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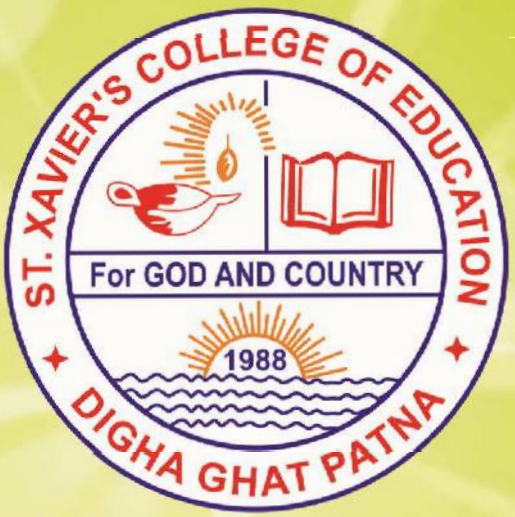

St. Xavier's College Of Education

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Editorial

Dear Readers,

Research is an endless endeavor of finding solution of the different problems related to the different areas of understanding of human beings. Researchers are those who try to continuously strive for solving problems of vivid nature with full zeal and concentration. These two aspects result in solving the problems of various natures in general field and education in particular. Once a researcher concludes his research findings s/he should try to disseminate this information to different sections of society for their better understanding and application in solving problems in the area of teaching and learning or else in education as a whole.

This issue of the journal has tried to highlight the research findings on six different types of research study to its readers. These studies are from various fields of education like Right to Education Act, Awareness on Blended Learning, Awareness of Assistive Technologies among Teacher Educators, Student Psychological Distress, Teacher Effectiveness and Science Education.

The findings of these studies will be useful for different stakeholders of education to better the administrative situation in the schools; it will be helpful in introducing ICT in different learning situations; the benefits of blended learning in teaching learning can be better understood by the paper on 'Community of Inquiry: Practical Implications for an Effective Teaching in Blended Mode'. In the era of inclusive education the paper devoted to Awareness of Assistive Technology will be very thought provoking for the learners. Since, Science Education has been always an area of interest for the researcher and readers the paper devoted to Nature of Science will be found interesting to them. Teacher education and its improvement concerns are addressed in the paper 'Self-Efficacy and Teacher-Effectiveness of Secondary School Teachers'. The paper related to Students Stress and its relationship with other aspects of the student-behavior will help the readers to understand the students in a better way.

In a nutshell we have tried to make this issue, a collection of research papers which are from various areas and are innovative in nature and has unlimited scope in terms of its application in the field of education.

With Regards,

Editorial Board

Vol. 5 No. 2 **December, 2017**

CONTENTS & AUTHORS

COMMUNITY OF INQUIRY: PRACTICAL IMPLICATIONS FOR AN EFFECTIVE TEACHING IN BLENDED MODE

Prabhas Ranjan

Abstract

The Community of Inquiry (CoI) framework, developed by Garrison(2000) provides guidance for online and blended learning environments. CoI is a cohesive and interactive community of learners whose purpose is to critically analyse, construct, and confirm worthwhile knowledge. The components of the framework are social presence, cognitive presence, and teaching presence. The framework shapes cognitive and metacognitive processes and learning. It provides the vision and objectives of the course and identifies the needs and skills required for the course. This research was an attempt to practically apply the CoI framework for blended teaching and assess effectiveness of blended learning in Comparison to the face-to-face mode of learning. The study was conducted at the Department of Education, Patna Women's College. The learning achievement of the students were compared on two levels: higher level (application and creation) and lower level (knowledge and understanding). We found that the differences in achievement of the learners were higher for higher level learning than the lower level learning.

Key Words: Blended Learning, Community of Inquiry(CoI), level of learning.

Introduction

In 1984 an educational phenomenon known as 2-Sigma problem in research literature was observed by educational psychologist Benjamin Bloom and his students J. Anania and A. J. Burke. Bloom found that the average student tutored one-to-one using mastery learning techniques performed two standard deviations better than

students who learn via conventional instructional methods - that is, ``the average tutored student was above 98% of the students in the control class.'' Additionally, the variation of the students' achievement changed: ``about 90% of the tutored students ...attained the level of summative achievement reached by only the highest 20%'' of the control class. Bloom's graduate students conducted studies of this effect at different grade levels and in different schools, observing students with ``great differences in cognitive achievement, attitudes, and academic self-concept.'' This is posed as a problem rather a challenge to attain the same level achievement in a classroom with appropriate techniques. The recent developments of Blended e-learning seem to take up this challenge.

Blended e-learning is set to provide more engaged learning experiences to the students. This is increasingly becoming a viable alternative of passive teaching and learning approaches such as the lecture. The lecture method of teaching has emerged in the period of before the advent of printing press. Though it is a fast method to instruct a large group of learners and an effective way for engaging learners in critical and constructive way. But with continuous proliferation of information and sophistication of subjects the educational activities require more in-depth engagement for students to construct meaning than what is possible in a typical lecture. In this regard, Palloff and Pratt (2005) argue that interactive and collaborative learning experiences are more congruent with achieving higher-order learning outcomes. But the popularity of blended mode of education is mostly confined to European and American Universities. In India it is relatively much less practised partly due to less proliferation of communication technology.

Blended learning combines the properties and possibilities of face-to-face and online to go beyond the capabilities of each separately. It recognizes the strengths of integrating verbal and text-based communication and creates a unique fusion of synchronous and asynchronous, direct and mediated modes of communication in which the proportion of the two learning activities may vary

considerably (Garrison, & Vaughan, 2008) It is a fusion of the two mode of learning experiences in a reflective way. It stands on the basic understanding that we can integrate face-to-face oral communication and online written communication in such a way that they create a synergic effect to optimize the context and objectives of education. This is not a simple addition of face-to-face and online activities. It is a restructuring of class hours with the goal to enhance engagement and access to Internet-based learning opportunities. Thus, blended learning is a fundamental redesign that transforms the structure of, and approach to, teaching and learning. As Bleed (2001) has argued ``blended learning should be viewed as an opportunity to redesign the way that courses are developed, scheduled, and delivered through a combination of physical and virtual instruction, bricks and clicks (Koç, Liu, & Wachira, 2015)'' According to Garrison and Vaughan (2008), the key assumptions of a blended learning design are as follows. It is:

- A thoughtful integration of face-to-face and online learning.
- A fundamental rethinking of the course design to optimise student engagement.
- Restructuring and replacing traditional class contact hours with synchronous and asynchronous online engagements.

With these perspectives, we developed a teaching module on a Moodle website relating to the Paper Assessment for Learning.

Objectives

- Elaboration of framework for planning and evaluation of a blended learning course.
- Comparison of achievement of students in blended mode and face-to-face mode of teaching.

Literature Review

Effectiveness of Blended Learning

In recent years it has been reiterated that blended learning is fundamentally different and is not simply an add-on to the dominant approach Garrison and Vaughan (2008). There are reports that the blended learning approaches and designs can significantly enhance the learning experience. Albrecht (2006)reports high student satisfaction with blended learning, and others have reported faculty satisfaction (Vaughan & Garrison, 2006). This is confirmed by Marquis (2004) in a survey that found that 94 percent of lecturers believed that blended learning ``is more effective than classroom-based teaching alone.'' This is also consistent with a study by Bourne and Seaman (2005), who found that the primary interest in blended learning is to benefit the educational process. They report that blended learning is perceived to be a means to combine the best of face-to-face and online learning. Thus in the context of higher education blended learning is providing an evolutionary transformation of teaching and learning. But this transformational growth has to be supported with a clear understanding of the nature of the educational process and intended learning outcomes. In higher education there is an expressed focus on opportunities for learners to construct meaning and confirm understanding through discourse. Garrison, Anderson, and Archer (2000) proposed a framework ``A Community of Inquiry'' that supports connection and collaboration among learners and creates a learning environment that integrates social, cognitive, and teaching elements in a way that can precipitate and sustain critical reflection and discourse.

Theoretical Framework for Designing a Blended Course

The Community of Inquiry (CoI) framework developed by Garrison et al provides order and guidance into the complexities and dynamics of online and blended learning environments. The figure 1 describes its elements of social, cognitive, and teaching presence.

Philosophically, the framework is inspired by collaborative constructivist approach to teaching and learning expounded by John Dewey. The framework implies that a worthwhile educational experience is embedded within a community of inquiry that is composed of teachers and students. The CoI considers community as essential to support collaborative learning and discourse associated with higher levels of learning. As Garrison (2008, p 9) elaborates the CoI builds upon two ideas that are essential to higher education - community and inquiry. Community, on the one hand, recognizes the social nature of education and the role that interaction, collaboration, and discourse play in constructing knowledge. Inquiry, on the other hand, reflects the process of constructing meaning through personal responsibility and choice. A community of inquiry is a cohesive and interactive community of learners whose purpose is to critically analyse, construct, and confirm worthwhile knowledge ...A Community of Inquiry appropriately integrates these elements and provides a means to guide the design of deep and meaningful educational experiences.

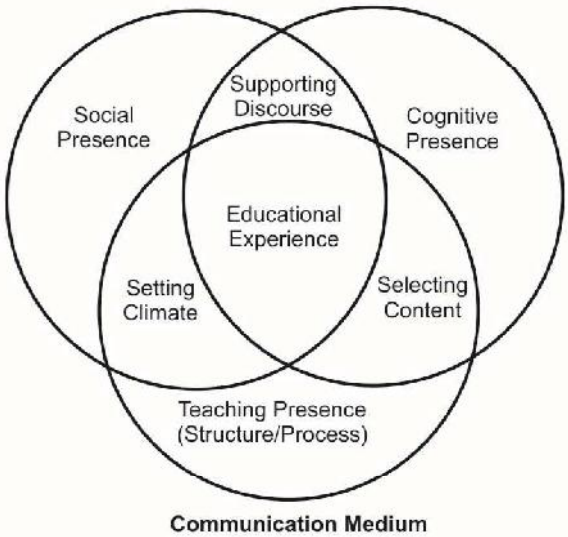

Figure 1: Community of Inquiry Framework

Table 1: Elements of COI

ELEMENTS	CATEGORIES	INDICATORS (examples only)
Social Presence	Open communication	Risk-free expression
	Group cohesion	Encourage collaboration
	Affective expression	Emotions
Cognitive Presence	Triggering event	Sense of puzzlement
	Exploration	Information exchange
	Integration	Connecting ideas
	Resolution	Apply new ideas
Teaching Presence	Design & organisation	Setting curriculum & methods
	Facilitating discourse	Sharing personal meaning
	Direct instruction	Focusing discussion

Social Presence

The role of social presence in educational settings has been studied the most extensively, in both online and face-to-face course settings (Garrison & Arbaugh, 2007). The categories of social presence are open communication, group cohesion and affective expression (Table 1). As Garrison elaborates.

"Students in a community of inquiry must feel free to express themselves openly in a risk-free manner. They must be able to develop the personal relationships necessary to commit to, and pursue, intended academic goals and gain a sense of belonging to the community. The formal categories of social presence are open communication, cohesive responses, and affective/personal connections...Students may well feel secure and feel free to comment but may still need to establish the cohesiveness for the community to begin to

> work collaboratively. A community is inherently collaborative. Therefore, social presence must provide the cohesive tension to sustain participation and focus. Although participants must be respected as individuals, they must also feel a sense of responsibility and commitment to the community of inquiry. Open communication establishes a community of inquiry, but social cohesion sustains it." (2008 p. 19-20)

Besides social presence, cognitive presence is required for higher levels of learning, purposeful discourse to collaboratively construct, critically reflect, and confirm understanding.

