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e-mail: [srkvcoejere@gmail.com](mailto:srkvcoejere@gmail.com)

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Research Scholar  
N.S.S. Training College,  
Pandalam, Pathanamthitta,  
Kerala - 689 501

**DR. K. REMADEVI**

Principal  
N.S.S. Training College,  
Pandalam, Pathanamthitta,  
Kerala - 689 501

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Assistant Professor  
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Near Gramin Police,  
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Assistant Professor,

NSS Training College, P.B No-3,

Ottapalam, Palakkad, Kerala - 679 101

# EFFECTIVENESS OF BLENDED LEARNING PRACTICES ON ACHIEVEMENT IN PHYSICS AMONG STUDENTS AT SECONDARY LEVEL

1

**V. LEKSHMI**

Research Scholar  
N.S.S. Training College,  
Pandalam, Pathanamthitta,  
Kerala - 689 501

**DR. K. REMADEVI**

Principal  
N.S.S. Training College,  
Pandalam, Pathanamthitta,  
Kerala - 689 501

## INTRODUCTION

Human beings compete in all life fronts to become competent and to survive. For us, learning and accomplishment is very natural and we hunger for it from our first breath. We pursue learning, often with passion, in all walks of our lives. Human species is curious and questions everything to seek answers. This unstoppable learning momentum has propelled human species from its prehistoric beginning to its current civilized state and to the technologically advanced era.

With the scientific and technological inventions, the use of ICT has grown to become ubiquitous within our own society. The advancement in the field of information and communication technology and the electronic world aroused the interest of pedagogical researchers and technologists to make use of these advancements in the field of teaching-learning. In addition to this, the world outside academic media is also attracted towards how students experience learning with technology; with a business aspect. Along with these,

there is a remarkable growth in personal use of technology characterized by the use of smart phones. The twenty first century is remarked with the sharp growth in the amount and the availability of information technology for staff and students. The educators worldwide are in search of novel instructional practices to cater to the needs of the 21st century learners, who are the citizens of the e-world.

Blended Learning is a technologically enhanced learning, which blends an academic environment with face to face delivery of material and new digital technologies with a revision of existing and possible new pedagogies. Blended learning has emerged in response to the increasing need and demand to respond to diverse students' needs to provide meaningful learning experiences and engage the 21st century learners in a productive way. Blended learning is realized in teaching and learning environments where there is an effective integration of different modes of delivery, models of teaching and styles of learning as a result

of adopting a strategic and systematic approach to the use of technology combined with the best features of face-to-face interaction (Krause, 2007).

### **NEED AND SIGNIFICANCE**

In this technologically advanced era, there is an increasing need and demand to respond to students' diverse needs and provide engagements and meaningful learning experiences. In this electronic era, there are many distracters for effective learning and the students are distracted much through electronic media. The educators of this century have to make use of the technological skills and interest of learners towards electronic media to enhance the learning process. In USA, Allen and Seaman (2007) reported that over 30% of undergraduate learners participate in some form of online/blended/technology mediated learning and over 70% of US higher educational institutions indicate that online/blended learning is widely accepted by their students. In order to cater to the needs of 21st century learners, we have to adopt ourselves to technologically mediated learning. Garrison and Vaughan (2008) define blended learning as "the organic integration of thoughtfully selected and complementary face-to-face and online approaches and technologies."

Blended learning ensures better student experiences, acceptable outcomes, more efficient teaching and

course management practices through effective integration of delivery modes, teaching approaches and learning styles. Technological advancements provide new opportunities for teachers to design and deliver their courses in ways that support and enhance the teacher's role, the students' individual cognitive experiences, as well as the social environment. Blended learning help educators to find better ways of supporting students in achieving the learning objectives and providing them with the best possible learning and teaching experiences as well as supporting teachers to perform effectively in their role.

The 21st century teachers are seeking new ways to engage adolescent students and to prepare them for successful life who are energetic. Here, the teachers have to channelize the energy of adolescents in a positive way. Blended learning enables the adolescent learners to channelize their energy in proper ways and to use their free time for effective learning using their technological skills and interest towards electronic media. Blended learning practices also give opportunity for self learning as well as cooperative learning. Hence the researcher selected this topic of research.

### **TITLE OF THE PROBLEM**

The study is entitled as "Effectiveness of Blended Learning



Practices on Achievement in Physics among Students at Secondary Level”.

## **DEFINITIONS OF KEY TERMS**

**Effectiveness:** “Effectiveness is concerned with whether or not a specific set of resources has a positive effect on achievement and if so how huge this effect is”. In this study, the effectiveness is measured on the basis of post test scores of achievement in Physics.

**Blended Learning:** “The organic integration of thoughtfully selected and complementary face-to-face and online approaches and technologies.” For this study, the term Blended Learning is conceived as combination of Self directed learning and cooperative learning with computer mediated environments that take advantage of the strengths of each environment and avoid their weaknesses.

## **ACHIEVEMENT IN PHYSICS**

According to Webster’s dictionary (1971) Achievement is the performance by a student in course quality and quantity of students’ work during a given period.

In this study, Achievement in Physics refers to the accomplishment or proficiency of students in Physics as measured by a standardised test of Achievement in Physics for IX Standard students constructed by the investigator.

**Secondary Level:** Standards 8th, 9th and 10th of school section in Kerala.

For this study, by Secondary Level, the investigator means that the 9th Standard of school section in Kerala.

## **HYPOTHESES**

1. There is no significant difference between the academic achievement in Physics of experimental and control groups in their mean scores of pre-test for the whole sample.

2. There is no significant difference between the academic achievement in Physics of experimental and control groups in their mean scores of post-test for the whole sample.

3. There is no significant difference between the mean scores of gain scores of academic achievement in Physics of students in the experimental and control groups.

## **OBJECTIVES**

1. To find out the significant difference between mean scores of pre-test on academic achievement in Physics of experimental and control groups for the whole sample

2. To find out the significant difference between mean scores of post-test on academic achievement in Physics of experimental and control groups for the whole sample

3. To find out the significant difference between the mean score of gain scores of Academic Achievement in Physics of students in the experimental and control groups.

## METHODOLOGY

This study is aimed at studying the Effectiveness of Blended Learning Practices on Achievement in Physics among Students at Secondary level. So the investigator adopted the (quasi) experimental method. The experimental method was used to study the comparative effectiveness of Blended Learning Practices and Activity Oriented Method for teaching Physics at Secondary Level.

A sample of 168 students was selected from the 9th standard students of N.S.S. K.P.T High School, Palakkad district. An experimental group of 84 students and a control group of 84 students were formed. The experimental group was treated with Blended learning practices and the control group is treated through Activity oriented method.

## VARIABLES OF THE STUDY

The independent variable for the study is Blended Learning Practices and the dependent variable is Academic Achievement in Physics.

## TOOLS USED FOR THE STUDY

1. Lesson Transcripts based on Blended Learning Practices.
2. Lesson transcripts based on Activity oriented method.
3. Achievement test in Physics.

## STATISTICS USED FOR THE STUDY

To analyze the nature of data mean and standard deviation are calculated. Two-tailed test was used to test the null hypotheses and in order to find out the significant differences between means, t-ratio was calculated.

## STATISTICAL ANALYSIS

Comparison of the mean scores of pre-test on Achievement in Physics of experimental and control groups.

Before the experiment, the performances of the students in the experimental and control groups were compared by testing the significance of difference between the means of the pre-test scores of two groups. For this the pre-test scores obtained for both the groups were classified mean and standard deviations were calculated.

The data and results of the test of significance is given in Table 1

**Table 1**  
**Data and result of the test of significance of difference between the scores of Pre-test on Achievement in physics of Experimental and Control groups.**

Group	N	Mean	SD	't' value
Experimental Group	84	104.36	13.22	0.88
Control Group	84	102.76	10.17	

The calculated t value is 0.88, which is not significant at 0.05 level.

