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CONTENTS

Editor's Note

Dear Friends,

Hearty welcome to the seventh issues of the Indian Journal of Educational Research, a peer-reviewed research journal published annually since 2012 by the Department of Education, University of Calcutta.

Like the other, this issue also hosts papers on very pertinent issues seen from different perspectives. After a through peer review process, fifteen papers have been selected for publication in this issues. The topics include diverse issues in mathematics education, science education, teacher education, environmental education, inclusive education, non-formal education, elementary education, secondary education and higher education. Papers are included in historical, sociological and psychological research. All the papers in the journal are expected to enhance the quality of research in education. To encourage the young researcher abstracts of students who have received their Ph.D. degree in the last Convocation. We congratulate them all and hope they will carry the legacy of quality research in their journey to life. It is to note that one journal can be seen at present in our University website (caluniv.ac.in) through 'Education Department'.

Our whole-hearted thanks to the authorities of the University, our colleagues in the department, the contributors, the panel of reviewers and the readers. We are really fortunate to have a highly esteemed peer-review committee who, in spite of their very busy schedule, provided their through and critical inputs for each and every paper, I specially thank to the Professors S.K. Ghosh, D Sengupta, A. Ghosh, M. Sengupta Md Kutubuddin Halder for their silent dedication towards the shaping of the journal.

We hope, this act in near future as a forum for international researchers and thinkers in the field of education.

Thanks you all.

Nimai Chand Maiti
Professor, Department of Education,
University of Calcutta

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Acquisition of Forced Van Hiele levels in Geometry of Higher Secondary student's

Arup Kundu*

Abstract

The van Hiele theory of geometry conceptualization avers that understanding of geometry concepts can be classified into five hierarchical thinking levels, with Level 1 the lowest and Level 5 the highest. Subsequently "Forced van Hiele Level" scores have been classified from Level 0 to Level 4 (Usiskin, 1982). This study intended to find out the van Hiele levels of Class XI students of West Bengal and to adjudge whether there is any difference in van Hiele levels between students of different streams of study.

The sample consisted of 428 class XI student from South 24 Parganas districts of West Bengal. The sample was administered a test (Usiskin, 1982) to assess their van Hiele levels. The result yielded that only a very small percentage (5.1%) of students could attain Level 4 with respect to Forced van Hiele Levels. Further, a Chi-square test showed that Forced van Hiele Level was a factor of the stream of study. As expected, most students in the Science stream achieved higher Forced van Hiele Levels, followed by Commerce and Arts students.

Key words**:** van Hiele level of Geometry conceptualization, H.S.: Higher Secondary

Introduction

Geometry is an important branch of mathematics (Isil and Ubez, 2004) and is related to the properties and relationships of lines, angles, curves, shapes, etc. Geometry helps us to define and explain the world rationally and systematically (Cantürk-Günhan and Baser, 2007). According to (Sherard, 1981; Hong, 2005), geometry is important for students as it is applied in other branches of mathematics and in other subjects such as basic science and engineering.

* Assistant Professor in Mathematics (WBES), Government Training College (CTE), Hooghly & Guest Lecturer, Department of Education, University of Calcutta, Email: arup.cu.edu@gmail.com

The two most poignant objectives of geometry learning are to develop logical thinking skills and spatial intuitions. These refer to how one views space and area in the real world (NCTM, 1976). Knowledge and skills in geometry and their application to related topics are useful in everyday life. School Mathematics curricula improve pupils' power of cognition and help to solve problems in geometry effectively. At the same time, pupils can also improve their visual skills and appreciate the aesthetic values of shapes and space through the learning of geometry. In fact, spatial skills are intrinsic components of knowing geometry. Therefore, geometry and spatial skills are interconnected. Spatial skills have a strong relationship with engineering, vocational, and occupational domains (Koch, 2006; Bertoline, 2003).

For more than 25 years, the van Hiele theory of geomety acquisition has served as a model to characterize individual thinking in geometry (Burger and Shaughnessy 1986; Gutièrrez, Jaime and Fortuny, 1991; Yildiz, Aydin and Köðce, 2009; Abdullah and Zakaria, 2013). The van Hiele model of geometric thought emerged from the works of two Dutch mathematics educators, Dina van Hiele-Geldof and Pierre M. van Hiele at the University of Utrecht. Van Hiele explained the model of geometric thinking using three aspects: the existence of levels, properties of the levels, and the movement from one level to the next level. The van Hiele model consists of five levels of geometric thinking. These levels, as arranged from the lowest to the highest are

Level 1. Visualization: The student can merely recognize a shape.

Level 2. Analysis: The student is able to analyze a shape because he/she knows the properties of the shapes in Level 1

Level 3. Abstraction: The students have learned geometric properties after having attained the first two levels

Level 4. Deduction: The student is able to construct proofs of geometric properties after having attained the first three levels

Level 5. Rigor: The student is able to understand the implications of non-Euclidian geometry after having attained the first four levels. (Crowley, 1987; Kundu & Ghose, 20015,)

Usiskin tested the ability of the van Hiele model to describe and predict the performance of students in secondary school geometry (Usiskin, 1982). Currently there are two lines of research based on the van Hiele theory in the world: one transforming the van Hiele theory to other areas of mathematics

(Boolean Algebra, Function-Analysis-Calculus), and another one using 'dynamic' geometry to achieve higher van Hiele levels (De Villiers, 2010).

Geometry is one of the dreaded subjects in secondary school. Yet it is a way of thinking that is necessary in daily life and in conceptualization of higher order concepts. Students in our schools study geometry in the secondary school but some discontinue it when they reach the Higher Secondary stage. Though Science students in the Higher Secondary class require thinking geometrically, this is abandoned by Arts and Commerce student. Yet the latter group is required to think visually and spatially in conducting their everyday life and for developing their logical reasoning. Thus there is a need to know whether there is any difference in the status of geometric thinking between students of Science and students of Arts and Commerce at the Higher Secondary stage. This study therefore intended to find out the van Hiele level of geometric thinking among Higher Secondary students and to find out if there is a difference in this level between students of Science and students of Arts and Commerce.

Research Methods

Tools of the study

The study was a survey based on quantitative methods. The tool used for the study was the van Hiele geometry test constructed by Usiskin (Usiskin, 1982) and translated into the Bengali language. The test consisted of multiple choice questions, with five questions pertaining to each of the five van Hiele levels. Each question displayed five options, one correct answer and four distracters. A level is achieved if and only if 3 or more than 3 out of five questions are answered correctly. A participant may be assigned a van Hiele Level subsequent to his/her achieving all the levels prior to it as well as the assigned level. Each participant may be assigned Levels from 1 to 5, 1 being the lowest level and 5 being the highest. However, this leaves several participants from being assigned any level at all. The Forced van Hiele Level, also developed by Usiskin (Usiskin, 1982), assigns levels from 0 to 4, and in the process manages to include all participants. Thus the Forced van Hiele levels were assigned to the participants for the purposes of this study. The Cronbach Alpha coefficient for reliability of the test ranged from .69 to .79 in Usiskin's data; from .59 to .82 in Duatepe's (2000); and from .72 to .77 in the data of this study.

Sample of the study

The sample consisted of 428 Class XI learners drawn up from 12 schools in the South 24 Parganas district of West Bengal. These schools were selected through purposive sampling. Geographical accessibility, proximity and functionality were some of the factors that influenced the choice of these schools. These were urban schools and drew learners from middle income socio-economic communities. Formal approval from the Department of Education and all the school Head Teachers were obtained in order to conduct this research.

Table 1: The final sample was as follows

		Streams		
		Science	Arts	Commerce
Gender	Boys	93	80	94
	Girls	37	88	36
		130	168	130

Findings

The sample was administered the van Hiele test and the responses were tabulated accordingly.

The percentage of students who achieved the different van Hiele levels is shown below. Those who achieved a higher level had also achieved the lower level/s prior to it. The percentage of students in Level 0 therefore includes those who had not achieved the higher levels as well as those who achieved the higher levels. The percentage of students who achieved Level 1 include those who could go no further as well as those who achieved Level, 2, 3 and 4.

Table 2: Percentage of students who achieved the different levels

Level	Percentage
Level 0	100
Level 1	72.2
Level 2	34.8
Level 3	18.7
Level 4	05.1

The result shows that while 100% of the total sample achieved Level 0, only 5.1% of the total sample achieved Level 4.

Each participant was subsequently assigned a Forced van Hiele Level based on his/her highest achieved level. The result pertaining to this is shown below:

Table 3: Assigned Forced van Hiele Levels

		Streams			Total
		Science	Arts	Commerce	
Forced Van Hiele Level 0	Count % within streams	07 5.4%	84 50.0%	28 21.5%	119 27.8%
Forced Van Hiele Level 1	Count % within streams	27 20.8%	72 42.9%	61 46.9%	160 37.4%
Forced Van Hiele Level 2	Count % within streams	35 26.9%	0 7 4.2 %	2 7 20.8%	6 9 16.1%
Forced Van Hiele Level 3	Count % within streams	41 31.5%	04 2.4%	13 10.0%	58 13.6%
Forced Van Hiele Level 4	Count % within streams	20 15.4%	01 0.6%	01 0.8%	22 13.6%
Total	Count % within streams	130 100.0%	168 100.0%	130 100.0%	428 100.0%

The table shows that in the Science stream only a few students are at van Hiele Level 0, most students are at van Hiele Level 3 and as much as 15.4% at Level 4. For the Commerce stream the result is somewhat less rosy. In fact, nearly half of the students in the Commerce stream are at Level 1. For Arts students the results are even less encouraging. Most of them have obtained Level 0 or Level 1 and very few have come up to Level 4. Thus a discrepancy in van Hiele levels between the three streams of study is quite noticeable. Therefore a chi-square test was conducted to check whether attainment of van Hiele level depends on the students' streams of study.

The null hypothesis for this was

H_0: The van Hiele levels of the participants are independent of their streams of study.

The result of the Chi Square test is as follows:

Tabel 4. Chi-Square Test:			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	181.100[b]	8	.000
Likelihood Ratio	190.807	8	.000
Linear-by-Linear Association	57.364	1	.000
N of Valid Cases	428		
b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.68.			

The above table shows that the chi square value is highly significant at 1% level. Therefore H_0 is to be rejected. That is, the van Hiele levels are not independent of the streams of study. This affirms the fact that the van Hiele levels indeed depend on students' streams of study. As table 3 shows, Science students achieve higher van Hiele Levels than Commerce and Arts students. This information is further shown by the following bar chart.

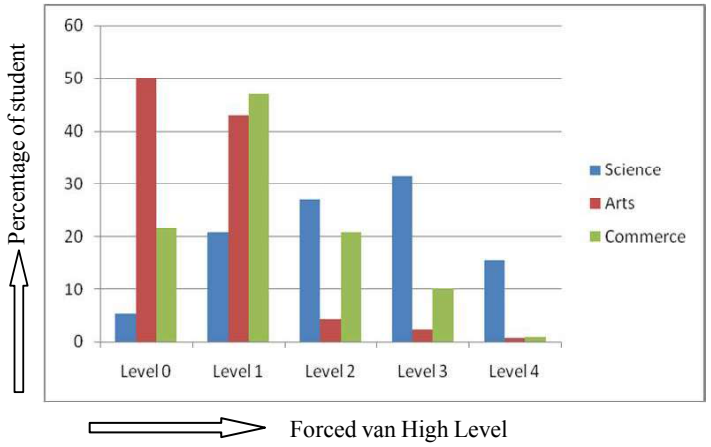

Figure 1: Combined graphical representation of the results: Science, Arts and Commerce

Conclusions

The result obtained in this study stands to reason. Science makes great demands on the visual spatial abilities of students. That Science students have attained high van Hiele Level is reassuring. However, Arts students have mostly attained only low van Hiele levels, and this is cause for concern.

Most Arts disciplines require some amount of visual spatial ability and these students are quite obviously hampered by the lack of this quality. Creativity is almost certainly stymied by the lack of visual spatial skills.

Commerce students have also shown a marked difference from Science students. Their lower levels of achieving van Hiele levels reveals that their mathematics course is nearly devoid of geometric thinking. This may constrain their skills of depicting financial/accounting problems and even hamper their capacity of logical thought.

This result thus shows that there is a need to instruct non-science students in novel and concrete ways so that their van Hiele Levels is improved. This can indeed be achieved by devising appropriate tasks for students as suggested by Unal (Unal et al, 2009). Bulunt and Bulunt have also demonstrated ways in which van Hiele Levels may be developed (Bulunt and Bulunt, 2012; Kundu & Ghose, 2016) by enabling teachers to reason at higher levels. The recommendations of (Erdogan and Durmus, 2009) for improving van Hiele Levels of pre-service teachers may be adapted to improve the van Hiele levels and visual spatial awareness of Arts students.

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Deciphering Underachievement in Higher Secondary Physics: Planning Remedial Action

Paramita Ghosh*

Abstract

Student-underachievement is a worry at post-secondary stage of education especially in science stream. Underachievement in Physics is an example as it is a compulsory science subject. The study aimed to untangle the roles of important individual-level causes of underachievement in Physics. A multi-stage random sample of 407 class XII students (248 boys; 159 girls) was selected from seven Kendriya Vidyalayas of Kolkata. Participants belonged to middle socio-economic status families as assessed by an appropriate scale. Standardized tests were administered for assessment of their intelligence, scientific knowledge and aptitude, study habits, field- dependence-independence cognitive style, self concept, neuroticism-stability and extraversion-introversion. These individual-level psychological attributes were predictors; class XII Physics examination scores was dependent variable. Path analysis demonstrated important mediational role of scientific knowledge and aptitude in influencing Physics achievement. Thus it seems that underachievers in Physics lack scientific knowledge and aptitude. So rather than relying on performance in secondary examination, selectors must evaluate candidates' scientific knowledge and aptitude before offering admission to higher secondary science. Scientific knowledge and aptitude, in turn, has been found to be powerfully influenced by study habits of students. It is likely that poorer study habits of pupils make them less informed in science or students with lower scientific aptitude tend to have inferior study habits as they do not comprehend subject matters thus are not interested in acquiring knowledge. Science textbooks need to be written in clear and engaging style so that even less apt students are interested to study. Scientific knowledge and aptitude of students were factor analyzed. Two factors emerged – Factor I primarily comprising extraversion, intelligence and self concept; Factor II mainly comprising field- independence, study habits and emotional stability. Together these factors explain 62% of variance in scientific knowledge and aptitude. Communalities identified field-dependence-independence cognitive style and

study habits as key variables across factors. Students with field-dependence and poorer study habits tend to be deficient in scientific knowledge and aptitude. So efforts to develop analytical approach to perception / thinking and better study habits since childhood may be planned to enhance scientific knowledge and aptitude of students. This may combat underachievement in sciences including Physics.

***Key Words*:** Underachievement in Physics; Scientific Knowledge and Aptitude; Path Analysis; Factor Analysis.

Introduction

Student-underachievement is a concern at post-secondary stage of education especially in science stream.It frustrates the student and is detrimental for the country.Underachievement in physics is a case in point as it is a compulsory science subject at post-secondary stage of education. Characteristics of students e.g. their gender, intelligence, scientific knowledge and aptitude, cognitive style, study habits, self-concept, neuroticism and extraversion have emerged either as important correlates or influencing variables of achievement in science subjects e.g. physics. It has been found that since the culture of physics is biased in favour of males, girls tend to feel disadvantaged in physics learning and examination-taking. Besides, possession of more intelligence, superior scientific knowledge and aptitude, field-independent cognitive style, better study habits, favourable self concept, lower neuroticism and less extraversion evidently facilitate science / physics achievement at post-secondary level (Benbow and Arjmand, 1990; Campbell et al., 2000; Cavallo et al., 2004; Chandra et al., 2009; Eilam et al., 2009; Ghosh, 2011; Hazari and Potvin, 2005; Huitt, 2009; Jahan, 1985; Jungert et al., 2009; Khan, 2005; Rao, 2004). But investigations on statistical prediction of achievement in physics based on these student-characteristics are rare especially in the Indian context. The present study aims primarily to unravel roles of these individual-level causes of underachievement in physics so that more apt students can be selected; and study of physics can be reorganized so that even the less suitable students can perform adequately. A path analytical study was envisaged with students' gender, intelligence, field-dependence-independence cognitive style, study habits, self concept, neuroticism-stability and extraversion-introversion as predictors at the primary level. Students' scientific knowledge and aptitude was considered a mediator in view of research findings revealing it's key role in physics achievement (Benbow and Arjmand, 1990; Ghosh, 2011; Gustafsson and Balke, 1993;

Mukhopadhyay, 2013b; Rao, 2004). Class XII physics examination scores of students was the ultimate dependent variable.