Cognitive Presence

Cognitive presence is inquiry process in essence. Inquiry includes the integration of reflective and interactive processes. Cognitive presence maps the cyclical inquiry pattern of learning from experience through reflection and conceptualization to action and on to further experience. This is defined by the Practical Inquiry Model (Figure 2). This model has two dimensions and four phases. The vertical axis defines the deliberation–action dimension. This dimension represents the repetitive nature of inquiry as representing both constructive and collaborative activities. The horizontal axis represents the perception-conception dimension. This process constructs meaning from experience. Although the dimensions are abstracted processes, the phases of inquiry resemble more closely the educational experience. The first phase is the triggering event, whereby an issue or problem is identified and defined. The second phase is the exploration of the problem and the gathering and refinement of relevant information. In the third phase, participants begin to reconcile and make sense of the information. Solutions will be hypothesized and debated. In the final phase, the preferred solution is applied and tested directly or vicariously. It may trigger another cycle of inquiry if the solution is not satisfactory. Cognitive presence is a recursive process that

encompasses states of puzzlement, information exchange, connection of ideas, creation of concepts, and the testing of the viability of solutions, but not necessarily in a linear order. (Garrison, 2008)

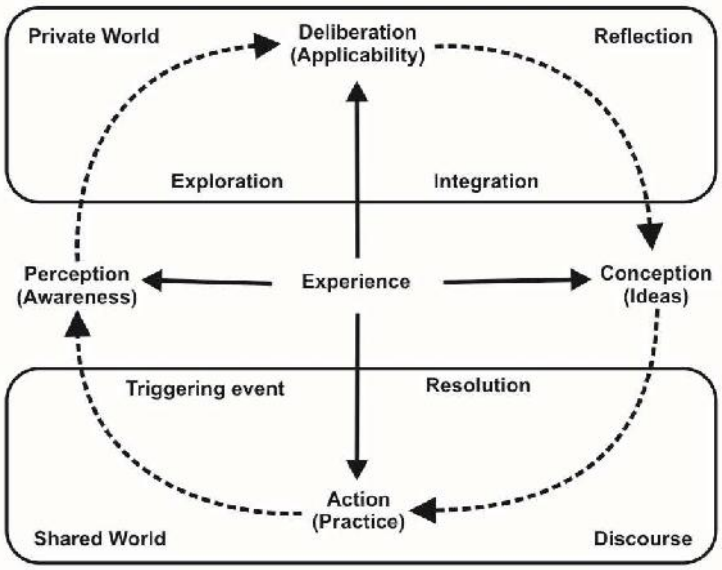

Figure 2: The practical inquiry model

Teaching Presence

Teaching presence is essential for creating and sustaining a community of inquiry. It provides the design, facilitation, and direction for a worthwhile educational experience. It ensures that the community of Inquiry is productive. Teaching presence establishes the curriculum, approaches, and methods; it also moderates, guides, and focuses discourse and tasks. It is the means by which to bring together social and cognitive presence in an effective and efficient manner. From an online teaching effectiveness perspective, Conrad (2005) reports in her research that students stated simply that ``Good instructors created community, poor instructors didn't'' (p. 12). She also states that opportunity for face-to-face experiences can enhance connectedness and satisfaction. Similarly, Garrison and Cleveland-Innes (2005) found

that students value their time and expect structure and leadership. Arbaugh (2007) found teaching presence to be a strong predictor of perceived learning and satisfaction with the delivery medium. Finally, Dixon, Crooks, and Henry (2006) found that leadership was linked to student success. Students clearly attribute a successful learning experience with teaching presence. The unifying force of teaching presence is essential to create and sustain a community of inquiry in a blended environment when students are shifting between direct and mediated communication.

Blended learning is about fully engaging students in the educational process. It provides students with a highly interactive succession of learning experiences that lead to the resolution of an issue or problem. The provision of teaching presence is challenged to shape cognitive and metacognitive processes and learning. Student awareness of the inquiry process is crucial to complete the inquiry cycle and to prevent stalling in the early phases. Metacognitive awareness must be a goal of higher education for students to monitor and manage their learning. Metacognition is the regulation of cognition, which includes self-appraisal (assessing what needs to be done) and self-management (successfully carrying out the learning task). Engaging in a higher-order learning experience requires that students have some metacognitive understanding of the inquiry process if students are to learn how to learn.

Evaluation of Learning

Garrison and Cleveland-Innes (2005) states that higher educational outcomes are very difficult to define and measure. They say that outcomes change as students engage in the educational process and activities are modified. Garrison: (2005) quotes Garrison and Cleveland-Innes quotes Burbules (2004) as, "Outcomes are constituted and reconstituted in active processes of inquiry, not taken as static endpoints" (p. 7). Unfortunately, an obsession with educational outcomes has created a focus on assimilating measurable, although trivial, information. Unintended learning

outcomes can be most educational. True inquiry is exploratory and often unpredictable. Burbules (2004) goes on to say that the ``question of educational quality should be sought...in the reflexively critical and liberating activities of the classroom itself'' (p. 9). For this reason, practical inquiry is very much process oriented.

Structuring a Blended Course

The first objective of the study was to elaboration of framework for planning and evaluation of a blended learning course. Implementing a blended course in Indian condition has a number of challenges. The foremost of them is the rigidity of timing and restrictions of space. The educational institutions follows a timetable that is designed for lecture method of teaching. It requires the students to be present at a confined place. To change the orientation of academic institutions towards a learner centric practices is a strenuous task. It can effectively achieved only by the collaborative and consistent efforts of all the stakeholders. At a higher education institution especially with the B.Ed. students the following challenges are generally experienced:

- Most of the students are habituated to a passive mode of receiving information in the classroom.
- There approach to the syllabus is not to gain a mastery over content/skills but to pick and choose the least amount of content that have higher relevance for the examination.
- Examinations do not assist in learning, they have become the ``aims'' of learning.
- Often, the best performers of the examination are those who have honed the skill of manipulating with the system.
- Many of the stakeholders including some teachers are apprehensive of their effectiveness.

These conditions dissuade the students from following an intensive learning path that a student centric learning system would demand. In face of these challenges a course has to be developed.

Components of Blended Learning

The blended courses developed by the researcher is distributed over two modes of communication: Online and face-to-face. The online contents were delivered through a Moodle website: www.glocaledu.org/elearning. For the face-to-face mode the regular class time was used. This was conceived as an experimental mode of teaching. The regular class period allotted to the researcher and the activity periods were used for the blended teaching.

Distribution of Content

Generally, a broad discussion of the topic was given by the researcher and the students were asked to study and learn contents in detail on the portal. After learning the contents a discussion session was organised during the activity periods on specific topics either raised by the students or suggested by the researcher. Thus, the requirements of Teaching presence, cognitive presence and social presence are met.

Evaluation of learning

The researcher believed in the differentiation between the evaluation of the learner and evaluation of the learning. The first of them is to categorise the learners into relatively rigid group like beginner or intermediate or advanced. Whereas, the second one is flexible to allow a learner to be in different categories for different lessons/activities at the same time. Evaluation of the students are done at the three stages:

1. Pre-course evaluation
2. During the learning
3. After the learning

For pre-course evaluation Learning and Study Strategies Inventory (LASSI), third edition and Metacognitive Awareness Inventory (MAI) were used. These two tools are used for similar purpose. Developed by MAI is a reliable test for metacognition awareness of the older students developed by Schraw and Dennison (1994).

LASSI (3rd Edition) is a ``10-scale, 60-item assessment of students' awareness about and use of learning and study strategies related to skill, will and self-regulation components of strategic learning.'' It is Developed by Claire Ellen Weinstein, David R. Palmer and Taylor W. Acee. This tool ``focuses on covert and overt thoughts, behaviors, attitudes, motivations and beliefs that relate to successful learning in post-secondary educational and training settings.'' The tool makers have argued that these thoughts, behaviours, attitudes, motivations and beliefs can be altered through educational interventions.

The purpose of the tool is both diagnostic and prescriptive. It

"provides standardized scores (percentile score equivalents) and national norms for ten different scales. There is no total score reported because this is a diagnostic instrument. It provides students with a diagnosis of their strengths and weaknesses, compared to other college students, in the areas covered by the ten scales; it is prescriptive in that it provides feedback to about areas where students may be weak and need to improve their knowledge, skills, attitudes, motivations and beliefs." (Weinstein, Palmer, & Acee, 2016).

During the study, the Moodle course-ware had questions for self evaluation. At the end of the course, a summative evaluation was conducted.

Comparison of Achievements

The second objective was to compare the achievement of students in blended mode and face-to-face mode of teaching. The implementation of the blended course was designed to compare the results. A research design was implemented to differentiate between the achievements and impact.

Research Design

An experimental design was devised for the study. The courses were divided into different mode of presentation. The same group of students studied through both modes. The face-to-face mode was

used as a control group and the blended mode was used as experimental group. The content were equalised by their levels of difficulty.

Population and Sample

The students of the Department of Education, Patna Women's College studying in the academic year 2016-17 are the population of the study. For the present study all the students who were within the range of in the z-scores of the the different scales of LASSI and MAI were selected. The other condition was that the students have to spent a stipulated number of hours for online content. The data of 65 students from the second year were used for this study.

Tool of Evaluation

The effect was seen by an achievement test that contained items devised on the basis of four levels of learning:

- knowledge level
- understanding level
- application level
- creation level

For analytical purpose the questions were categorised as two categories:

1. Lower Level acquisition: This included the knowledge level skill
2. Higher Level acquisition: This included understanding level, application level, and creation level

The multiple Choice (MCQ) and short answer type items were used for evaluation. For a genuine evaluation, the students had to mark their level of confidence for each of the answers. They were given three times high mark for the write answer with full confidence, but they had to loose 6 times of the marks for a wrong answer with full confidence. This was helpful in reducing the guessing of answers by

the students.

Reliability and Validity of the Tool

For the validity of the tool, it was shown to two experts. One subject expert of Education discipline and another expert of language. For reliability of the results a Cronbach Alpha test was used. The Alpha score was 0.79.

Conditions of Administration of Tools

The MCQ were administered through the Moodle website. The short answer questions were administered in the classroom.

Tool for Analysis of Data

The difference between the results were analysed with a paired t-test with the help of R-Software.

Results and Discussion

Paired sampled t-tests were conducted on the results of lower skill, higher skill and Total. The results of the t-test is be summarised in the Table 2.

Table 2: Results of t-Tests

Level	df	p-value	t-value	difference	Confidence Int.	Cohen-d
LowerLevel	64	0.03	3.0665	0.892	0.311 1.474	0.396
HigherLevel	64	0.01	15.270	3.950	3.440 4.470	1.001
Total	64	0.01	11.520	4.846	4.004 5.688	0.897

Thus, it can be seen that the blended learning had higher influence on the higher level learning of application of acquired knowledge and creative expression of the knowledge in new form. Overall, it could not achieve the magical effect of 2 sigma. As it can be observed in the Table 2 above the higher skill learning has improved by 1

sigma.

Many scholars have noted that blended learning in itself is not a magic bullet. If the system is conducive and oriented towards students centric teaching, it can work in highly efficient way. In other conditions also, it can give results, but it is difficult to keep the students stick to the assigned set of works.

Conclusion and Suggestion for Further Study

The Community of Inquiry is an effective framework for designing a blended learning course. It provides a structure for empirical evaluation of the blended learning course. It categories the whole activities in three categories named as social presence, cognitive presence and teaching presence. Social presence holds the idea that the learning is a socially mediated individual process. It provides the environment for cognitive presence which is the process of inquiry by the students. Finally the teaching presence is needed for effective coordination of the whole process. The implementation of blended learning is a challenging task. If implemented in an effective way it can bring higher results of learning. As the results of this study showed that it influenced the higher level learning. But, a more deeper integration of learner centric education is needed for the success.

For further inquiry, a deeper study based on qualitative data will be useful for exploring the academic culture of students and the way they are interacting with the blended system. This will yield a number of new facts regarding the challenges to be meted out for a successful implementation of blended learning environment.

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●●●

A STUDY ON RIGHT TO EDUCATION ACT 2009 WITH REFERENCE TO UNIVERSALIZATION OF ELEMENTARY EDUCATION (UEE) AND SARBA SIKSHA ABHIYAN (SSA) IN WEST BENGAL

Dr.Kalpataru Mondal & Shri Milan Kumar Saha

Abstract

Right to Education is a futuristic perspective. Promoting universal education is indeed an effective tool to prevent human right violations, especially for children belonging to the poor, illiterate and vulnerable sections of the community everywhere in the world. Teacher is the future builder of a nation in the impressionistic age. Our society is the mix structure of caste, class, religion etc. Teacher is the best motivator and plays the role of good guide in removing all these problems. Teacher can implement government policies in a better way to achieve educational goals. If India has to grow into a developed nation, it must put its 'house in order' in the form of high class education in primary, secondary, vocational and higher education. So we can say that the problems are solvable and the ways of doing are scalable. That is why awareness about right to education among prospective teachers is becoming the demand of the society as demand changes according to the needs of the time. The awareness among prospective teachers help the country to develop in a more creative and efficient manner for the betterment of the society. Data collected till now does not emphasis much on educational backwardness and caste problems. So this research helps in indicating that why quality of education is more important and why the prospective teacher have to be aware about the basic rights of education, so that in unpredictable future may be they are able to achieve some of the target. It helps us in knowing not only about the quantity of awareness but also about the quality of knowledge provided in schools.