This shows that there is no significant difference between the pre-test scores of Achievement in Physics of experimental and control groups.

After the effective conduction of experiment, the post test scores

of achievement in Physics of control group and experimental group were analyzed by comparing the significance difference between the mean scores of achievement in Physics and the details are given in Table 2

**Table 2**  
**Data and result of the test of significance of difference between the scores of post-test on Achievement in Physics of Experimental and Control groups.**

Group	N	Mean	SD	't' value
Experimental Group	84	110.36	11.65	2.42
Control Group	84	106.36	9.71	

The calculated t value is 2.42, which is significant at 0.05 level. This shows that there is significant difference between the post-test scores of Achievement in Physics of experimental and control groups.

The effectiveness of Blended learning practices is further analyzed in terms of gain scores of achievement in Physics. This is analyzed by comparing the significance difference between the mean of gain scores of achievement in Physics and the details are given in Table 3.

**Table 3**  
**Data and result of the test of significance of difference between the gain scores of Achievement in Physics of Experimental and Control groups.**

Group	N	Mean	SD	't' value
Experimental Group	84	5.88	4.00	4.54
Control Group	84	3.52	2.61	

The calculated t-value of critical ratio is 4.54, which is significant at 0.01 level. This shows that there is significant difference between the gain scores of Achievement in Physics of experimental and control groups.

Hence from the above analysis, it can be interpreted that Blended

Learning is more effective than Activity Oriented Method.

### MAJOR FINDINGS

The major findings that were drawn from the analysis of the data collected through experimental method are:

1. Comparison of the means of pre-test scores of Achievement in Physics of experimental and control groups using the statistical technique of the test of significance for the difference between means revealed that, there is no significant difference between their pre-test achievements scores. (M BL=104.36, M AOM = 102.76, t = 0.88: p>0.05)

2. Comparison of the means of post-test scores of Achievement in Physics of experimental and control groups using the statistical technique of the test of significance for the difference between means revealed that, there is significant difference between their post-test achievements scores. (M BL=110.36, M AOM = 106.36, t = 2.42: p<0.05)

3. Comparison of the mean gain scores of Achievement in Physics of experimental and control groups by testing the significance of difference

between the scores revealed that there is significant difference between the mean gain scores of Achievement in Physics of experimental and control groups. (M BL = 5.88, MAOM = 3.52, t= 4.54, p<0.01).

## CONCLUSION

The major conclusions that were drawn from the findings of this study were the Blended Learning is more effective than the Activity Oriented Method in the Achievement of Physics among Higher Secondary School Students. This method is very effective since it gives opportunity for multisensory approach as well as self learning. The opportunity to learn in their own pace accompanied with cooperative learning helped the students to achieve more. Hence it can be concluded that, Blended Learning is more effective than Activity Oriented Method in terms of Academic Achievement.

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## A STUDY OF EFFECTIVENESS OF TEACHING MARATHI LANGUAGE USING DRAMA ON ACHIEVEMENT OF PRIMARY STUDENTS

2

**Mrs. SAGEETA RAJEEVRAUT**  
Assistant Professor,  
Providence College of Education,  
Near Gramin Police,  
Nagpur, Maharashtra - 440001

**Prof. INDUMATI T. BHARAMBE**  
Retired Professor in Education,  
KavikulaguruKalidas Sanskrit  
University, Ramtek,  
Nagpur, Maharashtra - 441106

### INTRODUCTION

In recent days, are attracted towards English medium schools. Maximum children are admitted in English medium schools. The students and parents are concentrated in acquiring English language. Therefore, students neglect to learn Marathi language. In such a situation after completing their school education, the students are not able to communicate or write in either in English or Marathi very well. In Maharashtra state, Marathi is an official language, so every Maharashtrian should be able to communicate, to write, to read Marathi very well. Therefore, there is a dire need to pay attention towards teaching of Marathi language. Educationists emphasize on using constructivist approach in classroom teaching. In constructivist approach of teaching, the main focus is on creating learning environment and students' involvement in the learning process. Many methods have been to assess students' effective involvement. Drama is one of the most important methods

that provide much more involvement of students in learning.

Betty Jane Wagner, an educator who has worked closely with and shared many ideas with Dorothy Heathcote, an expert in the field of drama, "Drama is a powerful tool because its unique balance of thought and feeling makes learning exciting, challenging relevant to real-life concerns and enjoyable". As educators, if we are not providing a fun and meaningful learning environment for our children to learn, then we are not doing our job with just. Research indicates that using drama in the classroom as a means of teaching helps students learn academically, socially and developmentally. Drama provides a fun means of learning. It brings the effectiveness back into the classroom, an institute where emotions and learning are categorically divided.

Recent brain research provides that emotions are linked with learning. When we connect to the concept emotionally, we will have better understanding of it. When we teach using the arts, we

are linking prior experiences with new stimuli. Teaching using drama brings emotion and learning together.

Jeffrey, D. Wilhelm who wrote the article "Drama is Imagining to Learn: Inquiry, Ethics and Integration through Drama" writes, "Through drama, students became a part of the learning process rather than mere observers or inactive receptacles of the rich experience of learning; in this way, their learning was deeper, more sustained and infinitely more complex. This paper will demonstrate the validity of using drama to teach Marathi at elementary level.

## **DRAMA**

Drama is the act of using the imagination to become someone or something other than yourself. Richard Courtney, a professional in the area of drama in education defines drama as, "the human process whereby imaginative thought becomes action drama is based on internal empathy and identification and leads to external impersonation". Courtney also believes that "Life is a drama." Humans are always acting and improvising. When we meet someone for the first time, we improvise our conversation. Life has no script written for us, however, we can use role-play to practice the anticipated situation. Verrior noted that "Watching children working in drama provides fascinating insights into the

richness of their imaginations, the skill with which they negotiate with one another, their present level of critical thinking and the sophistication of the language they use." Govin Bolton calls the form of drama used to teach in the classroom, "Dramatic Playing". Dramatic playing is characterized by high degree of spontaneity as teacher and students work to create a fictional world in which they assume roles to explore issues that are of concern to them" (Verrior). Dramatic play is so innate in children; it should be carried on into the elementary classroom. It is something that children are very good at and love to do. Wagner believed that "Children bring with them to the classroom the universal human ability to play, to behave "as if". Renowned psychologists Sigmund Freud states, "We ought surely to look in the child for the first traces imaginative activity. The child's best loved and most observing occupation is play. Perhaps we may say that every child at play behaves like an imaginative writer. In that he creates a world of his own, or, more truly he rearranges the things of his world and orders it in a new way that pleases him better".

Drama is a teaching method, which would allow students to explore the curriculum using several of Gardner's multiple intelligences. Students are fully involved in learning with drama. They are impressed into the subject.

Their bodies, minds and emotions are extremely active when they become engrossed in the drama. A common misconception is that the brain is like storage unit, which can store and retrieve information at any given time; the brain is an exceptionally complex system of making connections and creating new information. "The human brain is the most complex system on earth, yet it is too often used in school primarily as a simple device for storage and retrieval of information" (Dickinson, 2002). Teacher who orally lecture students, loading them with facts and figures, and then test them on what they remember, are not teaching with brain in mind.

## **REVIEW OF RELATED LITERATURE**

Casparro and Felletta (1994) point out "the use of poetry as drama in English as a second language classroom enables students to explore the linguistic and conceptual aspects of the written text without concentrating on the machine language. Emphasizing the importance of drama in language teaching, Kao and O'Neill (1998) state in their book "Words into World", "Drama does things with words. It introduces language as an essential and authentic method of communication. Drama sustains interaction between students and with the target language, creating a world of social roles and relations in which the learner is an

active participant. Drama focuses on the negotiation of meaning (Snyman and DE Kock, 1991). The language that arises in fluent, purposeful and generative because it is embedded in context. By helping to build the drama context, they develop their social and linguistic competencies as well as listening and speaking skills".