Given the vital role played by students' scientific knowledge and aptitude in their class XII physics scores, it was proposed to factor analyze the former. Such studies are scarcely attempted but need to be conducted for identifying components of scientific knowledge and aptitude. The identification would help in selecting suitable students for study of science (including physics) and bringing about necessary changes in textbook-writing, teaching, learning as well as evaluation styles so that underachievement is reduced. Some reviews on the subject have come up with many overlapping factors of scientific aptitude viz. reasoning ability (general intelligence), emotional intelligence, conceptual understanding of science, functional knowledge, knowledge about nature, scientific information, numerical ability, mechanical comprehension, spatial ability, verbal comprehension, scientific vocabulary, creative thinking, scientific attitude, vocational interest etc. (Ediger and Rao, 2003; Mukhopadhay, 2013a). Thus there are lots of co-linearity and confounding. A simpler approach could bear in mind the close relation between scientific knowledge and aptitude and physics achievement; and find out whether correlates or influencing variables of class XII physics achievement and students' scientific knowledge and aptitude are alike. This research question would be examined through path analysis in the present probe. Prior research indeed suggests that correlates or influencing variables of scientific knowledge and aptitude seem to be reasoning ability / intelligence, cognitive style, study habits, self concept, neuroticism-stability and extraversion-introversion (Das, 1987; Kundu et al., 1994; Salinas, 1978; Sharma, 1987). These variables would therefore be made use of in identifying the components of scientific knowledge and aptitude.

The following hypotheses arose from the foregoing review of literature.

Hypotheses

$H_0$1: Students' scientific knowledge and aptitude scores can not be predicted based on their gender, intelligence, field-dependence-independence cognitive style, study habits, self concept, neuroticism-stability and extraversion-introversion.

$H_0$2: Students' class XII physics scores can not be predicted based on their gender, intelligence, field-dependence-independence cognitive style, study habits, self concept, neuroticism-stability and extraversion-introversion as

mediated by scientific knowledge and aptitude.

H_0 3: Class XII students' scientific knowledge and aptitude can not be broken down into separate factors.

Method

Participants

Multi-stage random sampling technique was employed to select a sample of 407 higher secondary (class XII) science students (248 boys; 159 girls) aged 16-19 years studying in seven Kendriya Vidyalayas of Kolkata region. These participants belonged to middle socio-economic status families as found out by administering the Socio-Economic Status Scale (Urban) Form B (Kuppuswamy, 1984). This was done to control the extraneous variable of socio-economic status of pupils. All 407 sampled students studied physics, the mandatory subject.

Instruments

Table 1: Standardized Instruments used for Data Collection

Measuring Instrument	Variable Measured	Operational Definition of Variable
NIIP Non-Verbal Group Test 70 (National Institute of Industrial Psychology, 1968): Non-verbal paper and pencil group test devised for use with persons aged at least 15 years. Has 3 parts. 1st part (time limit 5 minutes) has 196 simple items. 2nd part (time limit 5 minutes) comprises 25 items. 3rd part (time limit 8 minutes) has 28 items. K.R. reliability = 0.90; Factorial validity = General Intelligence factor loading of about 0.90.	Intelligence	All intellectual activities depend mainly on and are expressions of a general factor (g) which is possessed by all individuals in varying degrees; tests highly loaded with g require insight into relations. Also, there are specific factors (s) of intelligence each of which is specific to a particular activity (Spearman, 1927).
Scientific Knowledge and Aptitude Test, Form 1064 (Chatterji and Mukherjee, 1964): 72-item multiple-choice test standardized on science students of higher secondary level. Time limit – 1 hour; K.R. reliability =0.85; Validity= +0.68.	Scientific Knowledge and Aptitude	Candidate's knowledge in the field of science and his / her latent ability to undertake a course of training in that field (Chatterji and Mukherjee, 1964)

Group Embedded Figures Test (Oltman et al., 1971): Devised for individuals aged at least 10 years. Consists of 3 sections. 1st section (time limit-2 minutes) is for practice. 2nd and 3rd sections (time limits -5 minutes each) have 9 items each. Higher score indicates greater field-independence. Reliability (S.B. formula) = 0.82; Validity=-0.82 (with Embedded Figures Test which is scored in inverse fashion).	Field-Dependecne Independece Cognitive Style	Cognitive styles are characteristic, self-consistent modes of functioning which individuals manifest in their perceptual and intellectual activities (Oltman et al., 1971). Field dependence is the tendency to integrate and organize sensory inputs so that it is difficult to break down what is perceived into it's parts; field-independence is the tendency to highlight parts over the whole in perception (Morgan et al., 1987)
Palsane and Sharma's Study Habits Inventory (Palsane and Sharma, 1989): 45-item inventory. Higher score indicates good study habits. Retest reliability=0.88; Validity =0.67 to 0.83.	Study Habits	Study habits of a person generally include his / her reading habits; learning techniques; motivation for learning; memorization techniques; scheduling time for studying; ensuring appropriate physical conditions for study; efficient examination-taking comprising preparation for examination & use of examination results as indicator; and healthy habits of the pupil (Palsane and Sharma, 1989)
Mohsin Self Concept Inventory (Mohsin, 1979): 48-item inventory. Higher score indicates more positive self concept. Reliability (S.B. formula) = 0.73; Validity=0.396.	Self Concept	People's attitudes about themselves; their picture of the way they appear and act; the influence they believe they have on others; their perceived traits, abilities, eccentricities and limitations (Morgan et al., 1987)
Eysenck Personality Inventory, Form A (Eysenck and Eysenck, 1964): A 57-item inventory (standardized for administering on	Neutroticism-Statbility; Extraversion-Introversion	Neuroticism is an inherited psycho-physical disposition linked with the lability of the autonomic nervous system

adolescents and adults) with 24 items assessing extraversion; 24 items measuring neuroticism; 9 items comprising the "lie scale" which detects the tendency of "faking good." Retest reliabilities = 0.80 to 0.97; Convergent validity = +0.59 (extraversion dimension of Eysenck Personality Inventory with social accep- tance scale of California Personality Inventory)		which governs a person's emotional reactivity; high scorers on neuroticism are anxious, worrying, moody etc. Extraversion is related to the degree of excitation and inhibition existing in the central nervous system; the characteristic extravert is sociable, impulsive, carefree etc.; the characteristic introvert is quiet, reserved etc. (Eysenck and Eysenck, 1964)
Socio-Economic Status Scale, Urban, Form B (Kuppuswamy, 1984): Form B asks students to fill in facts regarding their parents / guardians. Comprises seven items each relating to education, occupation and income of parents / guardians. According to total scores individuals are categorized into socio-economic statuses. Validity established by matching with other criterion; studying distribution pattern of scores; comparing contrasting groups.	Socio-Economic Staus **(for purpose of control of this extraneous variable)**	Socio-economic status of students are defined based on education, occupation and income of their parents or guardians (Kuppuswamy, 1984)

Students' class twelve half-yearly examination physics scores (in theoretical paper) was the achievement variable and were taken down from school records. Class twelve half-yearly examination scores was regarded as achievement variable as it was assumed that students had stabilized their learning after selecting and studying in the higher secondary science stream for the past one and half years.

Procedure

Standardized tests (Table 1) were administered to participants to measure their attributes. Data were collected in small groups of about 20 participants each at a time. Places of data collection were schools. Sessions of data collection from each group were spread over three days. Participants' class twelve half-yearly examination physics scores were taken down from school

records. Socio-Economic Status Scale was scored at the outset to identify students of middle socio-economic status families to include them in the final sample. Rest of the tests were scored only for these sampled students.

Results and Discussion

Table 2 reports results for participating pupils of class XII science stream. These pupils study physics which is an obligatory subject in this stream.

Table 2: Descriptive Statistics

Variables	Boys (N=248)		Girls (N=159)		Total (N=407)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Intelligence	60.57	7.75	59.77	8.75	60.26	8.16
Scientific Knowledge and Aptitude	43.87	11.15	44.87	11.36	44.26	11.23
Field-Dependence-Independence	9.21	3.04	9.88	3.06	9.47	3.06
Study Habits	54.82	13.92	52.69	13.14	53.99	13.65
Self Concept	29.30	5.77	29.33	5.89	29.31	5.81
Neuroticism-Stability	11.94	2.90	11.63	2.88	11.82	2.89
Extraversion-Introversion	11.92	3.61	11.74	3.56	11.85	3.59
Physics Scores	55.00	16.76	51.63	17.68	53.68	17.18

Results (Table 2) reveal that the sampled boys and girls are almost alike in the means and standard deviation values of the corresponding attribute and achievement variables. So data from gender-groups would not be separated in further analyses.

Table 3: Results of Path Analysis

Dependent Variable	Predictors	β	Significance
Scientific Knowledge and Aptitude	Gender	.08	.021
	Intelligence	.12	.002
	Field-Dependence-Independence	.19	.000

	Study Habits	.58	.000
	Self Concept	-.007	.821
	Neuroticism-Stability	-.01	.718
	Extraversion-Introversion	-.03	.375
R= 0.77 (p<.01); R^2= 0.59; S = 7.22; F= 83.50 (sig. .000)			
Physics Scores	Gender	-.03	.399
	Intelligence	.21	.000
	Field-Dependence-Independence	.17	.000
	Study Habits	.13	.017
	Self Concept	-.004	.911
	Neuroticism-Stability	-.09	.012
	Extraversion-Introversion	-.21	.000
	Scientific Knowledge and Aptitude	.22	.000
R=.74 (p<.01); R^2= 0.54; S = 6.82; F= 58.82 (sig. .000)			

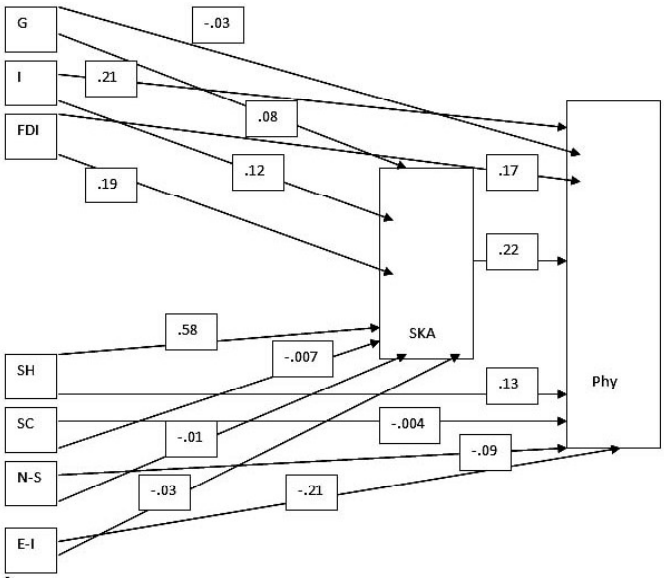

Figure 1: Causal Pathways from Student-Attributes to Physics Achievement (Phy) via Scientific Knowledge and Aptitude (SKA) [G: Gender; I: Intelligence; FDI: Field-Dependence-Independence; SH: Study Habits; SC: Self Concept; N-S: Neuroticism-Stability; E-I: Extraversion-Introversion]

In the first layer of path analysis, students' scientific knowledge and aptitude is the dependent variable. The predictors i.e. select student-attributes evidently share a strong relation with scientific knowledge and aptitude (R=.77; p<.01). R^2 value of .59 indicates that 59% variance in scientific knowledge and aptitude of the participating students can be accounted for by their gender, intelligence, field-dependence-independence cognitive style, study habits, self concept, neuroticism-stability and extraversion-introversion. Standard error of estimate (S) is 7.22 which suggest that the regression is moderately accurate. F value of 83.50 (sig. .000) reveals that the select student-attributes can significantly predict scientific knowledge and aptitude of the participant higher secondary students. Thus the 1st null hypothesis is rejected; alternative hypothesis seems tenable. â values show that study habits (â= .58; sig. .000) is the foremost predictor of scientific knowledge and aptitude of the sampled students. This finding resonates with those of Kundu et al. (1994). Field-dependence-independence cognitive style of the students (â= .19; sig. .000) appears another major predictor of their scientific knowledge and aptitude. The outcome agrees with findings of previous researches (e.g. Salinas, 1978; Sharma, 1987).

For the second layer of path analysis, class XII physics examination scores is the dependent variable. Predictors i.e. select student-attributes including scientific knowledge and aptitude appear to bear significant association with physics scores (R=.74; p<.01). R^2 value of .54 points out that 54% variance in physics scores of sampled students can be explained by their gender, intelligence, field-dependence-independence cognitive style, study habits, self concept, neuroticism-stability, extraversion-introversion and scientific knowledge and aptitude. Standard error of estimate (S) is 6.82 which demonstrate the reasonable goodness of fit of the regression model. F value of 58.82 (sig. 0.000) manifests that select attributes including scientific knowledge and aptitude of participants can significantly predict their achievement scores in physics. Moreover, scientific knowledge and aptitude has been found to play a vital role as intermediary. It has increased the impact of study habits and diminished that of extraversion-introversion on physics achievement after mediation. So the 2nd null hypothesis is not accepted; alternative hypothesis seems justifiable. â values show that scientific knowledge and aptitude (β= .22; sig. .000) is the most potent predictor of

physics achievement of the sampled students. This concurs with the findings of Benbow and Arjmand (1990), Ghosh (2011), Gustafsson and Balke (1993), Mukhopadhyay (2013b) and Rao (2004). Students' intelligence (β= .21; sig. .000), extraversion-introversion (β= -0.21; sig. .000) and field-dependence-independence cognitive style (β= .17; sig. .000) also seem to play pivotal roles in their physics examination performance. These outcomes resonate with those reported by Campbell et al. (2000), Cavallo et al. (2004), Ghosh (2011), Gustafsson and Balke (1993), Jahan (1985), Jungert et al. (2009) and Khan (2005). Results of path analysis showed that influencing variables of scientific knowledge and aptitude; and physics achievement were similar. Since students' scientific knowledge and aptitude emerged as chief predictor of class XII physics scores so it was factor analyzed to identify it's elements. The technique of factor analysis employed was principal component analysis. Before analysis, the distribution of scientific knowledge and aptitude scores was scrutinized. It was found multi-modal. 51 was the minimum mode-value. So only cases with scientific knowledge and aptitude score of 51 were factor analyzed. Component matrix (matrix of loadings) and explanation of total variance appear below in Tables 4 and 5. Scree plot appears as Figure 2.

