expressions are called polynomials
- Term got by multiplying (positive integral) powers of  $x$  by specific numbers. Each such multiplier is called the coefficient of the corresponding power of  $x$ .
- The number added at the end of a polynomial is called the constant term power of  $x$  is 0 is called constant term or the term with out any variable is called constant.
- The largest exponent among a polynomial is called the degree of the polynomial
- A polynomial whose degree is 1 is called a first degree polynomial;

a polynomial whose degree is 2 is called a second degree polynomial and so on.

- A polynomial divided by another polynomial, the remainder should be a polynomial of degree less than that of the division, or a number.
- Any first degree polynomial is of the form  $ax + b$ .

## Unit 11 Circular Measures

Perimeter and diameter, Circles and polygons, A new number “ $\pi$ ”, Arcs, Arcs and angles, Length of an arc, Area of Sectors.

The unit has the following mathematical concepts, principles and formulae:

- When the diameter is increased, the perimeter also increases
- As we go on increasing the number of sides further, the polygon becomes more and more then become circle.
- Perimeter of a circle =  $2\pi r$
- A part of circle is called an arc.
- The angle made by joining end points of an arc to the centre of the circle is called the central angle of the arc.
- The length of an arc of a circle is that part of the perimeter of the circle, as the central angle is of  $360^\circ$ .

- By joining the vertices of the polygon to the centre of the circle, we can divide the polygon into triangles.
- A sector is formed by an arc of a circle and the radii through its end points.
- As the central angle increases, so does the area of the sector.
- The area of a sector of a circle is that part of the area of the circle, as the central angle is of  $360^\circ$ .
- The distance on the line is that number itself, if the number is positive. If it is negative, the distance is got by removing the negative sign.
- The absolute value of the number  $x$  as

$$|x| = \begin{cases} x, & \text{if } x > 0 \\ -x, & \text{if } x < 0 \end{cases}$$

- The distance between a number and 0 on the number line is got by taking the number along, disregarding its sign. It is called the absolute value of that number. The absolute value of the number  $x$  as

$$|x| = \begin{cases} x, & \text{if } x > 0 \\ -x, & \text{if } x < 0 \\ 0, & \text{if } x = 0 \end{cases}$$

## Unit 12 Real Numbers

The unit 'Real Numbers' deals with the following subunits: Numbers and lengths, Number line, Small and large, left and right, Distances, Algebra.

The unit includes the following mathematical concepts and methods:

- All rational and irrational numbers needed to represent all lengths, together with their negatives and zero are collectively called real numbers.
- A line which consists of real numbers, where 0 at the centre, negative numbers on left and positive numbers on right is called number line or real line.
- Points on the number line are labeled according to their distance from 0.
- The distance between two numbers on the number line is seen to be the result of subtracting the smaller from the larger
- If  $x$  and  $y$  denote the numbers then
- If  $x > y$ , then the distance between  $x$  and  $y$  is  $x - y$ .
- If  $x < y$ , then the distance between  $x$  and  $y$ , is  $y - x$
- If  $x - y > 0$ , then the distance between  $x$  and  $y$ , is  $x - y$ .
- If  $x - y < 0$ , then the distance between  $x$  and  $y$  is  $y - x$ .
- If  $x - y$  is a positive number, then the distance is itself; if  $x - y$  is negative

then the distance is the negative of this number.

- The distance between  $x$  and  $y$  on the number line is  $|x-y|$ .

### Unit 13 Prisms

The unit deals with the following subunits: Surface area of prisms. Volume, Cylinders, Volume of a cylinder

The chapter has the following mathematical components:

- The lateral surface area of any prism is equal to the product of its base perimeter and height
- Surface area of a closed prism, needs only add double the base area to the lateral surface area.
- The volume of any prism with a right angled triangle as base is the product of the base area and the height.
- The volume of any triangular prism is the product of the base area and the height.
- The volume of any prism is the product of its base area and height.
- Solids which have circles on two ends; and the sides are not bent into rectangles, but is a smoothly curved surface. Such a solid is called cylinder.
- The two circular ends of a cylinder are called bases, as in the case of prisms; but instead of lateral surface,

we usually say curved surface of a cylinder.

- The curved surface area of a cylinder is the product of its perimeter and height
- The volume of a cylinder is the product of its base area and height. ( $\pi r^2 h$ )

### CONCLUSION

- Gradation of the concepts is well enough for the meaningful understanding of mathematical components.
- It is better to give a diagram showing the inter connectedness among the mathematical concepts.
- Concept mapping would strengthen and culminate the mathematical connections, which lead the learners to develop mathematical communications.
- The inter connectedness of the mathematical branches like Arithmetic, Algebra, Geometry, Trigonometry, Analytical Geometry etc to be emphasized in its appropriate forms.
- This would help the learners to perceive the meaning of mental representations as a gate way to solve the problems in mathematics. Concept Mapping would help the learners build their own pre-requisites and

can transfer in similar situations they are confronted. Conceptual understanding is important for the students for in-depth analysis of mathematical concepts. When students understand mathematics,

they are able to use their knowledge 'flexibly'. They combine factual knowledge, procedural facility and conceptual understanding in powerful ways.

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