Culham (2003) investigated the potential of drama as a conduit for language acquisition and inter cultural exchange. The findings of his study suggested that English as Second Language (ESL) teacher can, through drama, access their students' significant ways and in process, promote language proficiency and encourage intercultural discovery. The study of Alesaoy (2004) revealed that the dramatization of Arabic language course was effective for developing some topics of language and social skills among mentally retarded students. Mattevi (2005) states "The use of drama in the language classroom allows the teacher to present the target language in an active, communicative and contextualized way. Dramatization helps the teacher address the four skills of language learning (speaking, listening, writing, and reading) and it also favors and facilitates the study of some often neglected aspects of language such as pronunciations and body language".

Dopre (2006) studied students' response to curriculum that integrated

creative drama, play writing, tolerance and social justice. Findings revealed that the curriculum stimulated young adolescents to identify themselves as important to the class, the school and the outside world. The research findings of Ntelioglou (2006) suggest that the integration of drama in teaching helped students cross border of culture, identities and literacies in multicultural second language classroom. Gaudart (1990) study investigated the use of drama activities in English as Second Language (ESL) instruction in Malaysia.

Even (2008) adds that through drama “students enter imaginary world that they cooperatively construct, experience, furnish, arrange and change the things. Thus, drama situations can liberate and at the same time deeply stimulate and challenge learners’ take on communicative situations, grammar and literary text”. Campbell (2008) study proved the effectiveness of using drama on students’ achievement. Gomez (2010) studied the effectiveness of the use of drama in teaching of English as opposed to traditional instruction methods. The results of his study concluded that teaching English through drama was more effective than using traditional methods. Whereas the effect of drama in foreign language teaching and learning has been the aim of many researches such as, Gaudart (1990), Culham (2003), Ntelioglou

(2006), Baraldi (2009), Uddin (2009), Gomez (2010) and Barreto (2014).

Taskin (2013) investigated the effect of creative drama based instruction on fifth grade students’ science achievements in the light and sound units. He found that the creative drama based instruction was more effective for increasing science achievements and scientific process skills that traditional instruction lack in. Barreto (2014) studied language acquisition through the use of educational drama is explored. Engaging in a learning experience through drama activities without stress increases motivation for participation in the classroom. Bashayer Raghiam Albalawi (2014) studied the effectiveness of teaching English using drama on the development of students’ creative thinking. The results revealed that teaching English using drama is effective in the development of first year intermediate students’ creative thinking. Most of the related researches focused on teaching of English language using drama. The researchers are decided to use drama in teaching Marathi Language.

## **STATEMENT OF THE PROBLEM**

The problem of the study was stated in question form as “What is the effectiveness of teaching Marathi language using drama to primary students?”



## **OBJECTIVES**

In present study following objectives were decided.

1. To study the effectiveness of teaching Marathi language using drama for primary students.

2. To compare effectiveness of teaching Marathi language using drama and conventional method for primary students.

## **HYPOTHESES**

Following hypotheses were formulated in the present study.

1. There is no significant difference between pre-test Marathi achievement mean scores of the groups of seventh standard students taught through teaching using drama and conventional method.

2. There is no significant difference between pre-test and post-test Marathi achievement mean scores of the group of seventh standard students taught through teaching using drama.

3. There is no significant difference between post-test Marathi achievement mean scores of the groups of seventh standard students taught through teaching using drama and conventional method.

## **ASSUMPTIONS**

1. We use language to inform the people around us of what we feel,

what we desire, and question the world around us.

2. We communicate effectively with our words, gestures and tone of voice in a multiple of situation.

3. Marathi is an Indian language spoken predominantly by Maharashtrian people.

4. Marathi is an official language in Maharashtra.

5. Drama provides a fun means of learning.

## **SAMPLE**

The sample of the study comprised 88 seventh standard students. Two primary schools situated in Nagpur city were randomly selected. Two classes of seventh standard were selected from each selected school. One class was assigned to be experimental group and other class was assigned to be control group in each selected school. Experimental group contained 48 (25 + 23) and control group contained 40 (21 + 19) students.

## **DESIGN OF THE STUDY**

The main aim of the study was to study the effectiveness of teaching Marathi language using drama for primary students. So, to conduct the experiment, 'Non-equivalent Pre-test-Post-test Control Group Design' was used.

## **VARIABLES**

Independent Variable: Teaching Marathi using drama and conventional methods of teaching

Dependent variable: Marathi Achievement of Seventh Standard Students

Extraneous Variables: previous achievement in Marathi, students, age, intelligence, physical facilities, gender etc.

## **TOOLS FOR THE RESEARCH**

Marathi Achievement Test: Five lessons included in 7th standard Marathi Text-book were selected for teaching. Marathi Achievement Test of 40 marks was constructed on these lessons on the basis of language skills and content knowledge preparing 'blue-print'.

## **PROCEDURE OF THE STUDY**

The study was done by following way.

1. Five lessons included in seventh standard Marathi Text-book were selected for teaching. For teaching with drama, planning and preparation was done and for teaching by conventional method, teaching/lesson plans were prepared.

2. Marathi Achievement Test was constructed.

3. Assign sample of the study and pre-test was administered.

4. Control groups were taught through conventional method and Experimental groups were taught using drama. The time for teaching to both the groups were kept same.

5. Post-test was administered to both the groups.

6. Data were collected through pre-test and post-test and it was analyzed using appropriate statistical techniques. After analysis and interpretation of data, findings were drawn.

## ANALYSIS AND INTERPRETATION OF DATA

Table 1

Mean (M), Standard Deviation (SD) and 't'- values of the Pre-test and Post-test Marathi Achievement scores of the groups of students taught through teaching using Drama and Conventional Method

Group	Test	No. of Students	Mean	Standard Deviation	Degrees of Freedom	't'-value
Expt. Group	Pre-test	48	24.32	4.30	86	1.62
Control Group	Pre-test	40	22.91	3.84		
Experimental Group	Pre-test	48	24.32	4.30	46	11.67
	Post-test	48	43.12	3.92		
Expt. Group	Post-test	48	34.12	3.92	86	13.61
Control Group	Post-test	40	26.42	5.10		

As comparing the Marathi Pre-Achievement of groups of students taught by using drama and conventional method, above table shows that the calculated 't'-value (1.62) is not significant even at 0.05 level of significance. Therefore, the null hypothesis, "There is no significant difference between the Marathi pre-achievement mean scores of the groups of seventh standard students taught through teaching using drama and conventional method" is accepted. Thus, it can be said that the Marathi pre-achievement of the groups of seventh standard students taught through teaching using drama and conventional method was same.

As comparing the pre-test and post-test Marathi achievement of group of students taught using drama, the calculated 't'-value is 11.67 which is significant at 0.01 level of significant. Therefore, the difference between pre-test and post-test Marathi achievement mean scores of the groups of seventh standard students taught using drama is significant. Thus, the null hypothesis, "There is no significant difference between pre-test and post-test Marathi achievements mean scores of the group of seventh standard students taught through teaching using drama" is rejected. It shows that teaching of Marathi using drama is more effective for seventh standard students.

From the above table it can be observed that the calculated 't'-value regarding Marathi achievement means scores of the groups of seven standard students taught through teaching using drama and conventional method is 13.61 which is significant at 0.01 level of significance. Therefore, the difference between post-test Marathi achievement mean scores of the groups of seventh standard students taught using drama and conventional method is significant. Thus, the null hypothesis, "There is no significant difference between post-test Marathi achievements mean scores of the groups of seventh standard students taught through teaching using drama and conventional method" is rejected. It shows that teaching of Marathi using drama is more effective than teaching through conventional method for seventh standard students.

## **FINDINGS AND DISCUSSION**

In present study the following results are found.

Teaching of Marathi using drama is more effective than teaching through conventional method for seventh standard students.