Table 4: Component Matrix

Variables	Component / Factor I	Component / Factor II
Study Habits	.408	**.732**
Field-Dependence -Independence	-.482	**.757**
Neuroticism-Stability	-.301	**-.597**
Extraversion-Introversion	**.730**	-.390
Self Concept	**.645**	-.146
Intelligence	**.729**	.364

Table 4 displays factor loadings (weightage of factors). It is apparent that two components / factors could be extracted. Factor I mainly comprises of extraversion (.730), intelligence (.729) and self concept (.645). Factor II largely consists of field- independence (.757), study habits (.732) and emotional stability (-.597). The outcomes are congruent with those of Das

(1987), Kundu et al. (1994), Mukhopadhyay (2013a), Salinas (1978) and Sharma (1987). So it seems that two types of pupils tend to score higher on scientific knowledge and aptitude: i) those who are extraverted, intelligent and have favourable self concept; and ii) those who emphasize parts / details in perception, are regular as well as effortful in study habits and are emotionally calm. Conversely, introverts lacking in intelligence and having poor self-opinion tend to lag in scientific knowledge and aptitude. Besides, students who ignore parts / details while perceiving, are irregular and insincere in studying as well as anxious also generally trail in scientific knowledge and aptitude. Thus the 3rd null hypothesis is rejected; evidence points to the alternative hypothesis. The fact that scientific knowledge and aptitude could be broken down into components resonates with outcomes of reviews by Ediger and Rao (2003) and Mukhopadhyay (2013a). Present findings imply that lack of social interactions seems to particularly impede scientific knowledge and aptitude of less intelligent persons. These people typically can not glean knowledge and figure out solutions to science problems on their own. So they might be placed in study groups or peer tutors could be assigned to them. Low self concept appears to be another hindrance for them. Self concept could be enhanced through breaking down tougher problems in science into simple parts. Solution of each part could be rewarded. Another strategy would be counselling. Habit of paying attention to details might be developed by having students participate in classroom quizzes and take tests with multiple-choice answer-options. Recording detailed notes when conducting experiments and nature-study could make students more perceptive. Student-notes could be graded based on extent of insightful observations those contain. Reasonable amount of interesting home-work might be assigned daily so that pupils study in-depth regularly. Anxiety could be reduced by general strategies like relaxation training and counselling. Joyful science-learning and stress-free evaluation techniques should also be increasingly incorporated so that student-anxiety decreases.

Table 5: Explanation of Total Variance

Component / Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
I	1.969	32.816	32.816	1.969	32.816	32.816

II	1.770	29.505	62.321	1.770	29.505	**62.321**
III	.962	16.040	78.361			
IV	.583	9.714	88.075			
V	.480	7.996	96.071			
VI	.236	3.929	100.000			

Eigenvalue (Table 5) for a certain component / factor measures the variance in the variable which is accounted for by that component / factor. Factors with low eigenvalue contribute less to the explanation of variance in the variable and may be regarded unnecessary. Eigenvalues therefore assess the amount of variation in the total sample explained by each factor. It is obvious from eigenvalues (Table 5) that only Factors I and II matter. Following Kaiser-Guttman rule, only Factors I and II with eigenvalues greater than one were retained and rest were discarded. Cumulative percentage of variance (Table 5) indicates that Factors I and II together explain 62% of total variance in scientific knowledge and aptitude. Scree plot (Figure 2) corroborates that only Factors I and II could be successfully extracted. This is evident as the graph turns decidedly right after Factors I and II are plotted.

Figure 2 : Scree Plot

Table 6: Communality

Variables	Initial	Extraction
Study Habits	1.000	**.702**
Field-Dependence-Independence	1.000	**.805**
Neuroticism-Stability	1.000	.447
Extraversion-Introversion	1.000	.685
Self Concept	1.000	.437
Intelligence	1.000	.664

Communality (Table 6) is the amount of variance in scientific knowledge and aptitude explained by common factor(s). It ranges between zero and one. It starts out as one and is re-estimated. Presently, re-estimation is based on loadings of the two extracted factors. New values of communality are less than one when the number of factors is less than the number of items / variables. Here, number of factors is two and number of variables is six. Thus in this case communality-values upon extraction are less than one. Field-dependence-independence (communality-value = .805; Table 6) and study habits (communality-value = .702; Table 6) emerged major variables across Factors I and II. Combination of these variables is the general factor of scientific knowledge and aptitude. Students with field-dependence (less attention to details) and poorer study habits seem generally deficient in scientific knowledge and aptitude. This echoes outcomes of Kundu et al. (1994), Salinas (1978) and Sharma (1987). Varimax rotation with Kaiser Normalization was attempted next.

Table 7: Rotated Component / Factor Matrix

Variables	Component / Factor I	Component / Factor II
Study Habits	-.041	**.837**
Field-Dependence-Independence	**-.809**	.388
Neuroticism-Stability	.060	**-.666**
Extraversion-Introversion	**.826**	.055
Self Concept	**.625**	.217
Intelligence	.427	**.694**

Varimax rotation is orthogonal rotation of factor axes so that each factor tends to have either large or small loadings of any variable. Kaiser normalization means dividing each row of factor matrix by sum of squares of values in the row. Of the two rotated factors – Factor II seems to agree more with previous research outcomes. It identifies good study habits, higher intelligence and emotional stability as elements of scientific knowledge and aptitude [in line with findings of Das (1987), Kundu et al. (1994) and Mukhopadhyay (2013a)]. Instead of assessing aspirants' study habits, intelligence and neuroticism-stability, only scientific knowledge and aptitude need be gauged before advising them to choose science at post-secondary level. Correlation coefficients between each factor before and after rotation were strongly significant (.85; $p<.01$). *However, all the present findings pertain just to the sample and measuring instruments used and might not be universal. So the conclusion is not overreaching.*

Conclusion

Path analysis revealed important mediational role of scientific knowledge and aptitude in influencing physics achievement. Thus it seems that underachievers in physics lack scientific knowledge and aptitude. So instead of relying on performance in secondary examination, selectors must assess candidates' scientific knowledge and aptitude before offering admission to higher secondary science. Scientific knowledge and aptitude, in turn, has been found to be strongly influenced by study habits of students. It is plausible that poorer study habits of pupils make them less knowledgeable in science or students with lower scientific aptitude tend to have inferior study habits as they do not understand subject matters hence are not interested in acquiring knowledge. Science textbooks need to be written in lucid and appealing fashion so that even less apt students are interested to study. On factor analyzing scientific knowledge and aptitude of students, two factors emerged. Factor I mainly comprised extraversion, intelligence and self concept. Factor II largely comprised field- independence, study habits and emotional stability. Together these factors explained 62% of variance in scientific knowledge and aptitude. Communality identified field-dependence-independence cognitive style and study habits as important variables across factors. Students with field-dependence and poorer study habits tend to lack scientific knowledge and aptitude. Thus efforts to develop analytical approach to perception / thinking and better study habits since childhood might be planned to enhance scientific knowledge and aptitude of students. This could counter underachievement in sciences including Physics.

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Initiatives to Improve Teachers and Teaching in Indian Higher Education

Sayantan Mandal*

Abstract

The Government of India launched a special and focused programme for teacher development, titled Pandit Madan Mohan Malviya National Mission on Teachers and Teaching (PMMMNMTT) during the XII Plan with generous fund allocations. This umbrella scheme aims to create synergies among the various ongoing initiatives on teachers and teaching and MHRD and other autonomous institutions dealing with all levels of education. The paper tries to analyze the PMMMNMTT scheme and its components with selected theoretical frameworks and compare it with the earlier national level policies on the same issue. It tries to understand: why were the earlier policies less successful in improving the quality of teaching in Indian higher education? How differently is the latest PMMMNMTT scheme as planned compared to its earlier counterparts and what are the innovative components in it? And finally, what are the potentials and pitfalls in the latest policy initiatives (including PMMMNMTT), which may boost and/or hinder significant development of teachers and teaching in Indian higher education?

Keywords**:** *Teaching in Indian Higher Education, Policies on Teaching-Learning, PMMMNMTT Scheme (MHRD), Massification of Higher Education*

Introduction

Higher education in India is experiencing the fastest growth in this century. The enrolment has increased from 8.8 million in 2001-02 to 34.6 million in 2015-16 with Gross Enrolment Ration (GER) being 24.5% (AISHE, 2015-16). This massification of higher education (Varghese, 2015) is also accompanied by a high degree of diversification of the system. The traditional public higher education space is shared by private institutions and open online

* Assistant Professor, Centre for Policy Research in Higher Education,National University of Educational Planning and Administration (NUEPA), New Delhi, s.mandal@nuepa.org

courses. The student body has also changed as there are more first generation learners, students from poor families, rural areas, speaking minority languages and so on, who now co-exist with students from elite backgrounds. This massification of the system and diversification of the student body pose challenges for enhancing quality in higher education, where the heart of the quality is limited by the quality of teachers.

Great teachers know what to teach, how to teach and how to teach them effectively. For an effective teaching-learning process the system needs teachers, who are grounded in content and pedagogic knowledge with modern ICT skills. They need to adapt to the changes as teaching is no more talking and learning is not listening (Darling-Hammond, 1995). Moreover, gone are the days when elite students used to pursue higher education for the joy of learning alone, as in this competitive knowledge based society, the majority of new-age learners consider it as an investment for better careers and improved lifestyle. However, a recent national level research project coordinated by the Centre for Policy Research in Higher Education (CPRHE) of the National University of Educational Policy and Administration (NUEPA), New Delhi, shows that teaching in Indian colleges and Universities (apart from the premier once) are rather traditional and mostly unchanged (or marginally changed) in the last few decades. They rarely address the needs of the net-generation and practice the same unidirectional lecture methods with some marginal modifications. This inadaptability of teaching learning has been an issue of discussion in Indian academia and several reports and policy documents have shown great concerns about it.

As a consequence, several steps have been taken. The National Eligibility Test (NET) has been made compulsory and the Academic Staff Colleges (ASCs),now the Human Resource Development Centres (HRDCs), started functioning. Even then, the quality improvement was not satisfactory. At this juncture, the Government of India launched a special and focused programme for teacher development, a national level scheme titled 'Pandit Madan Mohan Malviya National Mission on Teachers and Teaching (PMMMNMTT). This umbrella scheme aims to create synergies among the various ongoing initiatives on teachers and teaching, dealing with all levels of education.

The paper tries to analyze the PMMMNMTT scheme and its components designed for the development of teachers and teaching in higher education. It tries to understand:

How differently is the latest PMMMNMTT scheme planned as compared to its earlier counterparts and what are the innovative components in it?

And

What are the potentials and pitfalls in this latest policy initiative (focusing on the PMMMNMTT), which may boost and/or hinder significant development of teachers and teaching in Indian higher education?

The paper starts the discussion with a brief overview of the policies that address teacher education in India. This creates the backdrop as well as a base upon which the latest PMMMNMTT scheme emerges and becomes the leading mission in teacher development in the country today. The paper then highlights some of the aspects of the scheme and few salient features related to its planning and implementations, which are somewhat unique and deserve special mentions. However, in a large and diverse country like India with equally rugged higher educational landscape, a single plan has its limitations and boundaries. Therefore the following section analyzes some of them to lead to the concluding section where a few action points are suggested.

Policy Initiatives to Improve Teaching-Learning in Indian Higher Education

Why could not the Indian higher education metamorphose with time and address the contemporary needs of the changing society? Why is this fast expanding system criticized for the lack of quality? Are the core issues such as teaching-learning, which have potential to improve the condition, neglected in Indian colleges and universities? If so, what are the reasons? There can perhaps be many more questions like this. The answers are perhaps not easy, considering the diversity of the national higher educational landscape. Also, recent ICT revolution and several forms of globalization made the situation even more complex. Nevertheless, looking at the progress of policies addressing the issues might provide some insights.

In the first policy on Higher Education in post independence India or the Radhakrishnan Commission (1948) it is clearly mentioned that, a teacher has to stimulate the spirit of enquiry and of criticism. It put the highest value for teachers. The commission was in fact very concerned, when it found that mass lecture is most common the institutions and not supplemented by any regular work by students in the library post lecture (Mathew, 2016). This prevented studented from developing their own arguments and power of judgments. The commission went ahead and suggested flexibility in the choice

of courses and stressed on the importance of liberal arts and social sciences. However, no much progress happened in the next twenty years (NCERT, 1971 in Mathew, 2016).

Mostly, the normative ideals were hindered by the bureaucratization of expanding Indian higher education in the 60s. The affiliating university system and large and complicated university administrations somewhat reduced the academic freedom, which Radhakrishnan Commission vouched for. In this process, rather similar to the industrial top down management, teachers became mere components of the bigger system, largely following mandates of the higher order.

The National Education Policy 1986 (NPE, modified in 1992) has pointed out that teachers are not provided adequate freedom and opportunities for professional and career development. There is also lack in proper orientation to the methodologies of teaching and learning or the value of innovative and creative practices. The NPE recognized that higher education programs have to be redesigned to meet the growing demands of specialization to provide flexibility in the combination of courses, mobility among courses and to integrate work-study experiences and to facilitate the evaluation procedure. However, the restructuring of the courses is yet to witness a significant change. As a continuum, the University Grants Commission (UGC) constituted a commission (the Mehrotra Commission) in 1986, which recommended the introduction of a national level test for the eligibility to be recruited as lecturers in colleges and universities in India.

The National Eligibility Test or the NET was thus introduced in 1989. Although there have been criticisms against NET examinations, it is generally agreed that NET has served a useful purpose by ensuring standards for recruiting teachers in higher education (Ahmad, 2008; Sharma, 2008; Verma, 2007). The CPRHE at the request of the UGC carried out a study of NET (Varghese, Malik and Gautam, 2015). This which showed that the NET examination is highly competitive and the pass per cent is invariably below 5 per cent. During the tenure, the introduction of API scores indicates the importance of higher education teachers attending in-service programmes to keep abreast with developments in their respective domains of specialization (Varghese, Pachauri and Mandal, 2016).

However, having teachers with NET qualification does not always translate into effective classroom teaching, unless the theaters are oriented towards pedagogical practices and better management of learners and learning

in the classrooms. This is truer in this age of modern information communication technologies (ICTs). In this information rich environment, the role of the teacher is less of an information provider and more of the facilitator, who is capable of enhancing the knowledge levels and analytical capabilities.

Realizing the need to change, the Government of India introduced several programs and faculty development initiatives, constituted committees and commissions. Among the recent development in this front, the Kakodar Committee (MHRD 2014), the Madhav Menon Committee, the UGC Pay Review Committee, the Rama Rao Committee or the Planning Commission's subcommittee on Faculty Issues in Higher Education can be mentioned, which focus on the need of new approaches in developing teachers in higher education. Whereas some of the committees focused on the aspect of making the teaching profession more attractive by reforming the salary structure, some other committees stressed on the improving the ICT infrastructure. The Report of High Power Committee for Faculty Development in Technical Education (the Rama Rao Committee) highlighted the importance of teachers' education and the need of building learning environments which can foster innovative practices, more collaboration and boost opportunities in new frontiers. The Planning Commission's Sub Committee on Faculty Issues in Higher Education itself took an innovative approach by suggesting joint appointment of teachers and preparing researchers and teachers by involving them in university/ college teaching. Connecting the world of knowledge through visiting professorships and linking teaching with industry are some of the recommendations from majority of these committees.

The latest in this line is the scheme of Pandit Madan Mohan Malavia National Mission on Teachers and Teaching (PMMMNMTT). This flagship program of Rs 900 Crore is envisaged to address all the issues related to teachers, teaching and teacher preparation and professional development across all educational sectors (PMMMNMTT, 2015). It is expected to result in developing a strong professional cadre of teachers and create top class institutional facilities the for innovative teaching.

The PMMMNMTT Scheme

The Twelfth Five Year Plan was focused on the improvement of teaching and learning in higher education. It expressed concerns for quality teaching in relation to the unprecedented expansion of the system. To address the issue, the Plan recommended a National Mission on Teacher Development.

Later, the report of the Department Parliamentary Standing Committee envisaged that the Mission is a step in the right direction and requested MHRD to undertake this as a national mission. After swift designing of the project and further approval in the Expenditure Finance Committee (EFC), the PMMMMTT scheme was formally launched by the Honorable Prime Minister of India Shri Narendra Modi on 25 December 2014.