Key Words: Sarva Siksha Abhiyan, SSA, RTE, UEE, Elementary Education West Bengal.

INTRODUCTION AND SIGNIFICANCE OF THE STUDY:

> "The aim of an educational system is the same in average as in every society, where such a system can exist. It is to improve man as man".....
>
> ♦ **Robert Hutchins**

A teacher unaware of Right to Education Act 2009 cannot be part it's successful implementation. So we should create awareness among the primary school teachers towards Right to Education Act 2009. Awareness is also important indicator that how one can expect teachers to behave in future situations. So it is very important and essential to assess the awareness of primary school teacher towards Right to Education Act 2009.

In this context Researchers have taken significance as follows:

- The present study has helped to know the awareness of teacher of elementary Schools towards the RTE Act, 2009 in the district of Dakshin Dinajpur, West Bengal.
- To conduct this study the present researchers have constructed one Awareness Questionnaire for Teachers which will be very helpful for other researchers to conduct future research in the field of Right to Education Act (2009).
- The findings related to awareness of teachers will be helpful for the Government and Policy Makers to take some important steps to modify the policies and ideas of Right to Education Act, 2009 for its successful implementation in school education in India.
- The findings of the present study will also make awareness of the State and Central Government both regarding the Right to Education Act (2009).
- This study found out an in-depth quantitative case study to evaluate the effectiveness of the implementation of the RTE,

Act. 2009 in West Bengal.

- The study will help to understand the discrepancies between what is laid down by the law and its actual implementation in the schools in West Bengal.
- This study will find out strategic plans of action prepared for providing Universal Elementary Education (UEE) and Sarba Siksha Abhiyan (SSA) to implement RTE, Act 2009.
- This study found out the teacher awareness of UEE and SSA and to take rectifying measures.
- The study will help the teachers to build up positive awareness about the RTE Act 2009.
- It will help to increase the standard of education in Dakshin Dinajpur district, Right to Education Act is more essential for the betterment of education of a nation.
- This study will help the teacher to emphasis on those influential factors which are positive for the teacher's positive attitude about the RTE Act 2009.
- This study has helped the teacher to emphasis on those influential determiners which help the teacher's good awareness attitude about the RTE Act 2009.
- The study will be relevant to the field of higher education.
- This study will grow more interest among the teachers towards RTE Act 2009.
- Further this study will help us to understand the significant difference of awareness of RTE Act 2009 among the male and female primary school teachers.

❖ PROGRESS OF LITERACY IN INDIA AND WEST BENGAL:

- Access to elementary education has increased manifold over the years since independence. In any case the goal for EFA has remained elusive though literacy rates have increased steadily over the years. The growth of literacy and the

absolute number of illiterates in India and West Bengal from independence is given in the table below (figures are in lakhs):

❖ **Table 1**: Progress of literacy & Absolute no of Illiterates in India & West Bengal.

India					West Bengal			
Year	Liter Rate (%)	No of persons		Increase In no of Illiterates	Literacy Rates (%)			Increase In no of Illiterates
		Literate	Illiterate			Literate	Illiterate	
1951	16.7	58.9	294.2	+32.4	24.95			
1961	24.0	102.6	325.5	+31.3	34.46			
1971	29.5	157.3	376.2	+50.7	38.86			
1981	36.2	241.0	424.3*	+48.1	46.32			
1991	52.2	349.76	320.41	+18.3*	57.70	32.6	23.9	
2001	64.8	560.7	304.15	-16.26	68.64	47.19	21.56	- 2.34
2011	74.0	778.5	272.95	-31.20	77.10	62.6	18.6	- 2.96

Source: Census of India 2011

♦ From the year 1991 children below 7 years instead of below 5 years are being excluded for calculating literacy. During 1981 illiterate population in the age group 7 years above was 302.06 million. Considering that, number of illiterates in the country increased by 18.3 million in 1991 as compared to 1981. There is wide variation across states in literacy rates. The state wise literacy rates are shown below. Literacy rate of West Bengal during 2011 was 77.1% compared to 93.9% for Kerala. However, total number of illiterates in the state started declining from the year 2001.

♦ It will appear from the table below that West Bengal ranks quite low among all the states and there is need to intensifying drive to achieve UEE. In this context it is necessary to understand the social and economic processes which are creating barriers in UEE even for those who are currently in the school going age.

❖ **Table: 2:** Number of literates and literacy rate by Sex and Residence – India/ State/ Union Territory: Census 2011 (provisional)

State/ UT	India/ State/ Union Territory	Literates (Persons)			Literacy Rate (Persons)		
		Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7	8
	INDIA	**778,454,120**	**493,020,878**	**285,433,242**	**74.04**	**68.91**	**84.98**
01	JAMMU & KASHMIR	7,245,053	4,898,008	2,347,045	68.74	64.97	78.19
02	HIMACHAL PRADESH	5,104,106	4,533,373	571,133	83.78	82.91	91.39
03	PUNJAB	18,988,611	11,195,395	7,793,216	76.68	72.45	83.70
04	UTTARAKHAND	6,997,433	4,670,901	2,326,532	79.63	77.11	85.20
05	HARYANA	16,904,324	10,393,591	6,510,733	76.64	72.74	83.83
06	NCT OF DELHI*	12,763,352	300,539	12,462,813	86.34	82.67	86.43
07	RAJASTHAN	38,970,500	26,945,543	12,024,957	67.06	62.34	80.73
08	UTTAR PRADESH	118,423,805	88,396,557	30,027,248	69.72	67.55	77.01
09	BIHAR	54,390,254	46,478,818	7,911,436	63.82	61.83	78.75
10	ARUNACHAL PRADESH	789,943	557,105	232,838	66.95	61.59	84.57
11	NAGALAND	1,357,579	904,799	452,780	80.11	75.86	90.21
12	MANIPUR	1,891,196	1,268,881	622,315	79.85	77.15	85.98
13	MIZORAM	847,592	368,672	478,920	91.58	84.31	98.10
14	TRIPURA	2,831,742	2,016,022	815,720	87.75	85.58	93.61
15	MEGHALAYA	1,817,761	1,345,805	471,956	75.48	71.15	91.33
16	ASSAM	19,507,017	15,988,262	3,518,755	73.18	70.44	88.88
17	WEST BENGAL	62,614,556	39,898,187	22,716,369	77.08	72.97	85.54
18	JHARKHAND	18,753,660	12,973,765	5,779,895	67.63	62.40	83.30
19	ORISSA	27,112,376	21,669,993	5,442,383	73.45	70.78	86.45
20	CHHATTISGARH	15,598,314	11,173,237	4,425,077	71.04	66.76	84.78
21	MADHYA PRADESH	43,827,193	28,991,005	14,836,188	70.63	65.29	84.09
22	GUJARAT	41,948,677	21,896,928	20,051,749	79.31	73.00	87.58
23	MAHARASHTRA	82,512,225	41,703,097	40,809,128	82.91	77.09	89.84
24	ANDHRA PRADESH	51,438,510	30,850,648	20,587,862	67.66	61.14	80.54
25	KARNATAKA	41,029,323	22,860,653	18,168,670	75.60	68.86	86.21
26	KERALA	28,234,227	14,595,727	13,638,500	93.91	92.92	94.99
27	TAMIL NADU	52,413,116	24,752,447	27,660,669	80.33	73.80	87.24
28	A & N ISLANDS*	293,695	183,863	109,832	86.27	84.39	89.60

Source: Rural Urban Distribution of Population - India, Census of India 2011

There is also wide inter-district variation in literacy within the state as shown below.

Table: 3: Inter-district literacy status during 2011:

District Code	State/District	Literates (Persons) 2011			Literates (Rate) 2011		
		Total	Rural	Urban	Total	Rural	Urban
	West Bengal	62614556	39898187	22716369	77.08	72.97	85.54
01	Darijiling	1328218	752287	575931	79.92	74.97	87.48
02	Jalpaiguri	2527018	1752822	774196	73.79	70.55	82.33
03	Koch Bihar	1879984	1643723	236261	75.49	73.87	89.01
04	Uttar Dinajpur	1521933	1262730	259203	60.13	57.15	80.67
05	Dakshin dinajpur	1102355	906370	195985	73.86	71.18	89.42
06	Maldah	2136898	1771627	365271	62.71	60.42	76.82
07	Murshidabad	4134584	3254627	879957	67.53	66.27	72.65
08	Birbhum	2175923	1846090	329833	70.90	69.25	81.74
09	Barddhaman	5350197	3048014	2302183	77.15	73.39	82.75
10	Nadia	3524073	2386942	1137131	75.58	71.50	85.88
11	North Twenty Four Parganas	7798722	2973608	4825114	84.95	78.11	89.80
12	Hugli	4140487	2421002	1719485	82.55	79.22	87.75
13	Bankura	2264013	2028958	235055	70.95	69.60	85.23
14	Puruliya	1656940	1404686	252254	65.38	63.75	76.24
15	Haora	3642617	1277113	2365504	83.85	80.82	85.58
16	Kolkata	3648210	NA	3648210	87.14	-	87.14
17	South Twenty Four Parganas	5639112	4065797	1573315	78.57	76.78	83.62
18	Paschim medinipur	4173522	3606955	566567	79.04	77.92	87.01
19	Purba Medinipur	3969750	3494836	474914	87.66	87.47	89.14

Source: Census of India 2011

❖ RTE ACT AND PREPAREDNESS IN WEST BENGAL:

The Government of West Bengal in August 2010, through an official order (No. 423-ES/O/P&B/10M-26/10), engaged the Indian Institute of Management Calcutta (IIMC) to conduct a study on Restructuring of School Education System in West Bengal. The

study encompassed pre-school system to high school education. The main focus of the study has on three aspects of school education- (a) the implications of the Right to Education Act (RTE) vis-à-vis SSA; (b) the administrative set up and governance structure of school education; and (c) the delivery mechanism and in-class transactions in the schools.

The Act necessitates several steps to be taken by every state government within the time frame mentioned in the act. Sometimes it needs infrastructural development and restructuring of the educational system, such as-

- Keeping in conformity with the provision of the Right of children to free and compulsory education, 2009 the formulation of state RTE Rules is under process.
- Specification of limits of neighborhood for Primary and Upper Primary schools are to be done.
- Teacher recruitment becomes necessary to follow the PTR as per guideline. Vacancies should not exceed 10% of sanctioned strength and sanctioned strength should be as per enrolment.
- All teachers must have the minimum qualifications as per NCTE notifications.
- Teachers should not be engaged in non-academic activities (except census, election, disaster management); also not be involved in private tuition.
- EGS centers are to be closed gradually and formal education is to be provided only through recognized schools eventually.
- Every primary school is to be provided with i) Library, ii) games equipments and play materials.
- All unaided schools are to be registered at DI Office.
- All unaided schools to be instructed to reserve 25% seats for children of weaker section/dis-advantaged group from neighborhood.

❖ RIGHT OF CHILDREN TO FREE AND COMPULSORY EDUCATION RULE, 2010 IN WEST BENGAL:

In exercise of the power conferred by section 38 of the Right of Children to Free and Compulsory Education Act, 2009, the Government of West Bengal formulated and implemented " The Right of Children to Free and Compulsory Education Rule,2010" . It came into force on the date of publication in the West Bengal Gazette i.e. 27th September, 2010. The rule consists of eight parts.

Part. I of the rule is preliminary and states about the definitions of various terms used in the said rule. Part II of the rule says about School Management Committee. Part III of the rules discusses about Right of Children to Free and Compulsory Education. Part IV says about duties and responsibilities of government, local authority etc. Part V deals with responsibilities of schools and teachers. Part VI says about teachers. Part VII discusses about curriculum and completion of elementary education. Part VIII deals with protection of right of children.

In fact, the spirit of the Government of West Bengal rule as regards to free elementary education is same like that of the Right to Education Act, 2009. It includes issues in relation to implementation of rules in local conditions.

STATEMENT OF THE PROBLEM:

A Study on Right to Education Act 2009 with Reference to Universalization of Elementary Education (UEE) and Sarba Siksha Abhiyan (SSA) in West Bengal.

OBJECTIVES:

The objectives of the study are-

1. To study the level of awareness among elementary school teachers towards RTE, Act.2009.
2. To find out an in-depth quantitative case study to evaluate the effectiveness of the implementation of the RTE, Act. 2009 in West Bengal.