The result is supported by the researches carried out by Gaudart (1990), Culham (2003), Ntelioglou (2006), Baraldi (2009), Uddin (2009), Gomez (2010), Taskin (2013), Barreto (2014) and Bashayer Raghiam Albalawi (2014) whose results revealed that

teaching English language using drama is more effective for creative thinking, personality development, communication and language skills. In teaching using drama, students ramp up their imagination in order to move into their respective roles and collectively explore whatever topics, concepts, themes as they navigate their way through the conditions and experiences.

## **RECOMMENDATIONS**

Teachers should adopt dramatic activities in teaching to help students improve their language skills. Teacher should be trained to teach using drama in their classes. Teacher should have positive attitude in using drama in teaching and innovative methods in teaching.

## **SIGNIFICANCE OF THE STUDY**

The present study draws the attention towards the effectiveness of Marathi Language teaching using drama in increasing Marathi achievement of primary students. The study provides teachers with applicable situations using drama. It also provides results which may be applicable in other subjects like, History, Mathematics, Basic Sciences, and Social Science. The drama techniques, such as role playing, scripting, dialogue, audience participation, dramatic tension, improvisation, the strategic use of

interaction, movements, and gesture will be creatively used in teaching.

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## BEYOND ABILITIES: A DISPOSITIONAL THEORY OF THINKING

3

**Dr. M. JAGADESH**

Assistant Professor in Education

Sri Ramakrishna Mission Vidyalaya College of Education (Autonomous)  
Coimbatore, Tamil Nadu - 641 020

### THINKING – AN INTRODUCTION

Thinking is the highest mental activity present in human. All human achievements and progress are simply the products of thought. The evolution of culture, art, literature, science and technology are all the results of thinking. Thought and action are inseparable. All our deliberate action starts from our deliberate thinking. Thus, thinking is a tool for adapting ourselves to the physical and social environment in which we are in.

The forms of 'thinking' that schools have traditionally valued and taught have been confined to logic, analysis and argument; and the teaching of those equally important but missing, components of thinking such as the creative, the lateral, the reflective and the generative, have all but been neglected (de Bono, 2000; McGrath, 1998). It is clear that the new educational paradigm demands 'thinking, independent learners' and in order to create this profile among the students, educators themselves are

being invited to consider appropriate strategies to facilitate the expected outcomes. Gagne also supported the argument that "The central point of education is to teach people to think, to use their rational powers, to become better problem solvers" (Gagne, 1985). Creating a classroom with a strong thinking culture encourages students to develop good thinking dispositions, skills, and habits of mind.

### CRITICAL THINKING DISPOSITION AND SKILL

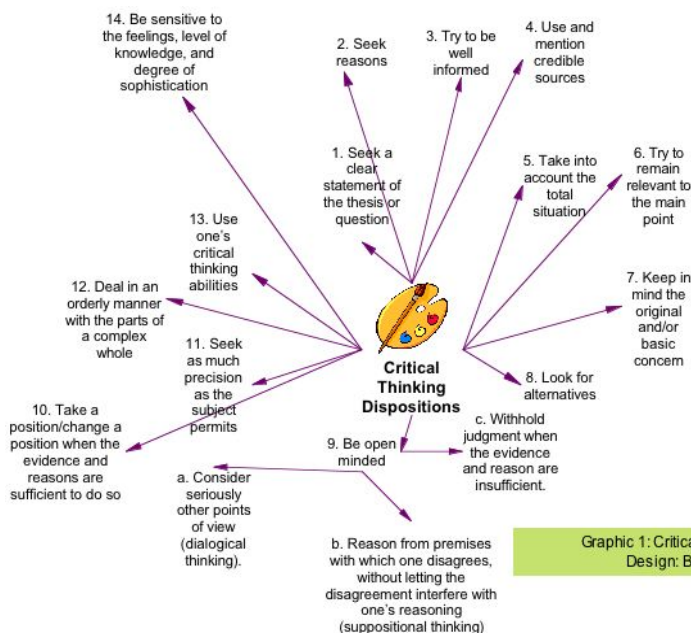
A notable outcome of the Delphi study was that critical thinking involves not only cognitive skills, which most people generally relate to critical thinking, but also affective dispositions. While critical thinking skills relate to a certain set of cognitive skills that involve analysis, inference, evaluation, explanation, interpretation, and self-regulation, critical thinking dispositions relate to consistent willingness, motivation, inclination, and intention to use such critical thinking skills.

Disposition is the motivation, inclination and drive of the learner to involve her/himself in meaningful Critical Thinking while dealing with thinking about issues, making decisions and/or solving problems (P.A.Facione, N.C. Facione and Giancarlo, 1996). Dispositions are the gateways through which one allows the mind to engage in critical thinking activity. Research has found that a student's disposition toward using critical thinking skills is also a variable that may promote or inhibit their ability to think critically.

A student who is taught critical thinking skills may not use those skills if he/she lacks the proper disposition. Hence, effective teaching must include strategies for building intellectual character rather than relying exclusively on strengthening cognitive skills. Facione, Facione and Giancarlo (2000) explain critical thinking dispositions as a person's internal motivation to think critically when faced with problems to solve, ideas to evaluate, or decisions to make.

### CRITICAL THINKING DISPOSITION – WHAT IT IS AND WHY IT COUNTS?

Ennis outlines characteristics which are exhibited by students having strong Critical Thinking Disposition (Fig.1)



Graphic 1: Critical Thinking Dispositions  
Design: Bertha Lucia Fries

Source: Ennis (2002)

- Seek a clear statement of the thesis or question.
- Seek reasons.
- Try to be well informed.
- Use and mention credible sources.
- Take into account the total situation.
- Try to remain relevant to the main point.
- Keep in mind the original and/or basic concern.

### **SCHOOLS IN DEVELOPING CRITICAL THINKING**

Critical thinking has always been a central goal of education, but having critical thinking skills does not necessarily mean that the person will use these skills even when the situation requires the application of such skills. Good critical thinkers need to have both thinking skills and the dispositions to use these skills.

Schools should, in addition to teaching critical thinking skills, cultivate learners' critical thinking dispositions. Educators need to measure critical thinking dispositions so that they have a means to determine whether a learner's poor performance on a thinking skill test is due to a lack of ability or a lack of disposition. This will help educators to decide on the appropriate intervention to implement.

All students, regardless of social class or presumed limitations in ambition or ability have some degree of potential to think critically. Students must move beyond the role of passive receiver of information and into the role of active participant in their learning. In order to "go beyond what is given," students must think critically about the topics they are studying. Going beyond the information given might mean students generate an explanation, challenge an assumption, make a comparison, or apply ideas to new contexts. Thinking critically contributes to effective learning because it helps learners develop deeper and more cognitively integrated understandings of ideas and concepts.

If our students want to be both willing and able to engage in Critical Thinking, it should be included both in school and professional development curricula, in our instructional assignments, and in our educational outcomes assessments. Because being skilled does not assure one is disposed to use Critical Thinking and, being disposed toward Critical Thinking does not assure that one is skilled.

### **TEACHING CRITICAL THINKING FOR TRANSFER ACROSS DOMAINS**

Educators must demonstrate thinking in multiple contexts including those that are rich in subject matter



content and problem-complexity. The more a teacher is able to extend students' thinking into new domains of learning and inquiry, demanding solid content knowledge and the correct application of standards and methods appropriate to the domain, the stronger students' thinking will become. It is a matter of active engagement, thoughtful reflection and reasonable reformulations of judgments. The most successful teacher will be the one who is able to both nurture and challenge thinking. Students must know that teachers demand good thinking, test for good thinking and reward good thinking in their grading practices.

Subject specific teaching of Critical Thinking may be the most effective means to develop students' abilities to transfer skills to subjects in schools and problems in life outside of schools. Teaching good critical thinking skills challenge students not to just memorize facts, but to question, examine, create, solve, interpret, and debate the material in their classes. Students who think critically are typically more excited about their learning. They see challenge and opportunities for learning in even the most difficult intellectual tasks.