One of the main objectives of the Mission include coordinated approach to holistically address issues related to teachers, teaching and research on pedagogical issues. In addition, strengthening of institutional mechanisms for augmenting training and domain knowledge, development of faculty and their periodic assessment for excellence, empowering teachers through training to develop generic skills, pedagogical skills, ICT and technology skills are some of the prime aims. The mission targets to cover the orientation and training of one lakh teachers covering school and higher education sectors, creating a good base for teacher educators and creating excellence in faculty for academic leadership positions and establishment or development around 88 institutional structures and subject based networks.

The scheme has seven components. i) Schools of Education (in Central Universities); ii) Centres of Excellence for Curriculum and Pedagogy (these include Centres of Excellence in Science and Mathematics Education (CESME), Teaching Learning Centres (TLCs) and Faculty Development Centres (FDCs); iii) Inter-University Centres for Teachers' Education; (iv) National Resource Centre for Education; (v) Centres for Academic Leadership and Education Management (vi) Innovations, Awards, Teaching Resource Grant, including Workshop & Seminar (vii) Subject Networks for Curricular Renewal and Reforms.

i) *Schhols of Education (SoE)*

The objectives of the SoEs are to conduct various academic programmes, establish Centres and conduct research in curriculum development, pedagogy, special education, language teaching, develop as model institutions for teacher education and to ensure integrated and inter-sectoral linkages.

ii) *(a) Centres of Excellence in Science and Mathematics (CESME)*
The objectives of this sub-component are to accelerate science and mathematics education by way of promoting independent, critical and creative thinking, hand hold the science teaching community in facilitating teaching and research for subject specific growth, enable

the development of skills engaging latest technological devices as aids to teaching-learning process, help teachers in capacity building for curriculum designing and scientific assessment and evaluation.

(b) Teaching Learning Centres (TLC)

The objectives of the TLCs are to develop discipline-specific curricular framework and evaluation methods for incorporation into workshops and short-term professional development programmes, outline and recommend pedagogy and schemes of assessment appropriate for the curricular framework; develop learning materials, including textbooks and handbooks and to organize their translation into regional languages; create repositories of resources, including reference services and electronic data bases, for promoting research on issues relating to teaching and learning practices.

(c) Faculty Development Centre (FDC)

The objectives of the FDCs are to promote organizational strategies for faculty development so as to incentivise teachers to grow professionally and enable the institutions for faculty development. This is expected to result in improved teaching performance and better learning outcomes for students and teachers. Along with it, FDCs also aim to promote new ways of thinking about the student-teacher relationship, and increased commitment to educational scholarship. Developing all round skills are a prominent aspect for FDCs.

iii) Inter-University Centres for Teacher Education

The objectives of the Inter-university Centre are to provide common advanced centralized facilities/services for universities not available within individual stand alone institutions; bring convergence among the various activities of Schools of Educations; offer the best expertise in teacher education; continuous upgradation of teacher education curricula and publishing of advanced research studies relating to teachers' education.

iv) Innovations, Awards, Teaching Resource Grant including Workshops and Seminars

The areas under this component cover a wide array of sectors where innovation is promoted. Innovations could be in curriculum, pedagogy, evaluation and technology. Promoting inclusion, funding

and collaborations are also given priority along with promoting innovations through resource grants to teachers; recognizing and identifing talent among the teachers and rewarding teachers at the institutional, state and national level and supporting wworkshops and seminars to evolve strategies for faculty matters.

v) Subject Networks for Curricular Renewal and Reforms

The objectives includes establishing electronic network for the teachers and researchers of specific domain areas in higher education; creating a website and other appropriate tools to support information exchange and dissemination; pooling / sharing subject based resources, teachers & professionals; help members of the network on subject specific problems; share & analyze research findings to help fresh researchers

vi) National Resource Centre for Education /Higher Education Academy

The National Resource Centres focus on creating a database for all teachers in higher education; develop an electronic network for the teachers and researchers in higher education; assemble all support material in electronic form; disseminate material to all registered subscribers of HE; organize workshops, seminars and short term courses in HE and strengthen the resource base for faculty in higher education.

vii) Academic Leadership: Institutes of Academic Leadership and Education Management

This component under the PMMMNMTT scheme aims to evolve a programme on the training needs of academicians in leadership positions; provide entry-level orientation on requisite functional proficiency and attitude orientation; create a pool of academic managers in school education; develop training resources for academic managers of DIETs, SCERTs, other teacher education institutions; develop educational managers who are able to coordinate the efforts of all stakeholders to improve effectiveness of an organization.

The potentials and the pitfalls of the PMMMNMTT Scheme

The PMMMNMTT is a major flagship scheme of the MHRD. Through its seven components the Scheme initiated the journey to transform teaching in

Indian educational spaces. It demands appreciation. From policy making to implementation, the process can be divided into a few segments. The first one is the planning phase, where the scheme was envisaged. In the following phases, the structures were defined, the financial aspects were deliberated and the project was launched for which institutions could apply under different components. In response, several premier and best performing institutes like IITs, IISERs came forward along with some unique higher educational institutes like the Banasthali Vidyapith (the largest residential women's university in the world). From its conception and planning, it can be said that one of the successes of this scheme is the ability to attract many top ranking institutes of India. This helps is setting the example of high standards.

Guidelines and Institutional Autonomy

By analyzing the guidelines provided in the documents related to the PMMMNMTT scheme it is observed that it follows a clear and simple structure. However, it does not go into specific directions on how to achieve the target, what steps to follow and how to do them. Instead, these are left to the applying institutions and their credibility. This, on one hand, provides the necessary flexibility to the institutions as they can focus on their areas of strengths and then plan accordingly. This also promotes institutional initiatives and their ownership of the scheme. Otherwise, a restrictive guideline without autonomy may lead to a step-by-step implementation of the scheme. But as a consequence, the institutions would eventually become mere implementers of the scheme. On the other hand however, it is felt that in some cases, same more elaborations on the guideline would have worked in favour of the scheme. In components like the SoE or TLC, the mandates are such, that they overlap with each other and often tend to become mere repackaging of the existing faculty development programmes. This demands clarifications to avoid duplication of the effort in the long run.

Sustainability

The PMMNMTT scheme was conceived during the XIIth Plan period. That means it is supposed to end with the plan period, i.e. March 2017, if not extended further. However, the scheme has started operating from 2014 December, throughthe institutions and their proposals were approved much later. From the information available in the MHRD website regarding the Project Approval Board (PAB) meetings, it can be noticed that the first PAB meeting was held on 13 March 2015 and the latest one was on 24 January

2017. That means that the first institutions approved under the scheme are working for more than a year and the latest entrant has just started to function.

Looking deeper into the main document of the PMMMMNMTT scheme, it can be observed that for the SoE the scheme suggests to start new department of SoE and merge the existing faculty development programmes and department of education with it. However, these are long term approaches and once initiated, need long term commitments. A termination of the scheme in March 2017 might not encourage the institutions to initiate the process of remaking the departments to form SoEs, recruit faculty and other staff and continue working successfully. If the SoEs are to function for long and have some sustainable impacts, it seems that the scheme should extend beyond 2017.

These uncertainties may work negatively in the successful implementation of the scheme. The Ministry may look into this matter of sustainability as this would result not only to ensure the continuation of the programme, but also to encourage other institutions to follow the footsteps.

Participation

The PMMMNMTT scheme with its seven components aims to train a large number of participants. The institutions participating in the scheme are working towards it with their capacities and innovative approaches. However, looking carefully into the PMMMNMTT document, some administrative hurdles become evident. Firstly, the scheme document(s) does not mention clearly about providing API scores for the faculties to attain the training programmes. That means faculties will be less enthusiastic about taking up the training programmes as it is not only about the API scores, but where to overcome problems they also about the duty leaves and other administrative procedures. From the institutional perspectives, it might be difficult to allow their faculties to go for such programmes as these are not mandatory and not prescribed by the UGC.

Reach of the Scheme

In its initial phase, the PMMMNMTT Scheme is operating in some of the premier institutions in India. The institutions are highly reputed and top class, hence innovative and effective programmes are expected from them. However, the numbers of beneficiaries are miniscule compared to the required number of faculties need training in Indian higher education. Also, the major requirement to improve teaching and teachers are in the general colleges

and universities, which are not elite or top class. There are colleges and universities which are located in flung areas and require immediate support. Although the present participating institutions under the Scheme should try to outreach as a part of the mandate, but this will not be enough as the human resources of these institutions are rather limited, although high in quality.

From the social inclusion perspectives, the scheme guideline does not suggest any specific method to promote the inclusion of faculties and staff from socially marginalized sections and from remote geographical locations.

It is also important to note that teaching and learning is a joint activity and needs a suitable learning environment. Thus, only focusing on faculty development, although that to most important initiative would result in a partial fulfilment of the ambition of developing teaching in Indian education. Developing teaching learning requires the training and orientation of the staff, administrative heads, members of the governing boards and very importantly, the students or the end users of the educational services. The demands of the students, the lack of employability skills and the demands of the massification need to be addressed as soon as possible. Hence the reach has to be expanded, which would enable more institutions to benefit and especially those, who lacks in quality teaching learning and skill building.

Concluding Remarks

The PMMMNMTT scheme is, without a doubt, a major initiative to reform teaching in Indian education. The reforms are long due especially in the field of higher education. From the above discussion, the potential of the scheme is highlighted. However, by reviewing the policy and planning documents some of the pitfalls are also visible. It is important to observe some of them closely by evaluating the implementation of the scheme. However that is out of the scope of this paper.

Based on the analysis of the available documents and resources, the following can be suggested.

a) The guidelines prepared for the scheme is comprehensive and provide the necessary freedom to the institutions to focus on their areas of strengths. The guideline may require to marginally highlighting some aspects more clearly so that overlaps can be minimized. However, some degree of overlap positive as it would provide common ground of shared discussions and mutual development.

b) This major scheme for the development of teaching and teachers came at a point where quality in higher education is perhaps the biggest concern in the academic discourse today. However, improving quality of teaching is a long and time consuming process. A short life span of the scheme means that the efforts to improve teaching and teachers will not have desired impact. More so, it will fail to have an indirect impact on other institutions to follow the path of faculty development. Hence, the scheme needs to be extended further. It is important for the policy makers to understand that this scheme has enormous potential, but needs long term commitment and engagements.

c) The scheme is working towards including more institutions and participants. However, in its present state, it is led by some elite institutions in the country. The effect of the scheme should spread all over the country where more and more average higher education institutions benefit from it. In this regard, more institutional collaborations and better linkages among the existing institutions can be fostered to spread the benefits to all. However, it is to be done without sacrificing the quality benchmark that the scheme has been able to achieve.

d) Necessary administrative arrangement, such as providing API scores or provision for duty leave etc. are to be arranged at the higher level in coordination with the concerned authority (e.g. UGC). However, it is also important to make sure that the provision of API and other incentives are actually improving the targeted group of faculties. Otherwise there is a risk of converting these training schemes to mere mechanisms of API score accumulation for the purpose of promotion. Also, several institutions providing these programmes could take it as an income generating mechanism where the focus is on providing API scores against fees and not focusing on improving the quality. Hence, several issues are to be taken into considerations while making the necessary administrative arrangements to make the scheme more attractive.

e) As mentioned earlier, it sometimes seems that some of the components are rather repetitive and there is a considerable degree of overlap. While this is good up to a certain extent, it may also cause mere repackaging of the existing programmes. This should be closely

examined to foster new ideas and innovations in the programme implementation.

Finally, it is important to highlight that improving the teachers and teaching requires a change in culture. Some part of that can be done through successful implementation of programmes. Initiatives need to be taken to improve the climate for teaching-learning. In other words, the teaching-learning environment needs to be rebuilt and that certainly requires a much longer commitment from all stakeholders.

The study of CPRHE/ NUEPA on 'Teaching-Leaning in Indian Higher Education' (CPRHE 2015-17) shows that the development of teaching-learning in higher education depends on three major aspects- the development of teachers, students and institution (Varghese and Mandal, 2016). The institution here represents a major part of the learning environment, where effective teaching-learning takes place. Hence, efforts should be to foster academic freedom, development of free and shared exchange of ideas and participation of all stakeholders in the development of the learning culture.

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Migration, Mobility and School Education in India: Empirical Evidence from Madhya Pradesh and Chhattisgarh

Madhumita Bandyopadhyay*

Abstract

This paper deals with different aspects of mobility of students at the level of elementary education. First, their change in residence due to outmigration from their residential area and its consequences on their education; second, their mobility caused by transfer from one school to another and its related aspects, and third, major conclusions and recommendations for ensuring meaningful access of children effected by internal residential migration and school transfer which are caused by different factors ranging from parental and student migration in search of job, distress migration, displacement, transfer from one to other school to attend higher level of education, transfer of student as punishment for indiscipline and so on. The major objective of the paper is to understand how residential and school transfer effect children's education and who are vulnerable to exclusion from educational process because of such transfer. While doing so, drawing reference from secondary as well as primary data, this paper discusses the process of educational exclusion and the factors that contribute to meaningful access for children caused by migration and mobility of students.

Key words**:** Migration, Transfer, Exclusion, Elementary Education

Introduction

With the advent of growing industrialization and urbanization, internal and external mobility of people has become a common phenomenon across the world. According to the definition given by the Dictionary of Human Geography, "migration is permanent or semi permanent change of residence

* Associate Professor, Associate Professor, NUEPA, New Delhi

of an individual or group of people." Migration and mobility have become important areas of research with interdisciplinary perspective. Like other social sciences and developmental research, researchers engaged in the field of education (Schaft, 2005) also are now making efforts to understand the link of migration and educational development in the context of different social settings.

In most cases, migration from rural to urban areas or from smaller towns to cities are seen largely as opportunity related in terms of job opportunities for better earning, educational opportunities and also improvement in quality of life as well as social status of people. As mentioned by Schaft (2005), "Residential improvement is therefore often understood as an investment in one's human capital, with movers gravitating towards areas yielding the highest return on that investment (Lichter and Costanzo, 1987; Massey, 1990)". While in some countries, 'pull factors' in terms of better job prospects, higher income etc. become more important to determine the flow of migration, in some other countries, the 'push factors' like loss of livelihood, natural calamities, political crisis, lowering down of productivity of land, impoverishment of households etc. become very much crucial and force people to migrate out of their 'place of origin'. There are also instances when decision for migration is controlled by both types of pull and push factors. In addition to outmigration of labour caused by push and pull factors, other reasons for mobility of students is getting transferred from one school to another school due to various reasons. All these have considerable consequences on education of children.

With this backdrop, drawing references from secondary sources and also from an empirical study conducted under CREATE (Lewin, 2011), this paper explores some aspects of migration as well as school transfer and its linkage with basic education of children.

Objectives

Following Objectives have been set before this paper:

- To find out the extent to which the change in residence of children due to outmigration from their residential area effects their education;
- To understand how student mobility caused by transfer from one school to another and its related aspects affects Education;
- To discuss different measures to be taken for ensuring meaningful access of children affected by migration and school transfer to Education.

Methodology of Empirical data collection and Analysis

In addition to secondary data and existing literatures, the data collected for empirical study has adopted a mixed method approach including quantitative and qualitative methods. The empirical data collection from field included several rounds and stages according to the need that arose from time to time. The preparatory work before field investigation included questionnaires and schedules that were developed and subsequently modified at NUEPA keeping the project objectives in view and based on generic questionnaires provided by CREATE, University of Sussex, UK, (www.create- rpc.org). These data were collected from households as well as schools located in 36 sample villages.