3. To understand the discrepancies between what is laid down by the law and its actual implementation in the schools in West Bengal.
4. To find out the status of implementation of various provisions of RTE Act 2009 in West Bengal.
5. To find out concerns and challenges for implementation of RTE, Act. 2009 in West Bengal.
6. To make recommendations to the State for the effective implementation of RTE, Act.2009.
7. To find out strategic plans of action prepared for providing Universal Elementary Education (UEE) and Sarba Siksha Abhiyan (SSA) to implement RTE, Act 2009.
8. To find out the teacher awareness of UEE and SSA and to take rectifying measures.
9. To study the difference between the level of awareness of male and female teachers towards RTE, Act.2009.
10. To study the difference between the level of awareness of Government school teachers and private school teachers towards RTE, Act.2009.
11. To study the difference between the level of awareness of rural and urban teachers towards RTE, Act.2009.
12. To study the level of awareness of school teachers towards RTE, Act.2009 vis-à-vis their teaching experience.
13. To study the educational implication of this analysis on the teachers in a better and progressive way in future.
14. To study whether the of male and female primary school teachers "having high and low levels of awareness towards Right to Education Act 2009 differ significantly.
15. To study whether the rural and urban primary school teachers "having high and low levels of awareness towards Right to Education Act2009 differ significantly.
16. To study whether the government and private primary school teachers "having High and Low levels of awareness

towards Right to Education Act 2009 differ significantly.

17. To study whether the trained and un trained primary school teachers "having high and low levels of awareness towards Right to Education Act 2009 differ significantly.

HYPOTHESES:

H_{01}: There is no significant difference between the levels of awareness of male and female elementary teachers towards RTE, Act. 2009.

H_{02}: There is no significant difference between the levels of awareness of urban and rural elementary teachers towards RTE, Act. 2009.

H_{03}: There is no significant difference between the levels of awareness of urban male and rural male elementary teachers towards RTE, Act. 2009.

H_{04}: There is no significant difference between the levels of awareness of rural male and rural female elementary teachers towards RTE, Act. 2009.

H_{05}: There is no significant difference between the levels of awareness of urban male and urban female elementary teachers towards RTE, Act. 2009.

H_{06}: There is no significant difference between the levels of awareness of urban female and rural female elementary teachers towards RTE, Act. 2009.

H_{07}: There is no significant difference between the levels of awareness of urban male and rural female elementary teachers towards RTE, Act. 2009.

H_{08}: There is no significant difference between the levels of awareness of urban female and rural male elementary teachers towards RTE, Act. 2009.

H_{09}: There is no significant difference between the levels of awareness of Government school teachers and Private school teachers towards RTE, Act. 2009.

H_{010}: There is no significant difference between the levels of awareness of Government school male teachers and Government school female teachers towards RTE, Act. 2009.

H_{011}: There is no significant difference between the levels of awareness of Government school male teachers and Private school male teachers towards RTE, Act. 2009.

H_{012}: There is no significant difference between the levels of awareness of Government school female teachers and Private school female teachers towards RTE, Act. 2009.

H_{013}: There is no significant difference between the levels of awareness of Private school male teachers and Private school female teachers towards RTE, Act. 2009.

H_{014}: There is no significant difference between the levels of awareness of Government school male teachers and Private school female teachers towards RTE, Act. 2009.

H_{015}: There is no significant difference between the levels of awareness of Government school female teachers and Private school male teachers towards RTE, Act. 2009.

H_{016}: There is no significant difference between the levels of awareness of experience trained teachers and experience non trained teachers towards RTE, Act. 2009.

H_{017}: There is no significant difference between the levels of awareness of experience trained male teachers and experience trained female teachers towards RTE, Act. 2009.

H_{018}: There is no significant difference between the levels of awareness of experience non trained male teachers and experience non trained female teachers towards RTE, Act. 2009.

H_{019}: There is no significant difference between the levels of awareness of experience trained male teachers and experience non trained male teachers towards RTE, Act. 2009.

H_{020}: There is no significant difference between the levels of

awareness of experience trained male teachers and experience non trained female teachers towards RTE, Act. 2009.

H_{021}: There is no significant difference between the levels of awareness of experience trained female teachers and experience non trained female teachers towards RTE, Act. 2009.

H_{022}: There is no significant difference between the levels of awareness of experience trained female teachers and experience non trained male teachers towards RTE, Act. 2009.

POPULATION:

The population of present study consists the elementary school teachers of Dakshin Dinajpur District, West Bengal. The whole of Dakshin Dinajpur district has been divided into two areas namely the Rural and Urban areas. The rural areas comprise on twelve Blocks namely Balurghat, Gangarampur, Hili, Kumarganj, Kushmondi, Bangshihari, Harirampur and Tapanand two urban areas namely Balurghat Municipal Corporation and Gangarampur Municipal Board.

SAMPLE:

The sample is 120 in size. Simple random sampling technique was used for the selection of the sample. The sample distribution of 120 Primary teachers is shown in the table below

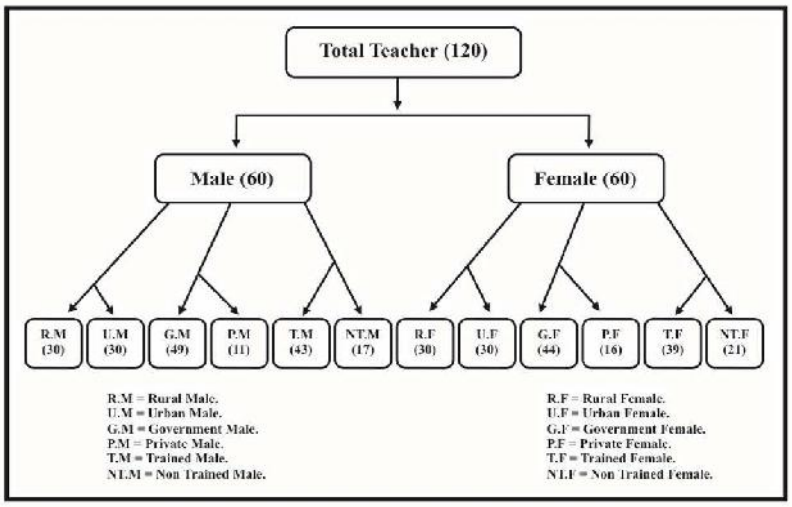

Figure: 1 (Sample Profile)

INSTRUMENTATION:

Researcher designed a tool for collecting the data for studying the Elementary School Teachers awareness towards Right to Education Act. 2009.

TOOL OF THE STUDY:

Any type of data concerning the study of surveys type research can be collected by using different type of tools. It is very necessary that right type of tools should be used for this purpose. The tools must be so devised that the data obtained are reliable, valid and sufficient. The purpose of the present study has to know the awareness of elementary school teachers about Right to Education Act, 2009. The researcher developed a self- made questionnaire comprising different features of RTE Act. There was no readymade tool available. It contained 75 multiple choice items related to RTE Awareness. The test was administered and the responses made by Elementary Teachers to test the RTE awareness was scored, tabulated and analyzed using appropriate statistical techniques. The Validity and Reliability of the Questionnaire was checked before collecting of data for study.

RESPONSE MODE:

Each Item has three alternatives i.e. Agree, More or Less Agree and Disagree. The subject has to put a tick mark according to his/her knowledge. Subject has no option to leave any item unanswered.

PROCEDURE IN DATA COLLECTION:

Researchers have gone to the primary schools and collected data from teachers. As all necessary instructions have given in the scale, no difficulty was felt by subjects for responding to the awareness scale. Researchers clarified the problems, if any, so during the administration of filling of the questionnaire.

ANALYSIS AND INTERPRETATION OF DATA:

Keeping in view the objectives of the study and their corresponding hypothesis, the data has been statistically processed using appropriate design and technique. The data is analyzed using inferential statistical method. Data collected through questionnaire sheets has been tabulated, analyzed using mix methods, i.e., qualitative and quantitative, and interpreted to present in a succinct format. Data collected through general information has been of a qualitative nature; therefore, it required enormous time and effort to go through each questionnaire and select specific verbatim for presentation in the report.

An awareness profile of the respondents is drawn at the first section of this chapter. In the second section of this chapter, data on awareness of Right to Education Act 2009 among the primary school teacher is analyzed through 75 questions as a part of a questionnaire made with them.

Each item regarding the Right to Education Act 2009 is related with various categorical variables like gender, locality, type of management and educational qualification. Each question regarding the Right to Education Act is analyzed using percentages of their occurrence.

In data analysis SPSS 11.0 statistical program is used. To carry out this study, one way analysis of variance and t- test have been used to identify the difference between the groups; the frequencies and the percentages of the statements were calculated as well.

MAJOR FINDINGS OF THE STUDY:

The major findings of this study are reported here.

- **H_{01} :** The analysis reveals that Mean and S.D values of male and female teachers is 76.21, 74.12 and 10.47, 14.73 respectively. Calculated t-value is 4.01 which is significant at 0.01 level. Hence the calculated t-value is more than the table t-value. Hence Null Hypothesis is rejected and alternative hypothesis accepted. It means that male and female elementary teachers have different awareness. It is therefore, concluded that there is significant difference in RTE Act, 2009 awareness among male and female elementary teachers.
- **H_{02} :** The analysis reveals that Mean and S.D values of urban and rural teachers is 77.86, 72.35 and 14.77, 12.06 respectively. Calculated t-value is 0.20 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis rejected. It means that urban and rural elementary teachers have equal awareness. It is therefore, concluded that there is no significant difference in RTE Act, 2009 awareness among urban and rural elementary teachers.
- **H_{03} :** The analysis of the data reveals that Mean and S.D values of urban male and rural male teachers is 72.76, 74.11 and 10.32, 11.71 respectively. Calculated t-value is 2.62 which is significant at 0.01 level. Hence the calculated t-value is more than the table t-value. Hence Null Hypothesis is rejected and alternative hypothesis is accepted. It means that urban male and rural male elementary teachers have

different awareness. It is therefore, concluded that there is significant difference in RTE Act, 2009 awareness among urban male and rural male elementary teachers.

- **H_{04} :** The analysis data reveals that Mean and S.D values of Rural male and Rural female teachers is 74.11, 69.02 and 11.71, 9.35 respectively. Calculated t-value is 0.52 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis is rejected. It means that rural male and rural female elementary teachers have equal awareness. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among rural male and rural female elementary teachers.
- **H_{05} :** The analysis results reveals that Mean and S.D values of Urban male and Urban female teachers is 72.76, 73.53 and 10.32, 12.02 respectively. Calculated t-value is 1.32 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis accepted. It means that urban male and urban female elementary teachers have almost equal awareness. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among Urban Male and Urban Female Elementary Teachers.
- **H_{06} :** The analysis of the data reveals that Mean and S.D values of Urban female and Rural female teachers is 73.53, 69.02 and 12.02, 9.35 respectively. Calculated t-value is 1.07 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis is rejected. It means that urban female and rural female elementary teachers have no different awareness on RTE 2009. It is therefore, concluded that there is no significant difference in RTE Act, 2009 awareness among urban female and rural female elementary teachers.

- H_{07}: The analysis of the data reveals that Mean and S.D values of urban male and Rural female teachers is 72.76, 69.02 and 10.32, 9.35 respectively. Calculated t-value is 1.35 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis is accepted. It means that urban male and rural female elementary teachers have no different awareness on RTE, 2009. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among urban Male and Rural Female Elementary Teachers.
- H_{08} : The data analysis reveals that Mean and S.D values of urban female and rural male teachers is 73.53, 74.11and 12.02, 11.71 respectively. Calculated t-value is 0.67 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis rejected. It means that urban female and rural male elementary teachers have equal awareness. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among urban female and rural male elementary teachers.
- H_{09} : The observation of analysis reveals that Mean and S.D values of Government school teachers and Private school teachers is 75.53, 69.21 and 13.89; 12.02 respectively. Calculated t-value is 0.11 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis rejected. It means that Government and Private elementary teachers have equal awareness. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among Government and Private elementary teachers.
- H_{010}: The analysis of data reveals that Mean and S.D values of Government male and Government female teachers is 73.82,

71.36 and 12.00, 11.16 respectively. Calculated t-value is 1.51 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis rejected. It means that Government male and Government female elementary Teachers have same awareness on RTE, 2009. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among Government male and Government female elementary teachers.