A major factor in the growth of higher order thinking capability is a student-centered classroom. It supports the open expression of ideas, provides active modeling of thinking processes,

develops thinking skills, and motivates students to learn. Without it, students will not persist in higher level thinking processes.

## **METHODS AND STRATEGIES TO ENHANCE CRITICAL THINKING IN CLASSROOMS**

- Instructional Communications.
- Scaffolding.
- Learning and Thinking Strategies.
- Direct Instruction.
- Questioning Strategies.
- Feedback.
- Team Activities.
- Student Discussions.
- Peer Tutoring.
- Cooperative Learning.
- Computer Mediation.

## **DISCUSSION**

It is the focus on 'how to learn' that is most important. Thinking skills is about giving children the ability to choose for them what type of thinking they need at different times. This therefore involves the teacher setting up plenty of opportunities within the class for the children to be challenged into using the range of skills, but the children also need to be able to label the skills.

Good critical thinking skills bring numerous benefits such as

improved attention, more focused reading, improved ability to identify the key points in a text or other message rather than becoming less distracted by less important material, improved ability to respond to the appropriate points in a message, Knowledge of how to get one's own point across more easily, skills of analysis that one can choose to apply in a variety of situations.

It has also been the tradition in education that school curriculum has been largely based upon content material from the academic disciplines of Languages, Mathematics, Science and Social Studies. Yet, every significant statement of the goals and outcomes of education is expressed in the terms of the desired characteristics of the students which include:

- Effective problem solver.
- Competent learner.
- Complex thinker.
- Effective communicator.
- Lifelong learner.
- Initiative driven.

Empowered students are interested, motivated, positive thinkers and therefore tend to be more successful. They are more likely to aim higher and achieve higher levels of academic, creative, and social growth, than those who are forced to remain locked into a teaching learning environment in which

an outmoded paradigm and pedagogy still prevail.

## CONCLUSION

Critical thinking is closely related to educational goals to create lifelong learners because critical thinking is a skill that is applied across multiple subjects. Schools, Teachers and Parents have a greater role in providing a suitable environment that fosters the required skills. Facilitating development of critical thinking is important because higher education institutions are asked to produce graduates who demonstrate the capability to apply higher order cognitive skills to solve problems that are not confined to discipline specific areas. Hence, development of these specific skills should find a place in school curricula itself.

Teachers should use various instructional methods to promote Critical Thinking in the classroom. Effective peer group participation both inside and outside the class should be encouraged. A major factor in the growth of higher order thinking capability is a student-centered classroom. It supports the open expression of ideas, provides active modeling of thinking processes, develops thinking skills, and motivates students to learn. Without it, students will not persist in higher level thinking processes. Socratic questioning, real-world problems, peer group discussions, debates, simulated environments and field trips not only provide opportunities

to exhibit students' skill but also develop their learning abilities and higher order skills. With the available resources teachers must see that pupils make use of opportunities available to enhance their Critical Thinking.

If these objectives can be duly met, students can better internalize, analyze,

and synthesize information because they will have arrived at an answer through their own rational thought processes. The hope is to teach students to transfer and internalize the thinking skills they learn, so that they will be better thinkers on their own.

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## CYBER CRIME AWARENESS AMONG STUDENTS AT SECONDARY STAGE

4

**Dr. HARPAL KAUR AUJLA**

Associate Professor  
ACE, Mastuana Sahib Teh  
Sangrur, Punjab - 148 001

**PRIYANKA RANA**

Research Scholar  
ACE Mastauan Sahib Teh  
Sangrur, Punjab - 148 001

### INTRODUCTION

Education in its general sense is a form of learning in which the knowledge, skills and habit of group of people are transferred from one generation to the next through teaching, training and research. Ever since the rise of technology, realm of teaching, training and research have undergone a tremendous change. Computer revolution has changed the scenario of world. But with the increase in the use of computers, internet and mobile phones in our daily life, there is also a corresponding increase in Cybercrimes. In 2011 there were around 13,301 cases of cyber crime reported in the country but in 2015 we had over 3, 00,000 cases.

Cyber crime is used broadly to describe a kind of criminal activity, in which computers or networks are as a tool, a target, or a place of criminal activity. Internet has dramatically changed the way of thinking, the way of living, the way of governing, the way of doing commerce and the way of perceiving oneself. Information Technology encompasses all walks of

life, all over the world. Cyberspace is full of opportunities. However like in real life, good and bad practices exist in this sphere too. Instead of utilizing the good side of the internet, new ways to intimidate and threaten the perceived enemies are created. Fighting bad practices spread through internet is found to be a challenge by educational institutions all over the world. It is in the interest of the educational sector all over the world that innovative and enabling legal infrastructure in tune with the times is put in place. Students who are gullible due to their tender age and inexperience are particularly vulnerable as far as criminal tendencies in internet are concerned. Duggal (2009) a prominent Indian advocate in Supreme Court and Cyber expert, provides a comprehensive overview of the cyber law scenario in India. He recommends the upgradation of the current cyber law acts, and contextualizes these developments with respect to actual reported cases of cyber law in India. Mathew (2014) discusses various types of cyber-crimes and the ways to protect them

with special emphasis on biometric. Cyber-crimes such as phishing where various methods such as DNS Cache poisoning, link manipulation, filter evasion, graphical substitution, email spoofing, and pharming are discussed. The Cyber crime safety depends on the knowledge of the technology and the care taken while using internet and that of the preventive measures adopted by user and servers systems. It is well said that the problems created cannot be solved with the same level of awareness that created them. Hence there is need of technological, behavioral and legal awareness and proper education and training. One important step forward in this direction is to spread awareness among adolescent students against the crime and encouraging them to utilize the positive side of the internet. The investigator has tried to find out level of cyber crime awareness among students at secondary stage as students at this stage are more prone to cybercrime.

### **OBJECTIVES OF THE STUDY**

1. To study level of cyber crime awareness among students at secondary stage.
2. To compare levels of cyber crime awareness among students in relation to gender, locale and type of school.

### **DELIMITATIONS OF THE STUDY**

The study was delimited to 200 students of 12th class of schools of Ludhiana district only. Equal

distribution of male/female, rural/urban and government and private school was taken.

### **METHODOLOGY**

#### **Tool used**

Cyber Crime Awareness Scale (2011) by Rajasekar was used to check the level of cyber crime awareness among students.

### **STATISTICAL TECHNIQUES**

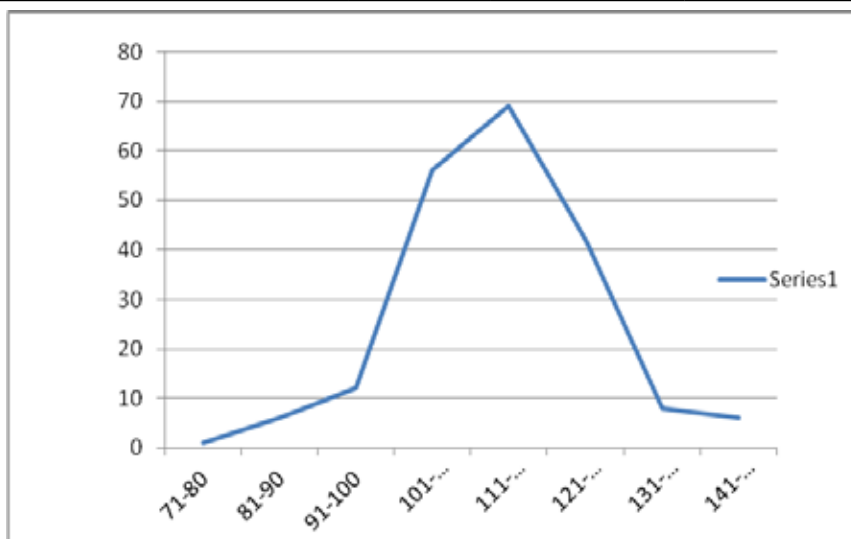
Descriptive statistics namely mean, median, mode, standard deviation, skewness and kurtosis were calculated to study cyber crime awareness among students.