The field work started in 2008 to collect data from 88 schools located in 36 villages selected for the study. A unique method has also been adopted to capture some basic information about each child enrolled in school by using school roster data format covering name, age, caste, grade, father's name, residence, presence in school on the day of the visit, attendance in the last month, performance according to teacher's perception etc. This information was considered important for understanding existing patterns of children's participation in school. In addition, a competency test was conducted for Grade IV and Grade V children. These Child roster data were collected along with competency test results in following the years of 2009 and 2010. The data collected in these three consecutive years was used for this paper.

Understanding migration and mobility in Indian context: Conceptual Framework

Migration is not a new phenomenon in India. Historically speaking, India has many communities who are known as nomads and they are known for pastoralism and the possession of indigenous knowledge and skills. It is also mention worthy that, migration on a massive scale started during the colonial period under the Indian indenture system, a form of bonded labour to various colonies of European powers to provide labour for the (mainly sugar) plantations. Although the indentured system stopped legally, outmigration or immigration continued unabatedly after Independence as well. While initially it was mainly the migration of unskilled labour, but during later periods, migration of more and more highly educated and skilled people became prominent in the name of brain drain (Khadaria, 2006). Although this migration of knowledge workers is still continuing, the country is also

experiencing increased flow of rural to urban migration which is seasonal in nature and the most prominent among all types of migration in India.

According to the 2011 census, only 31% of the population of India lives in urban areas. According to the United Nations, the urban population of India will be less than 35% in 2020 and approximately 40% in 2030. During 1991-2001, 41.1 million people were recorded as migrants who moved from one state to another within India. The Census of India also acknowledges that migration of people is also one of the important contributing factors for growing urbanization. By 2030, another 225 million people will be added to the Indian urban areas, more than the population of Japan and Germany combined. Bhagat (2009) has given a clear picture of internal migration in India which has increased during the decade of 1991-2001 along with improvement in the economic scenario. Earlier studies also pointed out rural to urban migration among those with some education and capital to survive (Oberai and Singh, 1983; Skeldon, 1986). People with higher level of education or economic status find it easier to establish linkages with urban economy through socio-cultural channels, put their foothold in the city and avail the opportunity offered through migration (Kundu and Sarangi, 2007). The NSSO data also indicate that the migration rate was as high as 23.3% in the highest monthly per capita expenditure (MPCE) category in rural areas in 1999-2000. This became only 4.3% in the lowest MPCE category.

Many studies have also attempted to understand the consequence of migration of these underprivileged people which is more familiar in terms of 'distress seasonal migration' (Smita, 2011). Generally such migration is termed as *palayan* or escape. As Saxena (1994, 1257) has rightly pointed out that these poor and landless labourers "do palayan to survive". She stated that, "They travel long distances along with their small children, leaving their homes to remain away for months every year and sometimes for years together. Forced to do physical work beyond human limits they face ruthless exploitation and women face sexual exploitation too". The former NCPCR chairperson, Shanta Sinha says:

"The contemporary times whilst bringing advances in many areas, has also intensified the danger to childhood and has been extraordinarily harsh to many children in our country. More and more children are vulnerable and marginalised today. Having no food to eat, and little or no health support, they live precariously, experiencing hunger daily and suffer malnourishment, their lives claimed tragically by infant and child mortality. Older children

succumb to trafficking and are working as migrant child labourers, usually away from their homes. Children travel long distances across States. Networks of sourcing children from one end of the country to another, exists across India, from Manipur to Chennai, Bihar to Punjab, Kerala, Rajasthan, Orissa to Mumbai and Gujarat. On their way to work and even in the work places, it is an undisputed fact that children are subject to abuse, torture and gross exploitation."

The problem of migrant children is not a recent one, it has become prominent since the past few decades particularly during the post liberalisation period in the 90s and it is still continuing despite having many enactments including protection of child labour Act of 1986 which has been revised in 2006 and other related enactments like the most recent RTE Act, 2009. Katakam (2006)has given an account of Muslim children who are engaged in zari making units in Mumbai slums. Ironically, these children are bonded labourers and they never get any chance to go to school. Loopholes in Child Labour Prevention Act and other related Acts and lack of proper rehabilitation plans are some of the reasons for continuation of bonded child labour, he insists. In addition to these child workers, there are children who are homeless and live on the streets. In view of the increasing problems of urban poverty, the recent report of UNICEF (2012) on urban children states, "Estimates suggest that tens of millions of children live or work on the streets of the world's towns and cities – and the number is rising with global population growth, migration and increasing urbanization."

Exploring the link between education and migration

Rossi (2008) has assessed the impact of migration of youth and children in developing countries. It has focused not only on migrated children and children of migrant parents but also children left behind by their migrant parents as foster children who are sent to foster families by their parents. Many studies (Cox-Edward and Ureta, 2003 ; Hanson and Woodruff, 2003) have argued that migration has positive impact on education of these children, left behind by their parents (single or both) as the remittances sent by parents significantly reduce the dropout rate and improve attendance (Cox-Edward and Ureta, 2003). Hanson and Woodruff (2003) had also found that remittances impacted positively on completion rate as well in the context of Mexico and also on academic achievements as seen by Bryant (2005) in the context of Philippines.

In addition to children who are normally affected by migration of parents, forced child migrants and child victims of trafficking are very special groups of migrants. Of the estimated 14.2 million refugees worldwide 41 per cent are believed to be children below the age of 18. Around 36 % of 24.5 million people are estimated as displaced because of conflict. According to a report, (UNICEF, 2012) at least 4 million children are thought to have migrated whether by themselves or with their families in India alone (p-36). Most often, these children are denied basic needs like food and safe water leading to their malnutrition.

As informed by Ramachandran (2003): "Although it is assumed that urban areas are endowed with better educational facilities and therefore have higher enrolment as well as attendance rate, it does not hold true always when it comes to the context of education of urban deprived. Although the proportion of urban population in India is 30% of the total population, more than 1 million children are found out of schools. Majority of these children live in urban slums." According to a study (Tsujita, 2009) based on household survey in Delhi slums, only just over half the children are in schools. It also shows that a high over-age and dropout ratio exists among slum children. Another study (Jha and Jhingran, 2005) pointed out that migration is likely to impact on education of children in the urban slums due to occasional long visits to place of origin causing their absenteeism, and also make it difficult for them in understanding the language used at school. A study conducted by Padhan (2007) has provided a detailed account of migrant children who had to dropout due to several reasons related to migration in Patnagarh sub-division of Orissa.

One can also find that there is a lack of willingness of government as far as making provision for education of migrant children. It is not enough to have an enabling policy of education; it should be translated into action. Often, insensitivity of administrators and government apathy exclude these children from education system. Often, migrants are evicted and relocated at the site of migration resulting in loss of jobs and livelihoods and it also drastically impacts children's education. The urban government and planners never put education of poor migrant children, on their priority resulting in never enrolment, and dropout of such children, particularly girls.

These problems are rooted in the cultural differences of migrant children from their neighbors, peer groups and teachers who often call them ' beggars, children of beggars or even thieves'. Their segregation takes place within

their habitation and also within the classroom if they get enrolled in a school. Drawing reference from different studies regarding learning of immigrant students, Vedder *etal* (2007) has mentioned that "Proficiency in the national language is essential for social participation in social settings."

In India, teaching in mother tongue is not a new policy agenda. After Independence, Kothari Commission Report (GOI, 1964) followed by NPE (1968), NPE (1986) and its POA (1992) and later on other policy documents like SSA guidelines and RTE Act, 2009 all have upheld the importance of mother tongue as medium of instruction in elementary schools. However, despite these, many migrant children are not provided with education in their mother tongue. Children residing in inter-state border areas and migrant families residing in another state/region, face tremendous problems to cope with the school culture and medium of instruction causing their alienation from schools and also from their own culture. Inadequacy of teachers with knowledge of language of migrant children, non availability of text books and teaching- learning materials in those schools also impact the education of these children.

During a recent study (Bandyopadhyay, 2011) conducted in 2008-2011, migration was found as a common phenomenon in the semi-urban areas where children were also engaged as child labourers in unorganised sectors. In many of these schools, teachers narrated their helplessness to ensure regular participation of children because of their frequent mobility within the town in search of work or due to visits to their native places.

Policy Initiatives and Concerns for Migrant Children

From the above data, it is understandable that India is facing several challenges to address the needs of migrant children. Nonetheless, government initiatives including Sarva Siksha Abhiyan and Rashtriya Madhyamik Siksha Abhiyan both have created some scope for the country to achieve its long-standing goal of achieving universalisation of school education at the elementary and secondary levels. The focus on seasonal migration has been found in SSA guidelines and RTE Act, 2009 through which the government of India has made mapping migration-prone areas, and educational coverage of migrant children a mandate for all States. The aspect of mobility of these families has also been recognized. It is now a requirement for administrations in both sending and receiving areas to work together to ensure schooling of migrant children.

The Section 10 of the RTE Act states that it is the duty of every parent and guardian to admit their children aged between six and 14 in a neighbourhood school for pursuing elementary education and Section 8 of the same Act defines the term 'compulsory education' to mean the duty of the government to ensure and monitor admission, attendance and completion of elementary education by every child. However, "the Act does not speak about how the government or the local bodies were going to ensure attendance of children whose parents kept moving from one place to another very frequently in view of their vocation"(Mohamed, 2012). Raina (2012) has stated that "There are two options: if children migrate with parents, particularly small children, the schools in the migrated areas have to admit all children even if they cannot produce transfer certificates. Or if parents demand that their children should be given education in their native place while they are away for work, appropriate governments/local authorities shall have to ensure the availability of free residential schools".

Some government documents like the reports of Joint Review Missions also have raised concern for education of migrants. The internal government discussions have also focused on this issue as well. States like Gujarat proposed for coordination between States to ensure coverage of migrant children particularly those of neighbouring states of Rajasthan, Madhya Pradesh and Maharashtra. Similarly, Tamil Nadu took steps for interwar-state sharing of information on migrant children by setting up inter-state coordination bodies for effective coverage of migrant children.

In the light of RTE Act, 2009, Sarva Siksha Abhiyan has witnessed some changes in its guidelines. As per the new guidelines, SSA encourages identification of districts, blocks and villages/cities or towns from where or to which place there is a high incidence of migration (GOI, 2011). Since the RTE Act mandates bringing such children to regular schools both in districts where they stay or in districts to where they seasonally migrate, SSA envisages for innovative and effective strategies for special training along with it strategies. The strategies recommended by SSA are: (a) seasonal hostels or residential camps to retain children in the sending villages/urban habitat during the period of migration, (b) transportation facility to and from the school in the vicinity of the worksite, and if it is not practical then work-site schools should be provided at the location where migrant families are engaged in work, (c) peripatetic educational volunteer/s who can move with the migrating families to take care of children's education during the period they are on

the move from school at one location to school at the other, and, (d) strategies for tracking of children through migration cards / other records to enable continuity in their education before, during and after migration. The Panchayati Raj Institutes could also be involved in special intensive efforts required for migrant children ensuring that they are provided educational opportunities through establishment of seasonal hostels (GOI, 2011).

School Transfer, Student Mobility and its Impact on Education

Student mobility due to transfer from one school to another is a common phenomenon in case of promotion of students from lower to higher levels in case the school does not provide the next level of education. In India, though most habitations are now provided with primary school within one km, a large number of habitations and villages are still devoid of upper primary/ middle schools and also high schools. Under this situation, the children, after completion of their primary education need to take readmission in a middle school to continue their education and for this purpose they need to take transfer certificates from their previous schools. In addition, increase in number of private schools has also made this situation more complicated. Since many parents perceive that private schools provide better quality education than government schools, they withdraw their children from government schools and admit them in private schools if they can afford it.

Although this phenomenon of student transfer so far has not attracted much attention of researchers in India, some research on this aspect has already been conducted in other countries. For example, in United States student transfer takes place on a massive scale and this has been a common concern of many researchers (Rumberger *et al*, 1999; Rumberger, *et al*, 1979) for many years. Rumberger et al (1999) have focused on the mobility of students that has been caused by reasons other than promotion (P-VI) and found school mobility is as often detrimental to achievement of students. Rumberger's study showed that students tend to suffer psychologically, socially and academically from mobility. These students often experience difficulty in making new friends and fitting in socially to a new school situation. Mobility not only impacts students who change schools, it impacts classrooms and schools. Major reasons for mobility of students as per his study were change in residence; to escape bad situations rather than to actively seek a better situation; schools forcing students to leave school for social and academic reasons like poor performance, indiscipline etc. Quality and resources in schools and its capacity to engage students effectively also impact

students' mobility. It has also been found that mobility increases the risk of dropping out. Rumberger *et al* (1999) have also suggested a series of activities, including daily follow- up by parents, regular monitoring by the district authority to ensure education of students who get transferred, maintenance of records of transferred students, and provision of funds to schools for establishing programmes that improve the integration of new students.

Similarly, a report of 1994 by United States General Accounting office also has pointed out, "Elementary School Children who move frequently face disruption to their lives, including their schooling." Another study has raised concern for high dropout rates that prevail among children who experience transfers (GAO, 1994). It becomes quite difficult for these children to adjust with the new environment, teaching methods and curriculum that vary from one school to another. As a result of all these, "they may have difficulty in catching up all subjects by the end of the school year". A few more studies (Cillespie, *et.al.*1999; Alexander *et. al.* 1996) have also discussed about the Socio-economic background of migrant students.

The Empirical Study

Drawing reference from an empirical study, the linkage of migration, school transfer and schooling of children has been explained in the following section. As mentioned earlier, the study has been conducted in 36 villages selected from three clusters of three different districts. While 11 villages were selected from Rajnandgaon district of Chattisgarh state, 11 villages from Rewa and 14 villages from Dindori Districts were selected from State of Madhya Pradesh. Each of these three clusters formed a contiguous geographical unit and roughly represents three different positions on a continuum of development. The top cluster, Rajnandgaon is a developed rural area; the middle cluster, Rewa is located in a less developed rural area and the bottom cluster, Dindori is a highly underdeveloped rural cluster, inhabited predominantly by tribal (*Baigas*) population. Community and school survey was conducted in 2008, 2009 and 2010 in all these 36 villages as well as in 88 schools located in these villages for collecting data.

The analysis of data has revealed that the quality of education has not reached a desirable level and inequality exists in terms of access, even after the implementation of many incentive schemes like the Mid Day meal, Free School Text book, Uniform and Scholarships. There exists considerable

inequality in provisioning of schools. Although barring a few, all villages has primary schools but only a few have upper primary schools and even fewer have secondary schools. Location disadvantage is a crucial aspect particularly in the tribal cluster and distance to school from home is a serious issue for non-attendance and low transition to upper primary school.

It has also been found that despite high investment, many schools suffer from poor physical and academic facilities and provisioning of adequate number of qualified and trained teachers continues to be a major issue. Some of the schools have very low Teacher Pupil Ratio and some have very high Teacher Pupil Ratio. Some schools have 1: 83 while some have less than 20 students per teacher. This uneven distribution has an impact on the teaching and learning process (Govinda and Bandyopadhyay, 2010, 2011b; Bandyopadhyay, Umavati and Zeitlyn, 2011). School attendance is a critical factor for performance. Earlier studies have shown that higher attendance was related to higher achievement for students of all backgrounds (Epstein and Sheldon, 2002) and student's absenteeism has long term academic and social effects. The data also indicates that absent students are at higher risk of poor performance and repetition than the children who attend school regularly (Bandyopadhyay and Das, 2011). It has also been observed that dropouts continued in almost all 88 schools in all the three areas in the successive years of 2009 and 2010 as well. However, many teachers and SMC members were found unaware and indifferent about the problem of absenteeism, low learning level and dropout of children from these schools (Bandyopadhyay and Dey, 2011).

Despite improvement in access and enrolment, a substantial number of children in these 36 villages remained never enrolled and many others left school early, even before completing primary education. Several children were reported to be transferred from one school to another which might have impacted their education. Several children were also reported as migrants or experienced migration in different ways. Some accompanied with their parents who migrated out of the village and some others were left behind relatives and guardians. In this context, it is necessary to find out the educational background of the children who got transferred from schools or migrated out to understand their future prospects in education.