- $\mathbf{H_{011}}$: The analysis reveals that Mean and S.D values of Government male and Private male teachers is 73.82, 70.52 and 12.00, 11.92 respectively. Calculated t-value is 0.91 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothes is rejected. It means that Government male and Private male elementary teachers have equal awareness. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among Government male and Private male elementary teachers.
- $\mathbf{H_{012}}$: The analysis reveals that Mean and S.D values of Government female and Private female teachers is 71.36, 69.07 and 11.16, 10.21 respectively. Calculated t-value is 2.30 which is significant at 0.05 level. Hence the calculated t-value is greater than the table t-value. Hence Null Hypothesis is rejected and alternative hypothesis accepted. It means that Government female and Private female elementary teachers have different awareness. It is therefore, concluded that there is significant difference in RTE Act,2009 awareness among Government female and Private female elementary teachers.
- $\mathbf{H_{013}}$: The analysis reveals that Mean and S.D values of Private male and Private female teachers is 70.52, 69.07 and 11.92, 10.21 respectively. Calculated t-value is 2.13 which is significant at 0.05 level. Hence the calculated t-value is more

than the table t-value. Hence Null Hypothes is in rejected and alternative hypothesis accepted. It means that Private male and Private female elementary teachers have different awareness. It is therefore, concluded that there is significant difference in RTE Act,2009 awareness among Private male and Private female elementary teachers.

- H_{014} : Analysis data reveals that Mean and S.D values of Government male and Private female teachers is 73.82, 69.07 and 12.00, 10.21 respectively. Calculated t-value is 0.81 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothes is accepted and alternative hypothesis rejected. It means that Government male and Private female elementary teachers have equal awareness. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among Government male and Private female elementary teachers.
- H_{015}: The analysis of data reveals that Mean and S.D values of Government female and Private male teachers is 71.36, 70.52 and 11.16, 11.92 respectively. Calculated t-value is 2.16 which is significant at 0.05 level. Hence the calculated t-value is more than the table t-value. Hence Null Hypothesis is rejected and alternative hypothes is in accepted. It means that Government female and Private male elementary teachers have different awareness. It is therefore, concluded that there is significant difference in RTE Act,2009 awareness among Government female and Private male elementary teachers.
- H_{016}: The analysis of data reveals that Mean and S.D values of trained teachers and non trained teachers is 72.19, 68.73 and 13.83, 12.89 respectively. Calculated t-value is 0.34 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothes is in rejected. It means that trained and non trained elementary teachers have equal

awareness. It is therefore, concluded that there is no significant difference in RTE Act, 2009 awareness among trained and non trained elementary teachers.

- H_{017}: The analysis of data reveals that Mean and S.D values of trained male and trained female teachers is 69.18, 71.02 and 9.36, 10.32 respectively. Calculated t-value is 2.06 which is significant at 0.05 level. Hence the calculated t-value is more than the table t-value. Hence Null Hypothesis is rejected and alternative hypothes is in accepted. It means that trained male and trained female elementary teachers have different awareness. It is therefore, concluded that there is significant difference in RTE Act, 2009 awareness among trained male and trained female elementary teachers.
- H_{018} : Analysis of data reveals that Mean and S.D values of non trained male and non trained female teachers is 66.13, 64.82 and 8.41, 8.27 respected. Calculated t-value is 1.91 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis in rejected. It means that non trained male and non trained female elementary teachers have same awareness. It is therefore, concluded that there is no significant difference in RTE Act, 2009 awareness among non trained male and non trained female elementary teachers.
- H_{019}: The analysis of data reveals that Mean and S.D values of trained male and non trained male teachers is 69.18, 66.13 and 9.36, 8.41 respectively. Calculated t-value is 2.03 which is not significant at 0.05 level. Hence the calculated t-value is more than the table t-value. Hence Null Hypothesis is rejected and alternative hypothesis is accepted. It means that trained male and non trained male elementary teachers have different awareness. It is therefore, concluded that there is significant difference in RTE Act,2009 awareness among trained male and non trained male elementary teachers.

- H_{020} : Analysis of data reveals that Mean and S.D values of trained male and non trained female teachers is 69.18, 64.82 and 9.36, 8.27 respectively. Calculated t-value is 1.87 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis rejected. It means that trained male and non trained female elementary teachers have same awareness. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among trained male and non trained female elementary teachers.
- H_{021} : The analysis of data reveals that Mean and S.D values of trained female and non trained female teachers is 71.02, 64.82 and 10.32, 8.27 respectively. Calculated t-value is 1.51 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis rejected. It means that trained female and non trained female elementary teachers have equal awareness. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among trained female and non trained female elementary teachers.
- H_{022} : The analysis of data reveals that Mean and S.D values of trained female and non trained male teachers is 71.02, 66.13 and 10.32, 8.14 respected. Calculated t-value is 1.93 which is not significant at 0.05 level. Hence the calculated t-value is less than the table t-value. Hence Null Hypothesis is accepted and alternative hypothesis rejected. It means that trained female and non trained male elementary teachers have not different awareness. It is therefore, concluded that there is no significant difference in RTE Act,2009 awareness among trained female and non trained male elementary teachers.

EDUCATIONAL IMPLICATION:

Awareness plays a vital role in determining the performance. To

increase or shape proper awareness of primary school teachers, particularly in the case of awareness towards Right to Education Act 2009 in relation on Teacher's Awareness programme can be introduced. More time could be allotted for participating in such programmes. There is a body of research in the area of school facilities and their relationship to student and teacher awareness.

The study revealed that the awareness level on RTE Act of government school teachers is equal to the private school teachers. This shows that there is no urgent need to develop awareness among all the primary school teachers. The managements have to arrange for orientation of the teachers on priority basis.

Though there is awareness of the Act among the teachers, it is just about average which has a scope for improvement. Therefore some more actions have to be taken by the concerned authorities, to improve the level of awareness among the teachers.

Once awareness is created in the teachers of both the Government and the Private schools, Rural and Urban, Male and Female teachers, the implementation of RTE Act will become easier and goals of education will be achieved.

Implications for Researchers:

- The findings of present study will serve as basic data for the research scholars who are conducting research related to RTE Act, 2009.
- The findings of present study will serve as guides to principal, administrators in creating awareness which is very important for implementation of RTE

Implications for Teachers:

- The findings of present study show that male teachers are more aware than female teachers towards RTE. So, the government should organize seminars, in-service teacher training programmes (workshop, refresher course) for female teachers in order to generate awareness.

- The findings of the present study show that there is strong need of teacher training program on right to education act. This can be undertaken through mass awareness programmes as well as ensuring proper understanding by stakeholders responsible for its implementation.

Implications for Educational Planners:

- The finding of the study is very useful for educational planners as the study can serve as basis for planning different programmes for creating awareness among female teachers. Education department should provide more study leaves so that teachers can participate and get more information about RTE by attending awareness programmes. This can be done through mass awareness programmes.

Implications for Parents:

- The RTE Act cannot be properly implemented without the awareness of parents. Orientation programmes for parents and guardians should also be arranged at different levels. When the parents will be aware of their rights, they would avail the services and opportunities provided under RTE act

Implications for Schools:

- School authorities should also organize different orientation programmes, workshops and seminars for giving knowledge of provisions and features of RTE act to teachers. By acquiring the knowledge about RTE the teachers may be made able to contribute towards the fulfilment of the goal of compulsory and free education.

RECOMMENDATIONS:

Government should ensure a proper monitoring committee for better implementation of the Act. The Government should take hard steps to the institutions that are violating the Norms and standard of

the Act, because the deadline has passed for complete implementation of RTE Act, the results are not satisfactory. The Government should make sure that the private schools must ensure 25% reservation for disadvantage group and weaker sections of the society and every school must have a committee to ensure the Norms and Standards of Right to Education Act 2009.

CONCLUSION:

Our country is facing multitude of problems mainly because many citizens are not educated. They are unable to read and write even. In such a situation, they do not get access to much information that is available. Therefore, Right to Education Act was enacted in the parliament for providing free and compulsory elementary education to all children between the ages of four to sixteen who are going to be the responsible citizen of the country in future. Government has enacted and implemented the Act in a right spirit. This is not the responsibility of the government only. Everybody in the country should take this as a challenge and help the government in the successful implementation of the Act across the country. Whenever someone comes across with children who are not enrolled and their parents, he should encourage and propagate the purpose behind the Act and the benefit a child and his family get out of it. Every community member should come out of the shell and voluntarily help in implementing the RTE Act directly or indirectly.

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PRE-SERVICE TEACHER TRAINEES UNDERSTANDING ON THE NATURE OF SCIENCE

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Abstract

This study focuses on the understanding of the pre- service teachers on different aspect of Nature of Science. In Indian context many studies are in demanding condition related to the understanding of NOS. The tool which was used in the present research study is the View of Nature of Science C (VNOS-C) by Abd-El-Khalick and Lederman (2002). As per the prescribed format of the tool 20% of the sample was taken for the follow up interview. Sample consist 60 students of B.Sc B.Ed fourth year and data analysis was done with the help of the scoring rubrics of VNOS C. All the responses of the pre-service teacher trainees were classified on the basis of the different aspects of NOS. The findings indicate that most of the pre-service teachers do not have the adequate understanding of the different aspect of NOS. The results are discussed in the light of earlier findings and implications are drawn for students of science, teachers and teacher educators.

Key Words: NOS, Understanding of science, pre-service teachers, epistemological

INTRODUCTION

According to the Position Paper of National Focus Group on Teaching of Science (p.11-12) humans have always been curious about the world around them. The inquiring and imaginative human mind has responded to the wonder and awe of nature in different ways. How is knowledge generated? What is the so-called scientific method? As with many complex things in life, the scientific method is perhaps more easily discerned than defined. But broadly

speaking, it involves several interconnected steps: observation, looking for regularities and patterns, making hypotheses, devising qualitative or mathematical models, deducing their consequences; verification or falsification of theories through observations and controlled experiments and thus arriving at the principles, theories and laws governing the physical world.

There is no strict order in these various steps. Sometimes, a theory may suggest a new experiment; at other times an experiment may suggest a new theoretical model. Speculation and conjecture also have a place in science, but ultimately, a scientific theory, to be acceptable, must be verified by relevant observations and/or experiments. The laws of science are never viewed as fixed eternal truths. Even the most established and universal laws of science are always regarded as provisional, subject to modification in the light of new observations, experiments and analysis. The methodology of science and its demarcation from other fields continue to be a matter of philosophical debate. Its professed value neutrality and objectivity have been subject to critical sociological analyses. Science is a self-correcting process that produces reliable, objective public knowledge. Scientists are not super-human. Everybody has different experiences, values and biases, and scientists are no exception. Why then should we accept what scientists have to say? The reason is that even though individual scientists are not perfectly objective and they do make mistakes, other scientists will eventually uncover those mistakes. Scientific knowledge is not based on one person's "say-so;" it is based on the collective consensus of many scientists working on the same problem. If we try to say typically about what is science? The most common answer to this question in the literature is: 1) body of knowledge, 2) method, and 3) way of knowing.

NOS typically refer to the epistemology and sociology of science, science as a way of knowing, or the values and beliefs inherent to scientific knowledge and its development (Lederman, 1992). These characterizations nevertheless remain general, and philosophers,

historians, and sociologists of science are quick to disagree on specific issues regarding NOS. Similar to scientific knowledge, conceptions of NOS are tentative and dynamic. These conceptions have changed throughout the development of science and systematic thinking about its nature and workings (Abd-El-Khalick & Lederman, 2000). Moreover, at one point in time and at a certain level of generality, there is a shared wisdom about NOS among philosophers, historians, and sociologists of science (Smith, Lederman, Bell, McComas, & Clough, 1997). Scientific knowledge is tentative; empirical; theory-laden; partly the product of human inference, imagination, and creativity; and socially and culturally embedded. Three additional important aspects are the distinction between observation and inference, the lack of a universal recipe like method for doing science, and the functions of and relationships between scientific theories and laws.

RATIONALE OF THE STUDY

There are many questions that arises like, has anything been lost? Is it really important for students, teachers and the general citizenry to understand NOS? What have we not accomplished because our students do not have good understandings of NOS? What can we make of the obsession with NOS? All these questions were answered many times through several studies but to have a more clear generalization more research is required in this field.