### **RESULTS AND DISCUSSION**

Taking the group as a whole as it can be seen in Table-1, that the mean score on cyber crime awareness among students is 114.205 with an SD of 12.084. The values of median and mode are 114 and 115 respectively. The values of mean, median and mode for the measure of cyber crime awareness in school going students are lying at same levels and it is reflected by the numerical determinant of skewness ( $SK=0.04$ ). The distribution of scores of cyber crime in school going students may be regarded as normal. The value of kurtosis is 0.37 which is greater than 0.263. So it can be said that curve is platykurtic, flatter than normal curve. The mean score of cyber crime awareness in school going students is 114.205 and it shows that sample has moderate level of cybercrime awareness.

**Table 1**  
**Cyber crime awareness among students**

Mean	Median	Mode	S.D	Skewness	Kurtosis
114.2	114	115	12.084	0.04	0.37



**Fig 1 Frequency polygon of cyber crime awareness among students**

**CYBER CRIME AWARENESS AMONG STUDENTS IN RELATION TO THEIR GENDER**

with their SD and t-value indicating the significance of difference between their means.

Table 2 shows the cyber crime awareness among boys and girls along

**Table 2**

Cyber Crime awareness among students in relation to their Gender

Gender	N	Mean	SD	SE	t-value
Male	100	112.74	8.97	1.69	1.73
Female	100	115.67	14.39		NS

NS indicates non-significant value

Table 2 reveals that mean score of is 112.74, whereas the mean score cyber crime awareness of male students of cyber crime awareness of female

students is 115.67. Standard deviation is calculated 8.97 and 14.39 respectively. The t-value signifying the difference between cyber crime awareness of boys and girls is 1.73 which is not significant. This shows that male and female

students do not differ significantly in relation to their cyber crime awareness. Male and female students have same level of cyber crime awareness.

**Table 3**

**Cyber Crime Awareness among students in relation to Type of School**

Type of school	N	Mean	SD	SE	t-value
Government	100	115.9	12.47	1.69	2.07**
Private	100	112	11.43		

**CYBER CRIME AWARENESS AMONG STUDENTS RELATION TO TYPE OF SCHOOL.**

Table 3 reveals that mean score of cyber crime awareness of students of government schools is 115.9 whereas the mean score of cyber crime awareness of students of private schools is 112. Standard deviation is calculated 12.47 and 11.43 respectively. The t-value signifying the difference between cyber crime awareness of students of government schools and private schools is 2.07 which is significant at 0.01 level.

This shows that cyber crime awareness of students of government and private schools differ significantly. The students of government schools are

more aware of cyber crimes as compared to students of private schools.

**CYBER CRIME AWARENESS AMONG STUDENTS IN RELATION TO LOCALE**

Table 4 reveals that mean score of cyber crime awareness of students of urban areas is 113.93 whereas the mean score of cyber crime awareness of students of rural areas is 114.48. Standard deviation is calculated 11.96 and 12.20 respectively. The t-value signifying the difference between cyber crime awareness of students of urban and rural areas is 0.32 which is not significant. This shows that students of urban areas as well as rural areas have same level of cyber crime awareness.

**Table 4**

**Cyber crime awareness among students in relation to Locale**

Locale	N	Mean	SD	SE	t-value
Urban	100	113.93	11.96	1.70	0.32 NS
Rural	100	114.48	12.20		

NS indicates non significant value



## MAJOR FINDINGS

1) Selected sample shows that students at secondary stage have moderate / average level of cybercrime awareness.

2) Both male and female students have same level of cyber crime awareness and students of urban areas as well as rural areas have same level of cyber crime awareness but on the other hand, the students of government schools are more aware of cyber crimes as compared to students of private schools.

## EDUCATIONAL IMPLICATIONS

1. Students should be taught and trained that the first defense in being safe is to secure their password. They should be taught never to disclose their account details to anyone or any personal data to someone/ friend on the internet or on the phone.

2. Investing in a good anti-virus is one of the key steps in ensuring safety from cybercrimes. So students should be taught to maintain and upgrade their anti-virus because it is crucial.

3. Students should never send credit/debit card details on any untrusted site. An additional measure they can take is to make sure their phone or their computer's Bluetooth is switched off when not required.

4. Students should make sure that they have a strong, encrypted (8 digit, website generated password).

5. Every city has a cybercrime cell where the complaint should be lodged. If a student suspects that he/she is a victim of cybercrime then they should immediately go to the authorities with the necessary details.

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## ATTITUDE OF PRIMARY TEACHERS TOWARDS THE INTRODUCTION OF SEX EDUCATION IN THE SCHOOL CURRICULUM

5

**Dr. K. KARTHIKEYAN**

BT Assistant,

Government High School, Vadapathimangalam,  
Tiruvarur Tamil Nadu - 610 206

### INTRODUCTION

Sex education is meant to make student scientifically aware of various components of the subject which includes physiology, anatomy, human reproduction, psychology, pathophysiology, reproductive health, information on sexually transmitted disease and so on.

Sex education is an education programme designed to provide learners with adequate knowledge about human sexuality in its biological, psychological, socio-cultural and moral dimensions. It largely, though not exclusively, focuses on the individual self-awareness, personal relationship, human sexual development, reproduction and sexual behaviour. It also covers the anatomy and physiology of reproductive systems, physical, emotional and psychological changes during the process of growing up puberty and conception and birth. It is the acquisition and transformation of knowledge and to develop right attitude and skills towards sex and the critical issues of gender roles. Knowledge regarding sex education which has been

kept obscure to the past generation has done a great damage.

Ignorance has to be fought and eliminated. Adequate sex knowledge and right attitude can lead to more responsible parenthood and help the younger generation in understanding their sex and sex roles and can save them from sexual abuses. Hence, in the present age, sex education with right kind of advocacy and knowledge must be given to the younger generation which will enlighten them regarding sex and sexual behaviors. Children should be made aware of sexual abuse at an early age. Age appropriate sexual information should be given to the children at every stage, so that they are less vulnerable to abuse and sex education will give them the vocabulary and confidence to report it to adults.

### NEED AND SIGNIFICANCE OF THE STUDY

The introduction of sex education in the school curriculum is significant in generating sexual awareness. The inter-relationship between a wide range

of social phenomenon both at micro and macro levels, the explicit attention to the preparation of students for their future role as adult, decision makers in their families, the community and the nation. The innovation can have an impact on curricular design and instruction and make it possible to assist them that sex education can become both a stimulus and a support for widespread educational reform among students.

Sex education is an urgent need to keep the young informed of the measures to protect themselves against sexual exploitation and diseases. It is through the curricular materials that the future citizens receive a good instruction on sex education. It helps at the development of awareness and attitudes that will make learners to build up responsible behavior in the context of sex education issues. It has emerged in response to the critical needs and concerns of children and adolescent development which is a complex process of physical, cognitive, emotional, social and moral maturation of individuals from childhood to adulthood. Although the school curriculum accepts the criticality of adolescent years in preparing the children for adult roles in almost all aspects of life, it has not adequately addressed so far the crucial needs and concerns of children and adolescents related to the process of

their growing up from childhood to adulthood.

There is a real need for appropriate sex education programme for adolescents and it will only grow in future. The range of misleading information, where children are exposed to advertisements and movies is enormous. It is our duty to equip them with necessary knowledge acquisition, attitude and values with respect to awareness on sex HIV/AIDS. Parents and teachers will always be in favour of sex education which empowers and help children grow into confident adults. But given our social system, which is slow to respond to new ideas, introduction of sex education should be preceded by advocacy. Education policy makers, opinion leaders, state legislatures, parent groups and teachers should be briefed about the importance of imparting carefully structured sex education by specially trained teachers and counselors.