The data obtained from households in 2008 have revealed that there are altogether as many as 117 children between ages three to 15 years who migrated out of the villages under study along with their parents. Most of

these children, as highlighted in Table 1 migrated for more than six months. Majority of them migrated from the villages located in Rewa which were covered by this study. In addition, seven children in Rajnandgaon and 15 children in Rewa stayed back with their relatives and guardians i.e. other than parents while their parents reportedly migrated out of the village.

Table 1: Number and proportion of migrant children

Period of migration	Rajnandgaon		Rewa		Dindori	
	No.	%	No.	%	No.	%
Less than 3 months	0	0	0	0	1	25
3 to 6 months	6	22.3	0	0	1	25
More than 6 months	12	66.7	95	100	2	50
Total	**18**	**100**	**95**	**100**	**4**	**100**

Source: Household data, NUEPA-CREATE Project, 2008

Although many research studies on migrant children argue that these children often get engaged in economic activities, most of these migration affected children in the sample were not engaged in any economic activity. The information regarding main activities of the children who were engaged was available for only 70 migrant children. Out of these children, only 13 were found helping their parents in household work and six were engaged in farming or other economic activities. The remaining (51) reported that they were not engaged in any work. However, three out of 18 working children could not attend school. Thus, the data indicate that impact of migration on schooling of children in the study area was not as drastic as it was found in many other areas affected by migration. Data on educational status was available for 59 out of 117 migrant children. More than half of these children were studying in primary grades (Grade I-V). Highest proportion of children was of eight years old and they were enrolled in Grade II-III. The data suggest that in general, most of these migrant children were enrolled in schools and like other children, their parents too were investing on their education i.e for purchasing books, reading writing materials, school fees, private tuition and so on. Thus, migration of children and their parents in most cases did not have much impact on children's educational access and participation in school in these sample villages and schools. However, there have been few such children who were found with substantial learning deficiency. One such instance can be mentioned here.

Box 1: Learning Deficiency of Child who Experienced Migration

On the day of the visit of investigators (in February, 2008) to Government Primary School of Aari, competency test was conducted to assess the learning level of children. It was found that one child was not even able to write his name properly though he was already in Grade IV. His friends helped him to write his own name on the test paper. On asking why the child was having such a basic problem in reading and writing, the teacher informed that the child did not attend school regularly, and seasonally migrated with his parents for work purposes and remained absent from the school for long period of time.

Similar association has also been found between school transfer and access and participation of children in school. Majority of the children (225 or 44%) who got transfer certificates in 2009 were in grade V followed by 93 (18%) children enrolled in grade VIII. As many as 84 children enrolled in Grade IV also took transfer certificates from their schools in 2009. It is noteworthy that around three-fourth of the children (376) who took TC were from primary grades. Age in grade analysis of 'Transferred' students reveals that 140 (27%) out of 514 children were already over aged as per their respective grades in which they were enrolled in 2008. However, a few instances were found where children were at the risk of exclusion due to school transfer after completion of their primary education, one example can be mentioned below.

Box 2: School Transfer and Transition and Retention in School

Madhu, a girl student of primary school, residing in Amlidih village in the most advanced cluster of Rajnandgaon was a student of Grade 1V. Her parents were wage labours. While father was almost illiterate (grade II dropout) and a farm labour, mother was working in MNREGA and studied up to grade IV. Like many other girls, Madhu was attending the primary school in her village and had shown interest in studies and performed well in her annual school examination. However, she was a potential dropout after completion of Grade V mainly due to non-availability of upper primary school in her village. Since the village is not provided with a middle school, children are required to travel to another nearby village called Aari for upper primary education. Madhu's parents informed that despite

performing well, they would withdraw their daughter from school as they were not willing to allow their daughter to cross the highway that links Aari and Amlidih villages. Since both of parents were wage earners, none of them were in position to accompany their daughter to school. As a result of this, Madhu was found facing the threat of exclusion from school even after successful completion of primary education.

The academic background of the students before they got transferred and migrated will help to understand the extent of the potential risk of being excluded from education despite changing schools. One can assume that children with poor academic performance and low learning levels might have high risk of exclusion even after their migration or school transfer.The evidence of academic performance of these children can be seen with respect to the result of competency test scores of Hindi (language) and Mathematics conducted for Grade IV and Grade V in 2008 (Figure 1). This test was conducted to examine the basic skill of children in language and Mathematics. It is interesting to see that overall performance of most of the children who took TC was quite well. Around 20% children performed reasonably well (50-70%) in both the subjects. However, the children's performance in Mathematics was much better than Hindi. While 25% of the children scored more than 90% in Mathematics, their proportion became only 12% in Hindi. It is noteworthy that around 32% of these children learnt very little despite spending 4-5 years in these schools. More support is needed for these children after getting transferred and re-admitted at the higher level.

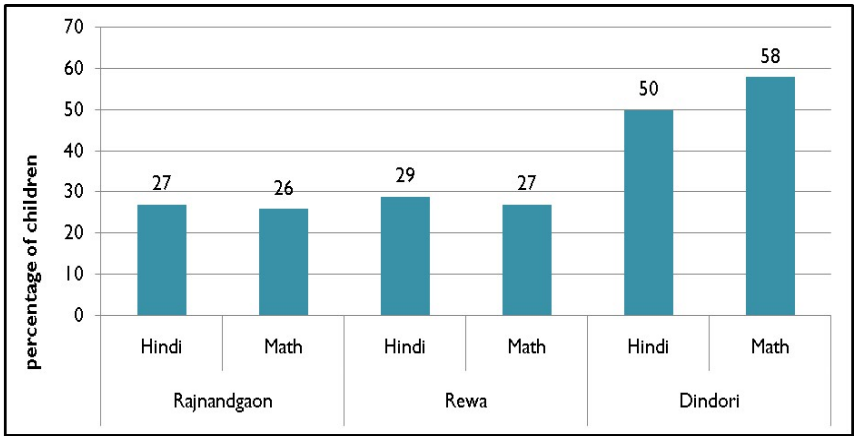

Figure 1: Performance of Children before Transfer from Schools in the Study Area

Source: Child Roster Data, 2008-10, School Survey, CREATE

Teachers' and head teachers' opinion about the migration and transfer phenomena

Since it is the teachers and Head teachers who need to provide support to those students who move out of their schools and enter another school, their opinion seems to be very important for taking further initiatives to address this issue of school transfer. It is also applicable to those who migrate to a new place. As many as 256 teachers were interviewed during the school survey and around 21% of the teachers in Rajnandgaon, 16% in Rewa and 13% in Dindori pointed out that these students who migrate out and get transferred to other school tend to face difficulty in catching up with the syllabus and thereby their studies get affected (Figure 2). While 6% of the teachers in Rajnandgaon, 2% in Rewa and 21% in Dindori insisted that these students face difficulty in social adjustment, a very large proportion of the teachers (64% in Rajnandgaon, 54% in Rewa and 47% in Dindori) were of the opinion that the students generally adjust well in the new environment. Around 8% of the teachers in Rajnandgaon, 15% in Rewa and 5% in Dindori reported that the transferred students did not face any problem in his/her classes.

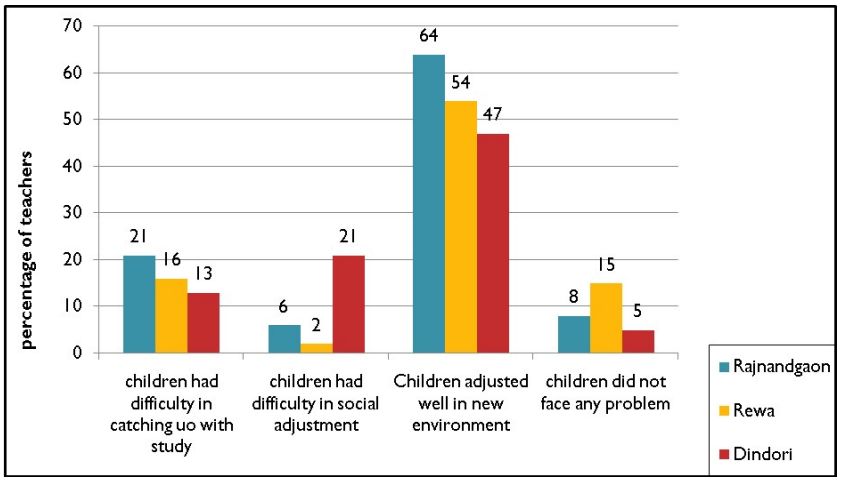

Figure 2: Opinion of Teachers Regarding Impact of School Transfer on Students

Source: Teachers' Questionaire, 2008, CREATE Field work

Similarly, information was also provided by head teachers of schools with respect to transition and school transfers. Around 23% of the school Heads reported that they provided transfer certificates and marksheets to make the process of admission easier for the students. Around one-fifth of the school heads did not visualise any problem in transfer and transition while another one-fifth reported that parents need to be motivated to get the children admitted in other schools after taking transfer certificates. Maintaining records of transfer cases has been an important work but it has come to light that around 18% of head teachers did not maintain any records while 74% maintained their records. While around 40% could not keep any records of transition cases after taking transfer, around 27% reported that they kept the records of transition. Majority of these Head teachers reported that generally these children who were transferred to other schools did not have any problem during post transfer period and in the opinion of another 14% head teachers, children gradually got adjusted with the school. Only four head teachers recognised the fact that some children might have faced some difficulties while adjusting with the new school environment and they deserve adequate attention.

Conclusion

This section summarizes the main conclusions of this paper and formulates a number of recommendations based on these conclusions. The above discussion has shown that migration is not a new phenomenon in India. It has already emerged that like migration, student mobility due to school transfer also has a considerable impact on children's access to and participation in schools. Both migration and school transfer can have a positive impact on children if it increases the possibility of accessing education of better quality. Otherwise it can have a drastic impact not only on education but also the psycho-social development and socialization process of children.

Education of these children is also associated with the availability of schooling facilities in the 'receiving' area and its quality of the service provided to these children. Although various Acts including Child Labour Protection Act and Right to Free and Compulsory Education Act have been introduced, implementation of these Acts by law enforcing agencies is very important to for educateing these children. Following RTE Act, SSA guidelines have already been changed. But the initiatives are yet to be taken in those areas which are prone to high incidences of outmigration. Inter-sector collaboration of different Government departments, private-public

partnership and collaboration with NGOs and local government are required for developing a plan in advance for these children. Authentic estimation of the number of migrants, their children and schooling status of these children, duration of migration, the way they live and specific problems they face due to migration are all to be taken into consideration. Malnutrition and mental depression are common problems for many of these migrant children and schools are required to handle these children with extra care.

The teacher-student relationship is a central concern for overall improvement of quality of education. It has to be remembered that many of these migrant as well as transferred students live in difficult circumstances and are first generation learners. Strengthening the support function of schools with large numbers of migrant students or newly transferred students may require additional financial resources. These schools may require additional classrooms and teachers and teaching learning materials for maintaining quality.

The data of the empirical study show that many villages in the study area are devoid of educational facilities after primary level leading to school transfer of several children. Efforts should also be made to develop integrated schools so that children can continue their education in the same school from the beginning. Up gradation of primary schools in a planned manner may facilitate these children to continue their education. In addition, transport facilities and escorts can also be alternative arrangements for these children. Making parents and SMCs aware about these children need to be taken more seriously.

Identification of children migrated or potential migrants, or those who require to be transferred from one school to another, need to be taken care of at the school and local levels. The academic and social backgrounds of these children need to be shared with the new schools where they get enrolled after taking TC. Better coordination between administrative staff at the block and district levels and also with school teachers and heads can help these children. A child tracking system needs to be developed and strengthened to understand outflow and influx of migrant children from/into the districts and States. In addition, follow-up mechanism is also needed to see the status of schooling, attendance and performance after getting TC from the school they were enrolled in initially.

For migrant children, residential schools are to be provided with all kinds of facilities. School mapping exercises and school development plans need

to incorporate the problems of migrating and transferred children to prevent dropout. The context specific and child centred activities are to be part of local governance to translate the policies into action for making right the realities for these children.

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Parenting Style and Altruism of Adolescents

Swarnali Chowdhury* Aditi Ghose* and Manidipta Mitra

Abstract

Parenting is a natural and inborn role that leads to the development and realization of personality characteristics of children. Humans, with their acquired culture bases, have a more significant and instinctive reason to shape their parenting skills according to their beliefs and ambitions about life and happiness. The impact of mechanization and the e-world are transforming adolescents' lives both physically, socially, emotionally and psychologically. It also includes changes in thinking, beliefs, values and customs of adolescents.Modern society is full of complexity, especially for adolescents because of conflicting influences from home and from society at large .In an ideal society people are expected to learn to cooperate, to live together, to care for others and to empathize with others' tribulations. Parents play an important role in promoting and fostering altruism in their adolescents. However, the act of parenting is accomplished in multiple ways. This investigation therefore has attempted to find out whether the different patterns of parenting influence the altruistic behavior of adolescents. The sample consisted of 620 students from class VII to 2nd year students of college. The tools used were Parenting scale (Bharadwaj,et al.1998) and Altruism scale (Ghose and Roy, 2007). The analysis of data was mainly carried out through bivariate correlations.The results indicate that there is a strong relationship between sagacious parenting and altruism. In particular, the altruistic nature of adolescents is strongly influenced by the parenting style of mothers.

***Key Words*:** Parenting style, Altruism, Adolescent.

Introduction

Society has undergone subtle changes which are reflected in family life and the upbringing of the children within the family. This change was made possible by modernization that included technological advancement as well as changes in thinking, beliefs, values and customs. The growth of industrialization and consequent urbanization of life gave rise to a mechanized outlook on life.

* Department of Education, Prasanta Chandra Mohalanobis Mahavidyalaya, Bonhoogly

* Professor (Retd.), Department of Education, University of Calcutta

* Associate Professor, Department of Education, Maharani Kasiswari College, Kolkata

Adolescence has always been an interesting stage of life to explore. It is a unique period that presents challenges and is full of excitement. At the same time, it demands adjustment on many fronts. It is the vulnerable age group in society. Adolescents acquire the increasing ability to think abstractly and hypothetically. Adolescence is a transitional period of development from childhood to adulthood with evident biological and emotional changes. Adolescents also experience significant changes in their ability to assess and comprehend complex situations and information and in their desire to become independent and unique individuals (Stang & Story, 2005). It is a period of intense and rapid development and is characterized by numerous developmental tasks including gaining new and more mature relationship with others, achieving emotional independence from parents and the cognitive and psychological resources to face the challenges of adult life (Hazen, Schlozman & Beresin, 2008). Thus this is the time when the responsibilities of a mature adult are slowly beginning to manifested in the child's mind.

With the advancement of civilization as well as the contemporary social scenario, parents and their adolescent children experience a huge gulf in their style of thinking and outlooks. Inspite of this, parent-adolescent relationship is the most influential factor by which adolescents adopt social interactions, education and also problem behaviors (Hair, Jager & Garrett, 2002). Parent adolescent relationship is directly associated with self-confidence, empathy and cooperative personality (Barber & Erickson, 2001; Hair et al., 2002).

Adolescents often fall prey to the undesirable traits of modern society. They are seen to be loitering in the streets and spending more time in social networking sites, and playing truant from school. The media regularly portrays the problems of adolescence like gang violence, school shootings, rape, murders and many others. While these can accelerate with tactless parental behavior, they can also be dissipated by the right sort of parenting. Thus, these may arise a question regarding what exactly is good parenting.