Above arguments are important and noble reasons for why science educators value NOS as an instructional outcome. Students' and teachers' understandings of NOS remain a high priority for science education and science education research. As data of several research emerged, indicating that students did not possess what were considered adequate conceptions of NOS. The logic was simple: a teacher must possess an adequate knowledge of what he/she is attempting to communicate to students. Interestingly, however, the first assessment of teachers' conceptions (Anderson, 1950) was conducted prior to any assessment of students'

conceptions. Fifty-six Minnesota high school teachers, including 58 biology teachers and 55 chemistry teachers, constituted the sample to be surveyed. Teachers were asked to answer a total of eight questions on scientific method, and it was revealed that both groups of teachers possessed serious misconceptions.

In a recent study carried out by Liang et al. (2008), Convenience sampling technique was used and involved 209 preservice elementary teachers who were enrolled at two American universities. The results of the study showed that most of the perservice elementary teachers hold naive conceptions on several NOS aspects including creativity and imagination (%42), scientific theories and laws (%98), and multiple methods of scientific investigations (%33).

So, it is very important for students to have a good understanding of different aspect of NOS and for that it is required to know whether the preservice trainee student teachers' have a sound understanding of NOS or not because in future they will build the pillars for the development of nation and human being.

OBJECTIVE OF THE STUDY

1. To find out the awareness of preservice teacher trainees on the different aspects of Nature of science NOS.

RESEARCH QUESTION

1. Whether preservice teacher trainees have adequate understanding about different aspects of NOS?

METHODOLOGY

This descriptive research is done with the tool View of Nature of Science C (VNOS-C) by Abd-El-Khalick and Lederman, 2002. Sample consisted of 60 students of B.Sc. B.Ed fourth year preservice teacher trainees of Regional Institute of Education, Bhubaneswar. The institute is selected by purposive sampling and the 60 students were incidentally selected as per the available students at the time of

collection of data. The study was delimited to the preservice teacher trainees of Regional Institute of Education (RIE), Bhubaneswar.

DATA ANALYSIS AND INTERPRETATION OF THE STUDY

Data analysis was done with the help of the scoring rubrics of VNOS C. All the responses of the preservice teacher trainees were classified on the basis of the different aspects of NOS.

TABLE1: Views of preservice teacher trainees on the different aspects of NOS

Sl.no	Aspects of NOS	Views of preservice teacher trainees	score
01.	Tentative nature of science	Theory changes but not completely only some modification is done with the advancement of new experiments. Law is universal and once it is given it never changes.	Naïve
02.	Empirical nature of science	Science is a body of knowledge, attitude, and temper. It is strictly depended on the experiments and facts/evidences. It is the study of environment and habits of organism. It is related to realistic world. Science is the study of facts and figures.	Naïve
03.	Inference/ theoretical entities in science	The structure of atom is known by performing many experiments and scientist had seen the structure inside microscope. With the many trial and error methods they finally concluded the structure of atom. Species are the categorization of organisms made by the scientist. Scientist had taken account many factors for this like interbreeding, same habitat, physical structure, habits, etc.	Naïve
04.	Methods of science	Science is the subject of facts. It is gained by observation and it is the acquisition of information. Experiments are very important for the development of scientific knowledge. Experiment is an activity that can be visualized practically. It follows a well defined stepwise procedure to get a result. Experiments are the tool to prove the theory.	Naïve
05.	Subjective/ Theory-laden nature of scientific knowledge	Scientific method of inquiry is observation, data collection, drawing inference, experiments, conclusion and at last findings. Scientist draw different conclusion from same set of data because of individual differences. Scientist may have different conclusion from same set of data but the reason is unknown to them. A person may look at cup as half filled and at the same time as half empty. It all depends on particular persons view and inference regarding a phenomenon.	Transit--ional
06.	Creative/Imaginative nature of scientific knowledge	Scientist uses creativity and imagination while doing experiments and investigations. Mostly they use creativity and imagination at the time of planning and data collection.	Transit--ional
07.	Theory & Laws	Theory changes and it is broader concept and laws are universal and narrow. Theory is the result gained by the scientist after experiment and law is proved to be true in every situation.	Naïve
08.	Socio-cultural embeddedness of scientific knowledg	Science is universal in nature and it never affected by any social or cultural factors.	Naïve

MAJOR FINDING OF THE STUDY

TABLE-2: The preservice teacher trainee doesn't have adequate awareness about different aspects of Nature of science (NOS).

Sl.no	Aspects of NOS	score
01.	Tentative nature of science	Naïve
02.	Empirical nature of science	Naïve
03.	Inference/ theoretical entities in science	Naïve
04.	Methods of science	Naïve
05.	Subjective/ Theory-laden nature of scientific knowledge	Transitional
06.	Creative/Imaginative nature of scientific knowledge	Transitional
07.	Theory & Laws	Naïve
08.	Socio-cultural embeddedness of scientific knowledge	Naïve

DISCUSSION

From the present research study it was found out that the preservice teacher trainees have Naïve understanding about the different aspects of NOS. Only they have some knowledge about the Subjective/ Theory-laden nature of scientific knowledge and Creative / Imaginative nature of scientific knowledge.

There are many studies done before were the same conclusion was seemed by many researcher like Erdoğan (2004) , Aguirre, Haggerty, and Linder (1990), on 74 preservice secondary science teachers' conceptions of NOS. Most individuals believed that science was either a body of knowledge consisting of a collection of observations and explanations or of propositions that have been proved to be correct. They concluded that these preservice teachers (even though they all possessed undergraduate science degrees) did not possess adequate conceptions of the nature of science.

In the present study the researcher found out that the have Preservice teachers have a very Naïve understanding about the socio-cultural influence on the scientific processes. This finding is same as done by Murcia and Schibeci (1999) on the major conceptions of the NOS held by a sample of preservice primary school teachers. The result showed the respondents have a naive and unclear understanding of scientific method-the discovery of —truth through observations and also they have poorly developed understanding of scientific theory. There was little awareness of the social context of science and scientists' work in the responses.

All the studies revealed that the preservice teachers have many misconceptions regarding the different aspects of NOS. In present study researcher found that most of the preservice teachers have misconception regarding all the aspects of NOS. Like the difference between theory and law. They have concept that the theory can change and law can't change. Experiment is necessary for the science. These are in agreement with the findings of Gürses, Dogar, & Yalçın, (2005), on chemistry student teachers' and classroom student teachers' ideas on the science and on the NOS. They also found that 96% of the participants viewed experiment is necessary for scientific proof and theories changes but laws don't change.

The researcher found out that the preservice teachers have inadequate understanding on the empirical and tentative nature of science. But, in contrast to the Liu and Lederman (2007) the preservice teachers of present study have Transitional view regarding the involvement of creativity and imagination in scientific enquiry and they wouldn't show any type of hierarchical relationship between theories and laws. Here also the preservice trainees fail to understand the affect of social and cultural factor on the scientific processes.

In the present study the researcher found out that the most of the preservice teacher trainees have the misconception that the experiment is necessary for the development of science. Thye and Kwen (2003) examined preservice chemistry teachers 'conceptions of NOS. Views of Nature of Science (VNOS) were administered to

125 preservice teachers. 76% of students believed that experiment is necessary for the development of science.

Thus all the discussed previous studies along with the present study show a coherence of the findings. This study has similar findings as done by many researchers in different countries of world. This shows that the preservice teachers have many misconceptions regarding the different aspects of NOS.

CONCLUSION

NOS is a way of knowing science. Previous studies revealed that the inadequacy in the understanding of NOS is one of the causes of failure of many science teaching courses. The findings of the present study revealed that the preservice teacher trainees who are prospective teachers, have misconception regarding the aspects of NOS and they don't have proper understanding on the NOS. The findings also show that there is no effect of gender on the understanding level of NOS. So, we can conclude that whether it is female or male it doesn't matter.

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IMPACT OF ANXIETY ON ACADEMIC ACHIEVEMENT OF SECONDARY SCHOOL STUDENTS

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Abstract

There are as many potential causes of anxiety as there are people who suffer from them. Increased stress and inadequate coping mechanisms to deal with that stress may also contribute to anxiety. Anxiety symptoms can result from such a variety of factors including having had a traumatic experience, having to face major decisions in a one's life, or having developed a more fearful perspective on life. Increased stress and inadequate coping mechanisms to deal with that stress may also contribute to anxiety. Academic achievement is the educational goal that is achieved by a student, teacher or institution achieves over a certain period. This is measured either by examinations or continuous assessments and the goal may differ from an individual or institution to another. Academic achievement is a combination of ability being equal, those with higher grade. The need for achievement is a learned motive to complete and to strive for success. This article focuses on the impact of anxiety on academic achievement of secondary school students a few areas i.e. standard, boys and girls, boards of secondary school students. A sample of 200 secondary school students from Patna educational district was taken. The survey method was used and the data were analyzed by using mean, S.D and 't' score. The result shows that there is a significant difference in the mean scores of academic achievement of Secondary School Students on the basis of board and significant relationship between anxiety and academic achievement of secondary school students.

Key words: Anxiety, mechanism, assessment, motive, measure and goal.

I. INTRODUCTION

Everybody knows what it's like to feel anxious -- the butterflies in your stomach before a first speech, the tension you feel when your boss is angry, and the way your heart pounds if you're in danger. Anxiety rouses you to action. It gears you up to face a threatening situation. It makes you study harder for that exam, and keeps you on your toes when you're making a speech. In general, it helps you cope.There are as many potential causes of anxiety as there are people who suffer from them. Increased stress and inadequate coping mechanisms to deal with that stress may also contribute to anxiety. Anxiety symptoms can result from such a variety of factors including having had a traumatic experience, having to face major decisions in a one's life, or having developed a more fearful perspective on life.

Academic achievement is the educational goal that is achieved by a student, teacher or institution achieves over a certain period. This is measured either by examinations or continuous assessments and the goal may differ from an individual or institution to another.Academic achievement is a combination of ability being equal, those with higher grade. The need for achievement is a learned motive to complete and to strive for success. There are wider differences among individuals and their past experiences and in their motivation that is learned, which account for the need for achievement.

II. SIGNIFICANCE OF THE STUDY

Anxiety is a feeling of unease, such as worry or fear that can be mild, moderate or severe. Everyone has feeling of anxiety at some point in their life. One may feel worried and anxious about sitting for an exam or a jobinterview. Feeling anxious is sometimes perfectly normal however; people with severe form of anxiety find it hard to control their worries. Their feeling of anxiety is more constant and often affects their performance or daily life. If a student experiences

an increased level of anxiety, the anxiety may have a negative effect, resulting in decreased learning. These extreme levels of academic related anxiety may cause some of them to even leave the programme. Therefore, there is a deep relationship between these two aspects especially in the life of a student. Due to over anxiety and worry, the student may not do well in the academic achievement.

III. STATEMENT OF THE PROBLEM

Impact of Anxiety on Academic Achievement of Secondary School Students

IV. OPERATIONAL DEFINITIONS

Impact- have a strong effect on someone or something..

Anxiety- An abnormal and overwhelming sense of apprehension and fear often marked by physiological signs such as sweating, tension, and increased pulse. The present study explores the level of anxiety of the Indian learners who learn English as a second language.

Academic Achievement- Academic Achievement is a term used for students based on their performance in their examinations or continuous assessment.

Secondary School Students- Secondary school students refer to students of class 9^{th} and class 10^{th}.

V. OBJECTIVES OF THE STUDY

i. To find the significant difference between the mean scores of secondary school students in their anxiety on the basis of standard.

ii. To find the significant difference between the mean scores of secondary school students in their anxiety on the basis of gender.

iii. To find the significant difference between the mean scores of

secondary school students in their anxiety on the basis of boards.

iv. To find the significant difference between the mean scores of secondary school students in their academic achievement on the basis of standard.

v. To find the significant difference between the mean scores of secondary school students in their academic achievement on the basis of gender.

vi. To find the significant difference between the mean scores of secondary school students in their academic achievement on the basis of board.

vii. To find the relationship between anxiety and academic achievement among the secondary School students.

VI. TOOL USED

Adapted Foreign Language Classroom Anxiety Scale standardized by Horwitz et al. 1986 and self- constructed and validated academic achievement.

VII. METHOD USED

Survey method was used.

VIII. POPULATION OF THE STUDY

Secondary School Students of Patna.

IX. SAMPLE

200 secondary school students.

X. STATISTICAL TECHNIQUES

i. Mean ii . Standard Deviation and iii. t-ratio

XI. DELIMITATIONS OF THE STUDY

i. The secondary school students were taken as the sample of the study.

ii. The researcher has taken the sample from the state capital of Bihar.

iii. The researcher has taken 200 samples.

iv. All the samples are from one school.