## **OBJECTIVES OF THE STUDY**

The following are the objectives of the study

1. To study the teachers' attitude towards the introduction of sex education in the school curriculum.
2. To find out the differences if any, between male and female teachers in respect of their attitude towards the introduction of sex education.

3. To find out the differences if any, between teachers who taught languages, science and social science in respect of their attitude towards the introduction of sex education.

4. To find out the differences if any, between the teachers who were working in Government and self-financing schools in respect of their attitude towards the introduction of sex education.

5. To find out the differences if any, between teachers working in rural and urban area schools in respect of their attitude towards the introduction of sex education.

#### **METHODOLOGY IN BRIEF**

The investigator followed the normative survey method for the study. An attitude scale based on likert type was developed and administered to the teachers working at primary schools

in Thiruvarur educational district. The teachers have freely responded to the questionnaire. The data thus collected were put into appropriate statistical analysis - Mean, standard deviation, t-test and F-test.

#### **SAMPLE**

The population of the study is the teachers at the primary school level from Thiruvarur educational district. The teachers from the selected primary schools were chosen as sample for the study by using simple random sampling technique. A total of 275 teachers were selected for this study.

#### **DATA ANALYSIS**

##### **HYPOTHESIS - 1**

There is no significant difference in respect to teachers' attitude towards the introduction of sex education in the school curriculum.

**Table 1**

**Mean and Standard Deviation for attitude scores of the total teachers**

<b>Variable</b>	<b>N</b>	<b>Maximum</b>	<b>Mean</b>	<b>S.D</b>
<b>Attitude Score</b>	275	230	178.96	13.86

The mean and standard deviation for the total attitude scores of the teachers are presented in the above table. The maximum possible attitude scores is 230. The mean value was found to be 178.96. It was revealed that the primary school teachers of Thiruvarur Educational District have a favourable attitude towards the introduction of sex

education in the school curriculum as the mean score was found to be more than 68 percent, i.e., above average.

##### **HYPOTHESIS - 2**

There is no significant difference between male and female teachers in respect to their attitude towards the introduction of sex education.

This hypothesis was tested by using t-test. The t value was computed to find out the significant difference in the attitude mean scores between male and female teachers. The details are given Table 2.

**Table 2**  
**Significant of difference in the attitude mean scores of the male and female teachers**

Sex	N	M	S.D	t-value
Male	170	176.96	13.58	1.007
Female	105	177.58	13.58	Ns

NS-Not Significant

Critical Value for 0.05 level=1.96

The calculated t-value 1.007 is less than the critical value 1.96 corresponding to the 0.05 level of significance. This implies that the difference in the attitude means scores under consideration is not significant. Hence the null hypothesis is accepted.

Therefore, it is concluded that male and female teachers do not differ significantly in respect of their attitude towards the sex education to be incorporated in the school curriculum.

**HYPOTHESIS - 3**

There is no significant difference between the teachers who taught language, science and social in respect to their attitude the introduction of sex education.

This hypothesis was tested by using F-test. The F-value was computed to find out the significance of difference in the attitude mean scores between teachers who taught language, science and social sciences. The details are given Table 3.

**Table 3**  
**Analysis of variance of the mean differences scores among teachers who taught Language, Science and Social science**

Source	Sum of Square	Mean Square	Df	F-Value
Between	2712.1	1256.4	2	7.42
Within	25318.2	92.8	273	

\*\* - Significant at 0.01 level.

The f-value is found to be statistically significant at 0.01 level. Hence, the null hypothesis is rejected.

Therefore teachers who taught language, science and social sciences differ significantly in respect to their

attitude towards the introduction of sex education in the school curriculum.

#### **HYPOTHESIS - 4**

There is no significant difference between the teachers who were working in Government and self-financing schools in respect to their attitude towards the introduction of sex education.

The hypothesis was tested by using t-test, t-value was computed to find out the significance of difference in the attitude mean scores of the teacher who were working in Government and self financing schools. The details are given Table 4.

**Table 4**  
**Significant of difference in the attitude mean scores between Private and Government. School Teachers**

<b>Type of Schools</b>	<b>N</b>	<b>Mean</b>	<b>S.D</b>	<b>t-value</b>
<b>Self-Financing</b>	130	17.05	13.84	0.976
<b>Govt.</b>	145	17.97	14.08	NS

Critical Value for 0.05 level=1.96

The calculated t-value 0.976 is less than the critical value 1.96 corresponding to the 0.05 level of significance. The implied that the differences in the attitude mean scores under consideration is no significant. Hence, the null hypothesis is accepted.

Therefore, it is considered that the teachers who were working in Government and self-financing schools do not differ significantly in respect to their attitude towards the introduction of sex education in the school curriculum.

#### **HYPOTHESIS 5**

There is no significant difference between rural and urban school teachers in respect to their attitude towards introduction of sex education.

This hypothesis was tested by using t-test. The 't' value was computed to find out the significance of difference in the attitude mean scores between teachers of rural and urban area schools.

**Table 5**  
**Significance of difference in the attitude means scores between**  
**Rural and Urban school teachers**

<b>Locality</b>	<b>N</b>	<b>Mean</b>	<b>S.D.</b>	<b>t-Value</b>
<b>Rural</b>	120	172.89	13.04	2.34
<b>Urban</b>	155	181.74	14.78	

Critical Value for 0.05 level=1.96

The calculated t-value 2.34 is greater than the critical value 1.96 corresponding to the 0.05 level of significance. This implies that the difference in the attitude mean scores under consideration is statistically significant. Hence, the null hypothesis is rejected.

Therefore, it is concluded that the rural and urban area school teachers differ significantly in respect to their attitude towards the introducing of sex education in the school curriculum.

Further the higher mean scores of the urban area school teachers have a favourable attitude towards the introduction of sex education than the rural area school teachers.

### **SUMMARY OF THE FINDINGS**

The study confirms that the Primary schools teachers of Thiruvarur educational district have a favourable attitude towards the introduction of sex education in the school curriculum.

The study further reveals that male and female teachers who were working in Government and self-financing schools have similar attitude

with regard to the introduction of sex education in the curriculum.

The study also reveals that the teachers who taught language, science and social sciences differ significantly in respect to their attitude towards the introduction of sex education in school curriculum.. The rural and urban area school teachers differ significantly in respect to their attitude towards the introduction of sex education in school curriculum.

### **IMPLICATIONS OF THE STUDY**

Knowing sex education is very essential for students at school level. Sex education may be taught informally, such as when someone receives information from a conversation with a parent, friend, teacher and religious leader or through the media. Sex education also empowers women and girls to make them aware of their rights.

The results of the study revealed that there is a positive attitude towards the introduction of sex education in the school curriculum of the primary schools of Thiruvarur educational district.

Hence, the academicians, administrators, psychologists, medical specialists, and policy makers should evolve a syllabus that is relevant to the changing times and plan accordingly to introduce sex education concepts and to train teachers to raise consciousness about their role as moral sex educators, learn way to practice and promote sex education and its values among school students through various curricular and co-curricular activities.

## CONCLUSION

The study was conducted in order to assess the primary school teachers' attitude towards the introduction of sex education in the school curriculum. It was found that the primary school teachers of Thiruvarur Education District have a favourable attitude towards the introduction of sex education in the school curriculum.