Parents assume special importance during the first years of life. Mother and father both have an important role in the upbringing of their child. The quality of an adolescent's relationship with his or her parents is a key factor to healthy adolescent development. Karthik (2009) stated the obvious in concluding that, parents influence their children's lives in every aspect and make an impression that lasts through their future lives. According to Gadeyne

et al.,(2004), parenting is considered to be an important element of several aspects of children's outcomes. Their styles of care giving can have both immediate and lasting effects on children's moral and social functioning in areas from pro-social development to academic achievement (Bornstein et al., 2007). Another study by Onghena (2004) considered parenting as an important determinant which affects the whole life of a child. Parents have unique attitude, behavior, belief, values and family culture and all these criteria vary from parent to parent (Bibi et al., 2013).

According to Darling & Steinberg (1993) and Darling (1999), parenting style is a constellation of behaviors and attitudes towards the child that work as taken together, or separately, to motivate the child and create an emotional atmosphere in which parental attitudes are expressed.

One of the core societal values that parents try to teach their children early on is altruism (Eisenberg, 1983) or prosocial behavior .Prosocialbehavior, that is, behavior intended to benefit others (Eisenberg & Fabes, 1998), is often considered as the basis of human relationships (Staub, 1979). Altruism is perceived more than just as prosocial behavior, it emphasizes as a human and social value, along its relational and psychological features. Improvement in relationship is reported as the most prominent benefit of being altruistic (Soosai-Nathan, Negri, & Fane, 2013). Altruism is one of the most fundamental familiar and mysterious of all the domains of life (Palmer.G, 2009). In another study by Paddock (2007) , altruistic behavior is enumerated from how we observe the world rather than how we act in it. Finally, a working definition by Robinson & Curry (2005) defined altruism as the manifestation of caring, selfless and non-contingent upon reward, and it is truly selflessness with no expectation in any kind of advantage.

Parenting styles are the first socializing systems that nurture adolescents' empathy and pro-social behavior. Parents are always trying to motivate their children to be successful and conforming to social moves. Hastings et al. (2007) found that, parenting styles significantly influence the prosocial behavior of children and adolescents. Sharing, caring, donating, helping and cooperating are the criteria of altruistic nature and most of the parents desire their children to exhibit such volunteering activities. Supportive parenting is characterized by high levels of parental warmth, positive affect and child centered orientation (Biringen & Robinson, 1991), whereas parental control (especially overtly strict control) is related negatively or not significantly to such traits (Carlo, 2006; Eisenberg et al., 2006; Pratt, Skoe,

& Arnold, 2004). The correlational studies by Clark & Ladd, (2000); Liable et al.,(2004) suggested that, there is a link between parental warmth or affection with children's prosocial characteristics. Ergo, children are more prosocial when they have formed more secure attachment relationships with their parents; when parents avoid punitive and strict discipline; when they use reasoning and provide explanations; when they are sensitive to their children's needs and when they support their children's experience and regulation of emotions (Hastings et al., 2000). Prosocial children are relatively well-adjusted and have better peer relationships than do children low in prosocial behavior (e.g., Clark & Ladd, 2000).

Parenting is a very personal exercise, and can manifest in several ways. The above discussion implies the importance of parenting in fostering the altruistic tendencies of the budding young adult, that is, the adolescent. The model of parenting that can have a substantial effect on the altruistic nature of adolescents is worth examining. This investigation has attempted to find out the effects of different models of parenting on adolescents' altruistic tendencies in our society.

Some of the key words used in the investigation have been elucidated as follows:

Method

Population: The population consisted of adolescents and young adults between 13-18 years of age, studying in classes VII to XII in schools and in the first two years of colleges in Kolkata.

The sample was purposively selected and shown in the following table.

Table 1 : Grade and Gender wise breakup of the students in the sample

GRADE	GROUP	GIRLS	BOYS	TOTAL
VII -VIII	G1	67	54	121
IX - X	G2	96	55	151
XI -XII	G3	87	141	228
1st-2nd Year	G4	48	72	120
TOTAL		298	322	620

Tools

- A Personal data sheet was administered to ensure that the participants came from two parent families.
- An Altruism scale developed by Ghose & Ray (unpublished, 2007) based on Nancy Eisenberg, Randy Lenon and Karlsson Roth's five levels of Altruism (1983). The reliability was (r=.81) The content validity of this scale was ensured through inter-rates agreement.
- Parenting Scale by R.L. Bharadwaj, H.Sharma & A. Garg.(1998). This scale had 40 items related to eight different modes of parenting. The different patterns of parenting were assessed in continuums whose end points are shown below along with their abbreviations:

(1) Rejection ——————————————————Acceptance. [R-A]

(2) Carelessness——————————————.Protection . [C-P]

(3) Neglect ——————————————————Indulgence[N-I]

(4) Utopian expectation ——————————————Realism. [U-R]

(5) Lenient Standard———————————— Moralism. [L-M]

(6) Freedom———————————————. Discipline. [F-D]

(7) Faulty Role Expectation———. Realistic Role Expectation. [FRE-RRE]

(8) Marital Conflict———————————. Marital Adjustment. [MC-MA]

Results

Responses to parenting issues with respect to the continuums were recorded in the case of the mother as *Mothering* and in the case of the father as *Fathering*. The totality of scores on the continuum in the case of Mothering was recorded as *Whole Mothering* and in case of Fathering was recorded as *Whole Fathering*. The totality of scores for *Whole Mothering* and *Whole Fathering* was recorded as *Whole Parenting*. The above scores were tabulated and analyzed separately for each of groups G1, G2, G3, G4, gender wise, as well as for the whole sample.

The distributions of scores were ensured for conditions conducive to calculating Pearson's coefficient of correlation. The following are the results of calculation of correlations between the different models of parenting and altruism. The results are shown in the table below:

Table 2 : Correlation between Patterns of Parenting and Altruism

	All	Girls	Boys	G1	G2	G3	G4
Whole Parenting	**.188****	**.211****	**.177***	**.304****	**.150**	**.175****	.058
Whole Mothering	**.208****	**.199****	**.167****	**.337****	.158	**.181****	.063
Whole Fathering	**.182****	**.210****	.092	**.305****	**.162***	**.164***	**.224***
Mothering							
R-A	**.089***	**.116***	.045	.229*	-.014	.104	.057
C-P	**.209****	**.122***	**.247****	**.262****	**.213****	**.155***	.072
N-I	**.113****	.101	.098	.151	.071	.122	-.013
UE-R	.053	.106	-.027	.071	.116	-.033	.025
LS-M	**.238****	**.164****	**.265****	**.391****	.088	**.150***	.079
F-R	**.197****	**.165****	**.181****	**.276****	**.236****	.082	.091
FRE-RRE	**.138****	**.134*.**	.106	**.209***	.086	.090	.056
MC-MA	.060	**.211****	-.084	.121	.070	**.198****	-.005
Fathering							
R-A	.016	.112	-.108	.095	-.048	.123	.052
C-P	**.125****	**.133***	.068	.145	**.212****	**.180****	-.049
N-I	.046	.087	-.035	.064	.057	.062	.052
UE-R	.060	.063	.011	.104	.053	.029	.080
LS-M	**.216****	**.151****	**.235****	**.374****	.116	**.159***	.098
F-R	**.102***	**.135***	.041	**.192***	**.224****	.016	-.048
FRE-RRE	**.079***	**.170****	-.030	.103	.119	.080	.038
MC-MA	.041	**.192****	-.103	.121	.080	**.166***	-.041

** Significant at the 1% level * Significant at the 5% level

Observation: **The above calculation shows that-**

- There is a strong positive correlation between Whole Parenting, Whole Mothering and altruism of all adolescents, and both girls and boys, separately.
- The correlation between Whole Fathering and altruism is not as significant

for boys as for girls.

- Girls are more affected by different patterns of parenting regarding altruism than boys.
- Mothers' parenting patterns have more significant effect than fathers' parenting patterns on adolescents.
- 'Carelessness-protection', 'Lenient Standard-Moralism' and 'Freedom-Discipline' patterns of parenting are equally potent for girls as well as for boys.
- Group 1 (classes VII-VIII) and Group 3 (classes XI-XII), have significant associations between parenting and altruism.

Discussion

Altruism is focused on selfless behavior that puts the welfare of others as a priority. It was observed thatthere is a strong positive relation between Whole Parenting, Whole Mothering and altruistic tendencies of adolescents, both for girls and boys. This means that, with positive parenting, adolescents develop a higher sense of altruism. However, Whole Fathering is not as effective for boys as it is for girls. A closer look at different patterns of parenting shows that Mothering has greater influence on altruistic tendencies than Fathering, especially for girls. However, parenting patterns of Carelessness vs Protection, Lenient Standard vs Moralism and Freedom vs Discipline are equally potent for girls as well as for boys. Also, Lenient Standard vs Moralism, both by mothers and fathers, is significantly influential both for boys and girls.

A plethora of research asserts that parenting has a strong effect on children's mentalities. Children are more altruistic when they have formed more secure attachment relationships with their parents; when their mothers and fathers are more authoritative (Pratt, Hunsberger, Pancer & Alisat ,2003) than authoritarian in their style; when they use reasoning and provide explanations; when they are sensitive to their children's needs and are warm with their children; and when they support their children's experience and regulation of emotions (DeGuzman & Carlo,2004; Carlo,2006).Moreover, the mother as the main caregiver has an important role in the development of pro-social tendencies among adolescent children. Further, a mother who expects high moral standards from her children may be nurturing altruism among them. On the contrary, a mother who is careless, or who expects lax moral standards from her children, may not be able to nurture children who

are strongly altruistic citizens. In fact, fathers, too require asserting high levels of morality for both girls and boys to be altruistically inclined.

Eisenberg, et al. (2006) pointed out that "based on stereotypic gender roles, females generally are expected and believed to be more responsive, empathetic, and prosocial than males, whereas males are expected to be relatively independent and achievement oriented". Boys, in our society, quite often have the option of a life outside home and school. They are encouraged to go to the bazaar or do or jobs outside the home. Associating with people in the larger society by the boys is not frowned at. This is not the case for girls who are more houses bound and consequently more attached to the home and to nuances within the family. Their caring nature may also account for this. In the study of Carol Gilligan (1982) , the 'morality of care' which emphasizes interconnectedness presumably emerges to a greater degree in girls owing to their early connection in identity formation with their mothers.

The parenting models that distinguished between the genders were noted in Faulty Role Expectation vs Realistic Role expectation and Marital conflict vs Marital Adjustment. These models affected the altruism of girls significantly. The reason for this is that girls have the opportunity to closely observe their parents and judge whether their actions are as per their principles. If it is indeed so, then girls are possibly imbued with altruistic tendencies. But if they find that their parents do not actually go by what they profess then they see their parents' actions as examples of practicality, and there by their altruistic tendencies do not develop. Also, girls, being in the hub of the home for much of the day, are more affected by the marital conflicts of their parents. This precludes the feeling of the home as a safe refuge and encourages expediency of action, and is unlikely to nurture altruism.

Looking at the different groups, it may be observed that, there is no significant relation between parenting style and altruism of G2 (class IX-X) and G4 (1^{st}- 2^{nd} year) students. This means the relation between parenting style and altruism declines with age. The reason behind this may be inferred by the fact that older adolescents are increasingly more attached with peers (Newman & Colleagues, 2007) than with their parents. Peers have a significant function in adolescent life because as children grow up, their attachment and closeness becomes more distant from parents, both physically and psychologically (Demonic & Janseens, 1992). Adolescent behavior, attitude, thinking and perception about life depend on how their peer groups affect their lives. Thus older adolescents' peer relationships and friendships

appear to be influential in the development of pro-social motivations and behaviors than their parents' influences (Caldwell, 2004).

The different aspects of this study are further corroborated by several other researches that identify parenting as a source of developing adolescents' pro-social tendencies. Pratt et.al; (2003) found that youths perceived that the extent to which they and their parents valued being kind, caring, and fair corresponded more closely when they saw their parents as more authoritative. In comparing fathers with mothers, the mother as the main caregiver has a more profound impact on the development of prosocial tendencies of the child(Akgun 2008). Children consider mothers to be warmer ,more emotionally supportive, more expressive and concerned with interpersonal relationships than fathers (Kagon warm,1978; Cotton ,2001; Dekovic & Janssens ,1992 , Eisenberg et al ,1991; Eisenberg , Lennon and Rath ,1983). Mothers, who are sensitive, have children who are also sympathetic and more compliant with adults. Eisenberg et al., (2006), for example, have found that mothers do, indeed, have more opportunities to develop greater attachments with their children than fathers, and this has a direct link with the development of their children's prosocial tendencies. It could be inferred that usually adolescents spend more time with their mothers as compared to their fathers. This could be the one reason that adolescent attitude toward parents was much more positive for mothers than for fathers.

As per gender differences, Bandura et al. (2003) also found gender differences in which females were shown to be more prosocially involved in relationships as expressed in being helpful and cooperative as well as sharing and consoling. These are some of the reasons for girls to be more affected by parenting, and for mothers to be more effective in their parenting. It was found in the study by Rozumah & Nor Sheereen (2009) that, girls tend to establish a better relationship with mothers and fathers as compared to boys. In another study of Arzeen (2012), it has been found that emotionally empathic adolescents tend to perceive their mother to be more accepting as compared to their fathers. The second possible reason is that mothers are considered being more lenient, showing less aggression, and using less punitive, harsh techniques as compared to fathers. These facts are also supported by the findings of Dwairy, et al. (2006) and Komagata & Komagata (2008). They reported that usually family relationships are characterized by the father's authoritarian and mother's authoritative parenting style.

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Conclusion

It may be concluded that, parenting styles are complex and multifaceted. Parenting styles often combine with parental attitudes and emotions, and may foster prosocial and altruistic tendencies among adolescents. It remains that parents do have an important role to play in the development of altruistic and prosocial tendencies of their children, though the onus is perhaps more on the mother than on the father. In verity, it was found that mother' parenting patterns rather than fathers' parenting patterns are closely associated with adolescents' altruistic behavior. This is because, mothers are more emotionally responsive than fathers and are physically available for the child to provide securing attachment so that the child can explore the world. Moreover, fathers are usually more concerned about the academic achievement and career of the adolescents than in the development of their psychosocial development. Nonetheless, parenting styles can be a strong source of support for developing adolescents' altruism. Sagacious and well balanced parenting can produce humane adults of the future.

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Quality of Elementary Education in Himachal Pradesh

Hem Raj* & Mamta Garg*

Abstract

In this study, the investigators intended to find out whether students were getting quality education, which is the aim of education as envisaged in RTE, 2009. To have an insight about this, other related quality indicators (input and process) were studied. Descriptive survey method with mixed approach (quantitative and qualitative) was used. The sample of study consisted of 17 schools from three districts of Himachal Pradesh. Both non-testing techniques (observations, focus group discussion and semi-structured interviews) and psychological tests/questionnaires were employed as per the objectives of the study. The results indicated that the input indicators of quality related with learners (intelligence and achievement motivation), teachers (qualification, status and attitude towards teaching) and school infrastructure, teacher-taught relationship were of satisfactory level to a large extent in most of the schools still learners' outcome was not satisfactory. The unsatisfactory output may be attributed to flawed input/process indictors especially the modes of curriculum transactions which lacked child-centeredness.