XII. NULL HYPOTHESES

1. There is no significant difference between the mean scores of secondary school students in their anxiety on the basis of standard.
2. There is no significant difference between the mean scores of secondary school students in their anxiety on the basis of gender.
3. There is no significant difference between the mean scores of secondary school students in their anxiety on the basis of board.
4. There is no significant difference between the mean scores of secondary school students in their academic achievement on the basis of gender.
5. There is no significant difference between the mean scores of secondary school studentsin their academic achievement on the basis of standard.
6. There is no significant difference between the mean scores of secondary school students in their academic achievement on the basis of board.
7. There is no significant relationship between anxiety and academic achievement among the secondary school students.

Null Hypothesis – 1

There is no significant difference between the mean scores of secondary school students in their anxiety on the basis standard.

Table – 1

Std.	N	Mean	SD	t-value	Remarks
9th	143	76.56	68.79	0.52	NS
10th	57	73.28	17.48		

(At 5% level of significance , the table value of 't' is 1.97)

It is inferred from the above table that the 't'-value is 0.52 which is less than the table value 1.96 at 0.05 level of significance. Hence, the null hypothesis is accepted. It means that there is no significant difference between the mean scores of secondary school students in their anxiety on the basis standard.

Null Hypothesis - 2

There is no significant difference between the mean scores of secondary school students in their anxiety on the basis of gender.

Table – 2

Gender	N	Mean	SD	t-value	Remarks
Boys	105	80.55	79.22	1.30	NS
Girls	95	70.18	18.27		

(At 5% level of significance , the table value of 't' is 1.97)

It is inferred from the above table that the 't'-value is 1.30 which is less than the table value 1.96 at 0.05 level of significance. Hence, the null hypothesis is accepted. It means that there is no significant

difference between the mean scores of secondary school students in their anxiety on the basis of gender.

Null Hypothesis – 3

There is no significant difference between the mean scores of secondary school students in their anxiety on the basis of board.

Table – 3

Board	N	Mean	SD	t-value	Remarks
CBSE	158	70.54	20.73	1.28	NS
ICSE	41	95.20	122.69		

(At 5% level of significance , the table value of 't' is 1.97)

It is inferred from the above table that the 't'-value is 1.28 which is less than the table value 1.96 at 0.05 level of significance. Hence, the null hypothesis is accepted. It means that there is no significant difference between the mean scores of secondary school students in their anxiety on the basis board .

Null Hypothesis - 4

There is no significant difference between the mean scores of secondary school students in their academic achievement on the basis of gender.

Table – 4

Gender	N	Mean	SD	t-value	Remarks
Boys	143	28.73	8.69	1.07	NS
Girls	57	29.93	6.34		

(At 5% level of significance , the table value of 't' is 1.97)

It is inferred from the above table that the 't'-value is 1.07 which is less than the table value 1.96 at 0.05 level of significance. Hence, the null hypothesis is accepted. It means that there is no significant difference between the mean scores of secondary school students in their academic achievement on the basis of gender.

Null Hypothesis - 5

There is no significant difference between the mean scores of secondary school students in their academic achievement on the basis of standard.

Table – 5

Gender	N	Mean	SD	t-value	Remarks
Boys	143	28.73	8.69	1.07	NS
Girls	57	29.93	6.34		

(At 5% level of significance , the table value of 't' is 1.97)

It is inferred from the above table that the 't'-value is 1.68 which is less than the table value 1.96 at 0.05 level of significance. Hence the null hypothesis is accepted. It means that there is no significant difference between the mean scores of secondary school students in their academic achievement on the basis of standard.

Null Hypothesis - 6

There is no significant difference between the mean scores of secondary school students in their academic achievement on the basis of board.

Table – 6

Board	N	Mean	SD	t-value	Remarks
CBSE	158	30.66	7.39	5.65	S
ICSE	41	22.93	7.90		

(At 1% level of significance , the table value of 't' is 2.58)

It is inferred from the above table that the 't'-value is 5.65 which is more than the table value 2.58 at 0.01 level of significance. Hence, the null hypothesis is rejected. It means that there is significant difference between the mean scores of secondary school students in their academic achievement on the basis of board.

Null Hypothesis - 7

There is no significant relationship between anxiety and academic achievement among the secondary school students.

Table – 7

Anxiety		Academic Achievement			Number	Correlation	Remark
ΣX	ΣX^2	ΣY	ΣY^2	ΣXY	200	- 0.281	S
5815	15125	33814225	228765625	87951875			

(For 198 df at 1% level the table value of 'r' is 0.182)

It is inferred from the above table that calculated value of r is - 0.281 which is more than the table value 0.182 at 0.01 level of significance. Hence, the null hypothesis is rejected. It means that there is negative

and significant relationship between anxiety and academic achievement of secondary school students .

CONCLUSION

The result indicates that there is a significant difference in the mean scores of ICSE and CBSE students in their academic achievement. At the same time, there is a negative and significant relationship between anxiety and academic achievement of secondary school students.

Academic anxiety is not limited to students with disabilities.Students of all academic achievement levels suffer from academic anxiety. Even students who do well on classwork and homework can suffer from test anxiety and do poorly on tests. Frequent poor academic performance can increase anxiety levels. Gifted students who are perfectionists can suffer from high levels of anxiety, however, perfectionists are not necessarily gifted. Even if perfectionist students are high achievers, perfectionists can still suffer from a fear of failure that can cause high levels of stress (Fletcher & Speirs, & Neumeister, 2012).

Hence, Anxiety can negatively affect academic performance. Students who report higher levels of anxiety show lower levels of academic achievement. Students will not feel that success and change is possible without a feeling of control over the causes, whether internal or external (Vockell, n.d.). Problem based learning, discussing test procedures with students, and teaching study and test taking skills are methods to help students feel more in control of the outcome of academic tasks. Teachers and parents can teach students the skills they need to feel in control of learning. By helping students understand the learning process and how they can control it, parents and teachers will help students control their anxiety for higher level of academic achievement.

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SELF-EFFICACY AND TEACHER-EFFECTIVENESS OF SECONDARY SCHOOL TEACHERS

Smita Paschal

Abstract

The quality of education depends much on the effectiveness of the teacher, as teacher is considered to be the hub of the teaching learning process. But it is not easy to ascertain effectiveness and ineffectiveness of a teacher. Teacher effectiveness has been a matter of concern not only for the parents and students but also for the policy makers, researchers, and educationists. Drawing from the "self-efficacy" theory (Bandura, 1977), the purpose of this paper is to explore the relationship between teacher self-efficacy and teacher effectiveness of secondary school teachers. In general, an educator is conceived as one of the most important persons responsible for shaping a nations' future. The population for the study is the School Teachers of Patna, Bihar. The investigator adopted Survey Method to describe the existing status of phenomenon under investigation and to draw valid conclusions from the facts discovered. The researcher used a self-constructed and validated Self-efficacy Inventory and Teacher Effectiveness Scale. Stratified random sampling technique for selecting the sample was used. The sample consisted of 129 secondary school teachers of Patna. The result of this study shows relationship between teacher self-efficacy and teacher effectiveness of secondary school teachers.

Keywords- Self-efficacy, Teacher-effectiveness, Secondary School Teachers

Introduction

Teaching is one of the most significant professions of the world. All the professions in the society have its base in this noble profession; it is quite evident from that the pace of evolution greatly depends on

teaching quality. It can also be described as a platform where significant socializing of the students takes place. Schools are important institutions where children follow careers and give meaning to their lives. As teachers play a special role in setting the standards and creating the conditions for children's school attainments, they are considered to be a key element towards student's academic success. Teachers with high self-efficiency beliefs are more likely to implement innovative methods in the classroom to use classroom management approaches and adequate teaching methods that encourage students' autonomy and reduce custodial control to take responsibility, and to manage classroom problems than the teachers with a low sense of self-efficiency.

Teacher Effectiveness and Self-Efficacy

Teaching by its very nature involves solving ill - defined problems that are complex, dynamic, and non-linear. Consequently teacher effectiveness is largely dependent on personal agency, or how teachers define tasks, employ strategies, view the possibility of success, and ultimately solve the problems and challenges they face. It is this concept of personal agency—the capacity of teachers to be self-organizing, self-reflective, self-regulating and proactive in their behavior—that underlies the importance of self-efficacy as a critical component in teacher effectiveness. The link between personal agency and a teacher's efficacy beliefs lies in personal experience and a teacher's ability to reflect on that experience and make decisions about future courses of action.

Meaning of Self-Efficacy

The construct of self-efficacy refers to an individual's belief in his or her capability "to organize and execute the course of action required to manage prospective situations" (Bandura, 1997, p. 2). It is a task-specific belief that regulates choice, effort, and persistence in the face of obstacles and in concert with the emotional state of the individual. An individual's efficacy beliefs are built from diverse sources of

information that can be conveyed vicariously through social evaluation as well as through direct experience (Bandura, 1986).

Self-efficacy (belief in one's ability to handle effectively and to master a situation to bring such changes that produce desired results) is taken as main thing to psychological health. It is well thought out that its absence is the heart of psychological problems. Self-efficacy consists of nature and construction of self-efficacy beliefs, their origins and effects, the procedures through which such beliefs function and the modes by which they can be created and strengthened. People will be more inclined to take on a task belief they can succeed. People generally avoid tasks where their self-efficacy is low, but will engage in tasks where their self-efficacy is high. People with self-efficacy always try their best to complete tasks and also try to defeat their difficulties. That is the main reason for which the people of low self-efficacy are unable to grow and get successe in a proper way. There are some effects of self-efficacy on human behavior. People with high self-efficacy are more motivated than the people of low self-efficacy. This motivation enhances their work. They also provide an opportunity for low self-efficacy to learn a lesson from them. Low self-efficacy can lead people to believe tasks are tough than they actually are. Its outcome will be improper planning and stress. It's a fact that the people of low self-efficacy become irritating when they can't complete their task. On other side people with high self-efficacy act opposite. They are always busy in making efforts for completing their goals. Self-efficacy also helps to overcome failures. But only high self-efficacy people learn how to overcome failures and not low self-efficacy people.

Bandura believed that people with differing self-efficacy level perceive world in different ways, such as people with a high self-efficacy are generally of the opinion that they are in control of their own lives, that their own actions and decisions shape their lives. On the other hand, people with low self-efficacy may see their lives as somewhat out of their hands. Those having more self-confidence can achieve their goals by making full efforts. Self-confidence can be

increased through enactive mastery, vicarious modeling, verbal persuasion and arousal. When a person has done his work successfully in the past, he can perform it in future with full confidence. When a person looks upon another person performing a job he can be confident that he can also do it. For example, if his friend can lose his weight, he is confident that he can also do it easily. Teachers with high self-efficacy teach well due to their self-confidence and quality of motivating students. These teachers are risk takers and say yes to new ideas or skills because old controlling styles and restrictions are the qualities of low self-efficacy teachers. Present study was designed to see the relationship between teacher self- efficacy and their teacher effectiveness.

Sehgal, Nambudiri and Mishra(2017) explored the relationship between teacher self-efficacy and teacher effectiveness and found a positive association between teacher self-efficacy and the three dimensions of teacher effectiveness, namely, teacher's delivery of course information, teacher's role in facilitating teacher-student interactions, and teacher's role in regulating students' learning.

Shahzad And Naureen (2017) conducted the study with the objective to find out the impact of teacher self-efficacy on the secondary school students' academic achievement. The findings of the study revealed that teacher self-efficacy has a positive impact on the students' academic achievement. Self-efficacy possessed by a teacher, improves the students' academic achievement and they obtain better grades in their examination. It has also been observed that the teachers are very efficacious and their level of self-efficacy is high which brings positivity in students' behavior, attitude and most importantly in their academic achievement. Those teachers who have a high level of self-efficacy produce better results regarding students' academic achievements.

Ross, Hogaboam-Gray, and Hanay (2001) demonstrated that students taking a computer skills course with a teacher who had high self-efficacy for computer skills instruction performed better

academically than students with a teacher who had low self-efficacy for the same instruction. High self-efficacy teachers are also more apt to produce better student outcomes because they are more persistent in helping students who are having difficulty (Podell & Soodak, 1993; Soodak, & Podell 1993) and are less likely to be critical of students that make errors (Ashton & Webb, 1986). Teachers with strong self-efficacy beliefs have also been shown to be better organized, to engage in more effective planning (Allinder, 1994), and are more likely to set high performance standards for themselves as well for their students (Ross, 1995).