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## GOAL ORIENTATION OF HIGH SCHOOL STUDENTS: AN ANALYTICAL STUDY

6

**Dr. S. SREEKALA**

Assistant Professor,

NSS Training College, P.B No-3,

Ottapalam, Palakkad, Kerala - 679 101

### INTRODUCTION

Most of human behavior is directed by goals and needs. Goals range from personal to professional, from being happy to doing well in school. Much of the individual variation in achievement can be explained by the different goals students hold or adopt in achievement situations (Urdan, 1997). Goals are essential parts of human motivation. They have been viewed within a motivational framework because goals are ends toward which individuals direct their effort (Pintrich, 2000). Goals direct a person's attention, influence how much effort a person puts into a task, and affect how much a person persists in completing a task (Locke & Latham, 2002). In achievement situations, people have tendencies called goal orientations to set certain types of goals, such as learning or performance goals (Dweck, 1986). Goal orientation indicates an integrated pattern of beliefs, attributions and personal emotions that determine behavioral objectives and the person has more tendencies toward some situations and act in particular way (Ames, 1992). Significant research in the area of motivation which claims that

students' goals impact their academic performance (Ames, 1984; Atkinson, 1957; Dweck, 1986; Elliot, 1999, Maehr, 1983; Nicholls & Miller, 1984)

Goal orientation refers to a person's tendencies to set certain types of goals in achievement situations. Because of goal orientation, people with the same ability act differently in the same situation. Goals play an important role in an individual's life because they influence individuals' attention, effort, and persistence levels. Goals are thus important tools, but perhaps more important are the reasons why individuals set these goals. This motivation behind academic achievement related behaviour is referred as goal orientation.

Goal orientation is a construct introduced by Dweck in his social cognitive theory of motivation (Dweck & Leggett, 1988). This theory proposed that there is an association between one's goal orientation and behavioural responses in academic contexts. According to this theory, the goals individual are seeking will generate the framework within which they

interpret and respond to events. The theorists identified two types of goals: a mastery goal in which individual focus on increasing their competencies or mastering the task at hand and a performance goal in which individuals try to appear competent to gain positive judgements of their ability or avoiding negative judgements (Dweck and Leggett, 1988).

Ames (1999) stated students' goal orientation is specific situational orientation adopted by the students in classroom that will affect cognition, affective and student behaviour in achieving the target. VandeWalle (1997) defined goal orientation as the desire to develop the self by acquiring new skills, mastering new situations and improving one's competence. Blumenfeld and Hold (1988) explained that the purposes that underlie the individual in doing activity of learning and achievement are called goal orientation.

## **OBJECTIVES OF THE STUDY**

1. To find out the level of goal orientation of secondary school students.

2. To find the significant difference, if any, in the goal orientation of secondary school students with regard to gender.

## **METHOD**

Normative survey was used for the study.

## **SAMPLE**

The sample consisted of 370 students studying in High schools of Ottapalam Taluk, Palakkad District, Kerala.

## **TOOL**

Goal Orientation Scale - GOS (Soumya & Sreekala 2016) to measure the goal orientation of secondary school students.

## **STATISTICAL TECHNIQUES**

- Percentage analysis
- t-test

## **RESULTS AND DISCUSSION**

For finding the levels of Goal Orientation of secondary school students they were classified into three groups such as students having High level of Goal Orientation, Moderate level of Goal Orientation and Low level of Goal Orientation. Assuming a normal distribution of scores, the conventional procedure of using sigma distances was used for classifying sample. Considering the baseline of the normal curve representing the distribution extending from  $-3\sigma$  to  $+3\sigma$  i.e. over a range of  $6\sigma$ ; high school students whose scores fall between  $M+\sigma$  and  $M-\sigma$  were classified as 'Moderate group', high school students whose scores were below  $M-\sigma$  were classified as 'Low group', and high school students whose scores were above  $M+\sigma$  were classified as 'High group'.

**Table 1**  
**Data and Results of Analysis of Goal Orientation of secondary School Students**

Group	Goal Orientation	
	N	%
<b>High</b>	54	14.59
<b>Moderate</b>	264	71.35
<b>Low</b>	52	14.05

From the Table it is clear that 14.59% of the secondary school Students fall into high level of Goal Orientation. 71.35 % of the secondary school students have shown moderate level of Goal Orientation and 14.05% falling into low level of Goal Orientation. It

was found that, for the whole sample the Goal Orientation is moderate. This result is in agreement with the results of Dixit (2012); Sophia and Sreelatha (2014), which indicated that majority of high school students had moderate level of goal orientation.

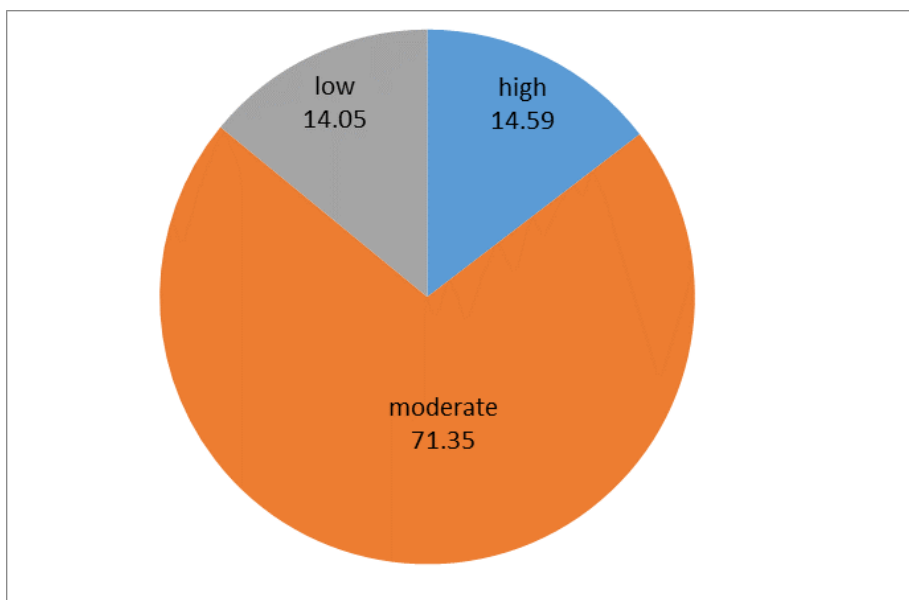


Fig 1: Graphical representation of Level of Goal Orientation of secondary School Students

Analysis of difference between Mean Scores of Goal Orientation on the subsamples based on gender

The two tailed test of significance of difference was used to test the

significance of difference between mean scores of Goal Orientation of boys and girls. Data and results of mean scores of Goal Orientation on the subsamples based on gender is given in the Table 2.

**Table 2**

**Data and results of the test of significance of mean difference in scores of the Goal Orientation on the basis of Gender**

Variable	Gender	N	M	SD	t	Level of Significance
Goal Orientation	Boys	139	170.38	10.22	4.65**	0.01
	Girls	231	176.63	15.51		

Note: \*\* indicates significant at 0.01 level of confidence

## DISCUSSION

The critical ratio of the mean difference in the scores of Goal Orientation of boys and girls is significant at 0.01 level since the calculated 't'-value (4.65) is greater than the table value 2.58. In other words, there exists significant difference between boys and girls in their Goal Orientation. The result shows that there is significant difference in the mean scores of Goal Orientation between boys and girls. It indicates that there exists gender difference in the Goal Orientation of secondary school students. This result is in agreement with the findings of Keklik and Keklik (2014); Koul (2009), which also indicates gender differences in the goal orientation of students. This result is in contradiction Ong (2014); Joakim

and Harikrishnan (2013); Kadiravan (2012); Jeanne (2007). This difference may be attributable to many reasons such as difference in sample, tools and statistical techniques etc.,

Mean values showed that female students are more goal orientated compared to male secondary school students. This may be due to the fact that female students have higher level of concentration, seek positive competency judgement, higher on intrinsic motivation.

## FINDINGS

1. Secondary school students possess different levels of Goal Orientation. Majority of high school students possess moderate level of goal orientation (71.35% ) .14.05% of

students are highly goal orientated and 14.09 % low goal oriented.

2. Significant difference was noted in the goal orientation of male and female high school students ( $t=4.65$  significant at 0.01 level). Female students are found to have higher goal orientation compared to male students.

## CONCLUSION

The study revealed that secondary school students have

moderate level of goal orientation and compared to the male students, girl students have higher goal orientation. It is a fact that goals play an important role in an individual's life because they influence individuals' attention, effort, and persistence levels. Goals are thus important tools, and secondary school education is a decisive stage in one's life, the level of goal orientation needs to be focused by the educators to a large

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