OBJECTIVES OF THE STUDY

1. To find whether there is significant difference in the self efficacy of secondary school teachers on the basis of demographic and professional variables like gender; type of institution; teaching experience and income.
2. To find whether there is significant difference in the teacher effectiveness of secondary school teachers on the basis of demographic and professional variables like gender; type of institution; teaching experience and income.
3. To find whether there is significant relationship between self-efficacy and teacher effectiveness of secondary school teachers.

NULL HYPOTHESES

1. There is no significant difference in the mean scores of male and female secondary school teachers in their self-efficacy.
2. There is no significant difference in the mean scores of government and private secondary school teachers in their self-efficacy.
3. There is no significant difference in the mean scores of secondary school teachers with teaching experience less than ten years and more than ten years in their self-efficacy.

4. There is no significant difference in the mean scores of secondary school teachers with income less than 25,000 and more than 25,000 per month in their self-efficacy.
5. There is no significant difference in the mean scores of male and female secondary school teachers in their teacher effectiveness.
6. There is no significant difference in the mean scores of government and private secondary school teachers in their teacher effectiveness.
7. There is no significant difference in the mean scores of secondary school teachers with teaching experience less than ten years and more than ten years in their teacher effectiveness.
8. There is no significant difference in the mean scores of secondary school teachers with income less than 25,000 per month and more than 25,000 per month in their teacher effectiveness.
9. There is no significant relationship between self-efficacy and teacher effectiveness of secondary school teachers.

METHODOLOGY

i. **Method** – Survey Method was used to collect the data.
ii. **Population** – The population for the study is the Secondary school teachers in Patna, Bihar.
iii. **Sample** – Purposive sampling method was used for selecting the schools and stratified random sampling technique for selecting the sample. The sample consisted of 129 teachers.
iv. **Tools used** – The investigator has used self-constructed and validated Self Efficacy Inventory and Teacher Effectiveness, Scale.
v. **Statistical Techniques used** – Mean, Standard deviation, 't'-test, and Correlation Coefficient.

FINDINGS

Table No. 1

Variable	Demographic Variables	N	Mean	SD	Calculated t- value	Level of Significance
Self – Efficacy	Male	77	129.17	33.08	2.35	S*
	Female	52	114.57	35.41		
	Government	49	121.72	31.73	2.8	S**
	Private	80	133.14	27.85		
	Exp. Less than 10 yrs	55	116.51	27.43	2.04	S*
	Exp. More than 10 yrs.	74	126.69	28.86		
	Income below Rs. 25000 p/m	63	131.32	29.18	1.88	NS
	Income above Rs. 25000 p/m	66	121.64	29.14		
Teacher Effectiveness	Male	77	168.11	47.79	1.58	NS
	Female	52	154.37	48.82		
	Government	49	152.81	42.08	2.14	S*
	Private	80	168.87	40.21		
	Exp. Less than 10 yrs	55	156.84	42.11	1.19	NS
	Exp. More than 10 yrs.	74	165.95	43.27		
	Income below Rs. 25000 p/m	63	149.37	41.29	2.01	S*
	Income above Rs. 25000 p/m	66	163.78	39.87		

NS- Not Significant, S*-Significant at 0.05 level and S**-Significant at 0.01 level

It is inferred from no. 1 table that there is a significant difference in the mean scores of Secondary school teachers in their self-efficacy in respect of gender, type of institution and teaching experience and no significant difference is found income in the group. Further, with regards to Teacher Effectiveness aspect**, significance difference is found between –Type of Institution and

Income whereas - Gender and Experience categories do not differ significantly.

Table No. 2

Self Efficacy	Pearson Correlation	1	.058**
	Sig. (2-tailed)		.01
	N	129	129
Teacher Effectiveness	Pearson Correlation	.058**	1
	Sig. (2-tailed)	.01	
	N	129	129

** Significant at 0.01 level

It is inferred from the above table that there is a significant relationship between self-efficacy and teacher effectiveness of secondary school teachers. Research has shown that teachers high in self-efficacy have been found to exhibit higher levels of professional commitment and effectiveness (Coladarci, 1992)

CONCLUSION

The result of the study revealed that the Teacher's Self Efficacy aspect is influenced in respect of gender, and type of Institution, whereas the Teacher Effectiveness aspect influenced in respect of Type of Institution and Income. From the above findings it is concluded that the Teacher's Self Efficacy and Teacher Effectiveness are independent and interdependent. Further, it is not out of place to mention that the Self-Efficacy and Teacher Effectiveness occupy vital importance in the teaching learning process. It can provide a sound theoretical framework for understanding the why's and how's of teacher development. It also points to the potential value of a set of practical tools —including feedback, various instructional design elements, and integrated support systems—that can be used to foster positive efficacy beliefs, improve teacher competence, and

enhance student outcomes.

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ROLE OF SPECIAL EDUCATORS IN THE USE OF ASSISTIVE TECHNOLOGY IN AN INCLUSIVE EDUCATION SET UP

Ekta Ghosh

Abstract

In the era of rapid advancement in science and technology, Modern day application of advanced technologies have completely transformed human life. Knowledge of its use has invaded all realms of human existence. Information and Communication Technology (ICT) has touched all spheres of education which includes Special Education as well. New innovations have been introduced while formulating the Instructional Programs for the differently abled. The purpose of this study was to assess the efficiency of the Special Educators in the use of Assistive Technologies. In spite of the rapid advancement in the field of Special Education and the introduction of such advanced technologies, Inclusive Education still remains in the rudimentary stage in India. The survey was conducted on 150 special educators of the renowned Special Education Institutions of Kolkata and the outskirts. On the basis of their responses it is observed that though the Educators have heard of the commonly used teaching aids but they are mostly unaware of the usage of modern devices that could improve the conditions and learning of the differently able children. On average the Teachers have stated that they do not make use of such Advanced Technologies in classroom teaching. Possible explanations for finding and directions for future research are discussed.

Key Words: Special Schools, Application of Assistive Technologies, Lack of Knowledge about E-Governance, Modern Technologies equipped instructional strategies .

INTRODUCTION

Exceptional Children or the differently able are those who's Personal

and Educational needs deviate from others. While defining Exceptionality we can say, a child who deviates from the normal children in mental, physical and social characteristics to such an extent that he requires modification in school practices or Special Education Services to develop to his maximum capacity.

To make the life of the children with Exceptionality more stable and comfortable, the Government of India had introduced several schemes and scholarships in order to provide financial assistance to them. In spite of all the efforts, this section is subjected to major constraints and Inclusion remains a farfetched dream.

Hence it is the responsibility of the parents, the teachers and the society to contribute in increasing educational facilities and to create a conducive environment that would stimulate their harmonious development.

Few of the provisions that is necessary are advanced educational programs, adequately staffed and equipped resource rooms and establishment of more quality based Teacher training institutions for the Special Educators. Teachers are the epitome of success for the students hence provisions should be made to introduce modern updated technologies.

One of the major drawbacks in the field of Inclusion is that the Educators are not adept in the usage of Assistive technologies. They lack the knowledge about the most advanced equipments that can improve the productivity of Inclusive Education.

OBJECTIVES

1. To find the status of special Education Institution.
2. To find the efficiency of the special educators in the use of Assistive Technologies.
3. To find the efficiency of teacher training Institution for special education.

HYPOTHESIS

Mainstreaming of the differently able Children into an Integrated

set up or provision for Inclusive Education is still in the infant stage. The main reason for this slow progress is the inadequacy of the Special Educators and the lack of quality based Teacher training institutions for Special Educators due to lack of facilities.

METHODOLOGY

❖ SAMPLE

Participants were 150 Special Educators both Male and Female of the renowned Special Education Schools of Kolkata and suburbs. These schools were chosen as the reputed institutions represent a possibility of transition to Inclusive Education.

❖ AREA

❖ Reputed Institutions for the children with Special Needs which includes 11 Special schools in Kolkata and 2 towards those outskirts. Total of 13 schools.

❖ PROCEDURE OF DATA COLLECTION

Data collection was through filling up a Questionnaire of two point scale. The close ended Questionnaire consisted of 50 objective type Questions where the Participants had to express their views by a simple tick on YES or NO. Information was gathered from 150 samples of Special Educators to develop an insight about their knowledge of Assistive technologies.

❖ RESULTS

- On the basis of the survey conducted by researcher on the Special Educators to prove that that the slow progress in the

field of Special Education is due to inefficiency and lack of proper training of the Special Educators.

- The results of the survey on the 150 Special Educators depict that though majority of them are in favor of using technology while teaching and feel it will help the differently able progress better and it is not a waste of time. However they feel that use of technology is time consuming. It is to be noted that male Special Educators are more in favor of using technology than the female Educators.
- Many of them have heard about E-governance but do not have its availability in their institutions.
- Though a large percentage of them have agreed that they have a basic training in the use of technology, yet they are not 100% confident in its application. This scenario exists more among the female Educators.
- Most of the Educators have expressed support on the implementation of Organization Programs that allow students to brainstorm and synthesis information easily. However they have not heard about Thesaurus, Sound Board and Screen Reading.
- Many schools do not have provisions for Voice Threading. 90% of the educators are of the opinion that use of technology brings values to the lives of the students and they encourage the students to make optimum use of it. They also believe that technology eases pressure on the Educators. On the contrary most of them are unaware of the modern devices and do not enjoy its availability in schools.
- All of them claimed that students like the use of technology and its application is an effective teaching aid. However it has been observed that most of the schools only have provisions for physiotherapy, telecommunication devices and computers.
- It should be mentioned that almost all schools have the facility of a CCTV camera but only a handful make use of

Live Speech captioning.

- Majority of the educators have stated that they are confident in the use of computers and make use of basic adaptive keyboards. However there is a difference of opinion among the Male and Female Educators in this aspect.
- Though they strongly support the utilitarian aspect of technology and that it makes teachers more competent by making classroom teaching easier to conduct, yet maximum of them are of the view that technology cannot substitute teachers and can only be successful when teachers are properly trained.
- Many also believe that it interferes with traditional learning resources and increases anxiety. However majority of the Female educators are of this opinion.
- The researcher has also observed that there is more number of Female Special Educators than Male.

Therefore with all the findings and analysis the Hypothesis is accepted.

IMPLICATIONS

- The male teachers are more in supportive and confident in the application of Assistive Technologies.
- In spite of many years of experience most of the educators lack the knowledge about modern devices.
- Irrespective of adequate infrastructure, government aided institution(mostly), good number of Teachers recruitment and students enrolment, the school lacks the basic adaptive technologies
- Female Educators hold more degree and experience than Male teachers.
- Imbalance in the ratio of Male and Female teachers and Teacher and students ratio.

LIMITATIONS AND DIRECTION FOR FUTURE RESEARCH

It is of course, important to consider these findings in light of study limitations. First, although there is difference in opinion among the Male and Female Special Educators in many aspects such as availability of Basic Adaptive keyboards. It is unclear whether this difference is practically significant. As many Educators of the same institution have shown a difference of opinion in regard to the availability of few technologies.

A second limitation is that the investigation of findings from the Male Special Educators was very limited. Only 13 Male Educators were part of the survey out of the total 150. So there was a limited exposure of the opinion of Male Educators in respect of their awareness about technology.

Another Limitation was on the basis of time, the interaction with the Special Educators was for a short duration of time that is just by making them fill up the Questionnaire. The results of the findings would have been more authentic if other techniques like the use of Rating scale, checklist, interview could have been part of the survey along with the Questionnaire.

Future researchers should replicate these findings with larger and different samples and include a longitudinal design to assess the Teacher's awareness about use of Assistive Technology.

CONCLUSION

The Government should be more liberal in making provisions of funds for the Differently abled. It is also necessary that the funds should be used effectively, that is keeping all the aspects of Inclusive Education in mind and not just investing on the expansion of building and increasing the admission rate.

The existing reservation quota for the differently able children in all Educational Institutions for Higher learning should increase from 3%. However it is not only the responsibility of the Government, as members of the society all should contribute in bringing a positive

change in the lives of these children.

More seminars and workshops should be organized for the Special Educators for their adequate training. NGO's and other Private organization should contribute effectively in the establishment of Special Schools. Modifications should be made in regular schools to adapt the curriculum based on the needs of the Exceptional and more use of ICT along with other Assistive technologies is recommended.

Provision of Model Schools to be made and regular visit of Itinerary or Resource teachers should be made compulsory. Teachers with Special B.Ed degree should also be recruited in Regular Schools.

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