***Key words*:**Quality Education, Elementary education, Input Indicators, Process Indicators, Output Indicator

Introduction

The state of Himachal Pradesh has made a tremendous progress in the field of enrolment of students, reduction in the dropout rate, improvement in the literacy rate, reduction in the gap of male and female literacy rate etc. The government of Himachal Pradesh made a lot of efforts to ensure 100 per cent enrolment of all children in the age group of 6 to 14 years by strengthening the elementary education system in the state. The State opened

* *Assistant Professor, Himachal Institute of Education, Solan, Himachal Pradesh rajbharmouri@gmail.com*

* *Assistant Professor, Department of Education (USOL),PanjabUniversity, Chandigarh gargm_31@yahoo.co.in*

new upper primary schools by covering all the remote areas of the state, to ensure that the children have to walk minimum distance from their habitation to attend the school. Even with improving enrolment and retention rates, student attendance continues to be patchy, with one national survey reporting that around one quarter of enrolled children were absent on any given school day (ASER, 2011). Along with that the performance of students is not up to the mark as reported in various studies and surveys (Aggarwal&Chungh, 2003; ASER, 2012, 2014; Teamlease Service, 2007) that the learning levels of children in government schools (both primary and upper primary) are very poor. While a large number of primary school students are not able to read and write properly, the students at elementary level have abysmally low understanding of mathematics, science, social sciences and languages.
As per Annual State of Education Report (2014) of H.P., 30% of Class 3 students in Himachal Pradesh government schools are not able to comprehend textbooks meant for students of Class one. Likewise, students of Class 5 (25%) could not read a text meant for Class 2. There are less than 2% of students of class 6 got an 'A' grade on the achievement test in Hindi, in other subjects like English, mathematics and environment studies, the performance was poorer than that. Class 5 students who could read Class 2 level text had gone down from 82.3 percent in 2007 to 72.8 percent in 2012. The percentage of Class 5 students who could solve three-digit problems had declined from 66.9 percent to 48.7 percent during this period.

This may be an indication of the fact that considerable quantitative expansion of education happen at the cost of quality. Only admitting in a school is not 'education'. A student must have to learn the specific contents of the curriculum at a particular point or level of education and acquire knowledge, skills, attitudes and values that help them in a meaningful life. Thus, every child has ***a*** *right to learn* like the right to education (admission).

After enrolment, concern to improve the quality of education in schools has started receiving the highest priority in almost all countries throughout the world. This concern has become universal in the developed as well as in the developing countries, in those that have achieved total access as well as in those still striving for access. In fact it has now been established that access and quality are not sequential elements, and a number of international organizations have visualized the role of quality as being instrumental in improving access (UNESCO 2003, UNESCO 2005). Thus, it has been realized that only education with sufficient quality can effectively fulfill the human

development agendas and therefore provision of quality education is increasingly gaining importance in educational discourse across the globe.

For this, there is a dire need to conduct empirical studies to assess quality aspects of the existing system with regards to its compliance with the various quality indicators. It is imperative to identify the issues which require immediate attention for improving the quality of elementary education.

Objectives of the Study

1. To investigate about the input indicators of quality education in elementary schools, viz.
    a) Teachers (in terms of qualification, status of job and attitude towards teaching).
    b) Learners (intelligence and achievement motivation).
    c) Availability of infrastructural facilities (as per RTE act 2009).
2. To examine the process indicators of quality of education, namely, modes of curriculum transaction.
3. To assess the output indicator of quality i.e. learning outcomes of the students at the last ladder (8th class)of elementary schooling in terms of :
    a) Functional mathematical ability
    b) Functional Knowledge
    c) Awareness about Civic functionaries, rights and duties
    d) Language proficiency

Method

In the present study descriptive survey method was used to examine the quality of elementary education in Himachal Pradesh. Keeping in view the intent of the study, mixed approach (quantitative and qualitative) was adopted.

The *input indicators* related with teachers, students and school infrastructure were studied by employing psychological tests and scales and checklist. The teachers' qualification and job status were evaluated against the norms given in Right to Education Act 2009 (RTE)/NCTE and their attitude were studied by employing Teaching Attitude Scale (Goyal, 2007). Two attributes of learners, namely, Intelligence (General mental ability) and Achievement Motivation were assessed by using Non-verbal Intelligence

Test (Kapoor& Singh, 2002) and Academic Achievement Motivation Scale (Sharma, 1984) respectively. Availability of infrastructure was assessed by using a checklist based on recommendations for infrastructures in RTE (2009).

Under Process indicators**,** *modes of curriculum transaction*, *teacher-taught relationship* and *problems faced by teachers* were investigated. For examining and evaluating the *process indicators*, the investigator conducted observations, semi-structured interviews and focus group discussions with students. The modes of curriculum transaction were recorded on observation sheet. This data was compared with the recommendations given in National Curriculum Framework (2005) and curriculum of Central Board of School Education (C.B.S.E).Teacher taught relationship was studied by employing a scale and Problems encountered by teachers was assessed by conducting semi structured interviews.

The *output indicators* were examined in terms of ability of 8th class students to translate their learning at schools to real life situations. Criterion referenced tests on functional mathematical ability, functional knowledge, awareness about civic functionaries, rights and duties were constructed. The evaluation of responses of students on first three tests was done by creating a holistic rubric scale and four scale values (between 0 to1) were assigned to responses depending on the degree of correctness of the responses. The scores obtained by the students on these tests were graded as per C.B.S.E. assessment system.

Sample

Multistage stratified sampling technique was used to collect the data. Out of twelve districts of Himachal Pradesh, the investigator selected three districts by lottery method. Again by using the same method five/six government elementary schools were selected from these three districts (depending upon the size of the district). In total, 17 upper primary schools were selected from the three districts. The sample of the teachers was taken from these selected schools. Further, students' sample constituted of 223 students of8th class from selected schools.

Results and Interpretation

Status of Input Indicators of Quality

With regards to teachers as input indicator of quality education, it was found

that all the schools had required number of teachers. Most of teachers (98%) are well qualified (as per norms), appointed on regular basis (69%) or contractual basis (18%) or under schemes i.e. PTA, SMC, and PAT etc (13%) and have favorable attitude towards teaching (72%). More specifically, in 13 schools the attitude towards teaching was found favorable and rest were neutral.

As far as quality of learners is concerned, it was found that most of them possess average (42%) or above average intelligence (30%) and adequate achievement motivation (62%).

For infrastructure facilities, 12 schools had six or more than six facilities out of ten as given by RTE and four schools lacked sufficient facilities. Only two norms (i.e. safe and adequate drinking water facility and teaching learning equipments) were fulfilled by all schools while some of the facilities (such as library, proper boundary wall, full ramps for barrier free access for physically challenged etc.) were missing in a large number of schools.

On analyzing the data of individual school on all the aspects together, it was found that in two schools out of seventeen, quality of teachers, learners and infrastructure was up to the desirable standards. Along with these, in five other schools the quality related to all the input indicators was satisfactory to a large extent. In rest of the schools (10) there were issues with one or the other factors i.e. in some schools proper infrastructure was not available, in other schools either achievement motivation or intelligence among a large number of students was in below average category or teachers lacked favorable attitude.

Overall, for input indicators, it may be said less than fifty percent upper primary schools of Himachal Pradesh (sampled in the present study) had all the input indicators (i.e. teachers, students and infrastructure) of satisfactory quality for imparting quality education and rest of the schools had some deficiencies.

Status of Process Indicators of Quality Education

With respect to methods of teaching, it was found that in all the schools, teachers used only traditional method (textbook reading method) for teaching various subjects. In not even a single school innovative strategies were used by the teachers to transact the curriculum.

Though teaching was not up to the mark but teacher and students shared good/average relationship as perceived by most of students (more than 80%).

Further, pertaining to the problems of teachers, most of the problems are related to availability of time, parents' behavior and task other than teaching which affect the teaching learning process. In two schools, all teachers reported a large number of problems whereas in other three schools, more than fifty percent teachers faced many problems. In remaining schools (12) teachers had few problems.

For process indicators in upper primary schools, as far as teacher-taught relationship and teachers' problems is concerned it may be said that most of the students perceived to have average (satisfactory) relationship with their teachers. The major issue of concern is modes of curriculum transaction as in none of the school satisfactory teaching-learning approach was found to be used by the teachers and it certainly need attention to bring quality in education. Further, problems encountered by teachers also require concerted consideration of administration.

Outputs/Outcomes

The outcomes in five subject area i.e. Functional mathematical ability, Functional Knowledge, civic functionaries, rights and duties and language proficiency in language (Hindi and English) may found that 77.13 % students (172 out of 223) in functional mathematics, 26.91% (43 students) in functional knowledge and 62.33% (139 students) in civic functionaries, rights and duties could not pass. In other words, expect for functional knowledge where about 73% got at least passing marks, in remaining two tests only a few students got through i.e. 23% in functional mathematics, and 38% in awareness for Civic functionaries, rights and duties. For language proficiency most of the students were average in Hindi language and poor in English language.

There was not even a single school where any student obtained scores above 60% (i.e. Good category) in all the tests. Not only this, there were five schools out of seventeen schools (i.e. 29%) where none of the student scored 60% or above marks in any of the five tests. Overall performance of four schools was poor as no student in these school performed good in any of the five tests. There were only two schools where performance of students was acceptable to some extent and in remaining schools performance of the students in most of the tests was below average.

Thus, most of the students have low competence for using mathematics related to life situations, little awareness about civic functionaries, rights and duties and poor language proficiency for English but have average level of functional knowledge and proficiency to read and write Hindi language.

Overall quality of education in schools (with respect to input process and output indicators)

- Out of 17 schools not even a single school was found wherein all the three quality aspects i.e. input, process and output were of satisfactory level.
- Four schools had all the input as well as process indicators of quality education (except for modes of curriculum transaction) in accordance with the norms. In these schools, the students' outcomes were not of satisfactory level at all.
- In other eight schools, most of the input as well as process indicators were of satisfactory level with deficiency in one or two aspects.
- Three schools were deficient on most of the quality aspects (be it input or process or output).

These results indicate that the quality of elementary education in Himachal Pardesh was not satisfactory. The unsatisfactory quality output may be attributed to deficiencies in both input and process indictors especially modes of curriculum transactions which were outdated in all schools.

Recommendations

Improving quality requires attention to many aspects. Starting with infrastructural facilities as in many schools labs, library facilities etc. were lacking. Proper funds should be allocated by government for the same and there must be monitoring to ensure proper utilization of these funds by the schools. Besides, teachers should be provided with all the required facilities and their other problems may be resolved by the administration so that their motivation may not lower down.

The teachers must be offered in-service training to use information and communication technologies as tools for teaching and learning. They should be trained in student-centered methods as these enhance active learning and promote interest, analytical research, critical thinking and enjoyment among students Teachers should be encouraged to develop and use locally relevant instructional material to help students in learning the applications of whatsoever they learn in classroom to their real life. Besides this, a strong partnership between teacher education and schools must be established to improve teacher quality. Teacher education can not only be regarded as initial teacher education, it is also important that teachers receive in-service training and professional development within the profession in order to keep in touch

with new findings in their subjects and to obtain continuous support for the improvement of their teaching methods. Along with this, learning materials that are grounded in the classroom realities which is based on the philosophy of 'learn, practice, apply rather than memorization and repetitive practice must be developed and used in schools.

There could be number of home related factors which influence the students' learning but were not included in the present study. The parents of most of the students in rural government schools are not much educated. Thus expecting much from them is unrealistic i.e. it cannot be expected from them to teach their wards. Thus, teachers have to accept this fact and have to assume the whole responsibility of students' learning. Along with this they are required to orient the parents on how they can support their wards by sending them to the schools regularly and by providing them sufficient time at home to do their assigned home-work and also have a constant contact with teachers to have a check on the progress of their wards.

Shift from schooling to learning would mean a shift in focus from inputs to outcomes. It requires multi-pronged and strategic reforms as mentioned in Declaration report of UNESCO on 'Education 2030' "We commit to quality education and to improving learning outcomes, which requires strengthening inputs, processes and evaluation of outcomes and mechanisms to measure progress. We will ensure that teachers and educators are empowered, adequately recruited, well trained, professionally qualified, motivated and supported within well-resourced, efficient and effectively governed systems". The goal can be achieved only by changing the way schools are run. Policymakers as well as researchers have to collectively work for this.

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Relationship between Achievement Motivation and Academic Achievement of Secondary School Students

Monika Sharma* and Gagandeep Kaur*

Abstract

The study focused on the relationship between Achievement Motivation and Academic Achievement of secondary school students. The study also examined gender differences in Achievement Motivation and Academic Achievement of secondary school students. The present study was conducted on 200 students of class XI *of schools of Batala city. Data were analyzed by using independent sample t-test and product moment correlation. A significant positive correlation was found between Achievement Motivation and Academic Achievement. Results showed that Achievement motivation of adolescent female students was higher than their counterparts. It was also revealed that the male adolescent students and female adolescent students do not differ significantly in Academic Achievement.*

Key Words:*Academic Achievement, Achievement Motivation, Secondary School Students.*

Introduction

Nowadays, children are becoming more and more concerned about their academic achievements and at the same time, there are students who may be bright but perform poorly despite the good learning facilities in their homes as well as in their schools. According to Steinberg (1993) "Achievement encompasses student ability and performance; it is multidimensional; it is intricately related to human growth and cognitive, emotional, social, and physical development; it reflects the whole child; it is not related to a single instance, but occurs across time and levels, through a student's life in public school and on into post-secondary years and working life". Academic achievement to a great extent helps in predicting the future of the child. It

* Research Scholar, Depart

* Assistant Professor, Department of Education,Guru Nanak Dev University,Amritsar

leads him to make better adjustments and success in school subjects because good academic achievement helps in setting higher goals for children. The major factors that contribute to academic achievement are intelligence, adjustment, self-esteem, self-concept, time perception, peer group relation, family relationships, home and school environments, achievement motivation etc. Among the factors that contribute to the pupil's poor academic achievement is low achievement motivation (Muola, 2010). Psychologists believe that motivation is a necessary ingredient for learning (Biehler & Snowman, 1986). Satisfactory school learning is unlikely to take place in absence of sufficient motivation to learn (Fontana, 1981). Denhardt (2008) defined motivation as "what causes people to behave, as they do". Motivation is also related to achievement and IQ. Research demonstrates a relatively consistent relationship between motivation and achievement in reading and math (Broussard & Garrison, 2004; Gottfried, 1990; Lange & Adler, 1997).

In a research comprising several field studies and laboratory experiments, (Boggiano, Shields, Barrett, Kellam, Thompson, Simons, & Katz, 1992), revealed that achievement motivation positively influenced academic performance. It was found that motivational orientation predicted children's standardized achievement scores (Boggiano et- al, 1992). The study of motivation gained importance since the early fifties with the efforts of McClelland and his associates at Wesleyan University, USA. The term motivation refers to any organism state that mobilizes activity which is in some sense selective or directive. According to Slavin (2006), achievement motivation is what gets one going, keeps one going and determines where one is to go. A great deal of research has found that students high in achievement motivation are more likely to have increased levels of academic achievement and have lower dropout rates (Blank, 1997). According to Gesinde (2000), achievement motivation could be seen as self-determination to succeed in academic work. Several studies have reported a positive relationship between motivation and academic achievement and success (Sandra, 2002; Broussard & Garrison, 2004).

Achievement motivation is used to mean the pupil's need or drive towards the achievement of success in academic work (Amalaha, 1975; Moen & Doyle, 1978). So, the investigator feels that mounting of achievement motivation of the Adolescents students may go a long way in enhancing the academic achievement. That is why the present study endeavored to examine the relationship of achievement motivation and academic achievement of secondary school students.

Method

Participants

The participants in the study were 200 secondary school students (both males and females) studying in XI class from senior secondary schools in Batala city.

Materials

The following tools were used to collect the data:

1. Achievement motivation- By Deo and Mohan (2011)
2. Academic achievement- scores of 10th class examination conducted by Punjab School Education board.

Objectives

- To study the achievement motivation and academic achievement of secondary school students in relation to their gender.
- To study the relationship between achievement motivation and academic achievement of secondary school students.

Hypotheses

- There exists no significant difference between mean scores of achievement motivation and academic achievement of secondary school students in relation to their gender.
- There exists no significant relationship between achievement motivation and academic achievement of secondary school students.

Analysis and Interpretation of Data

The values of means, standard deviations and t-value of achievement motivation and academic achievement in relation to their gender are shown in table 1.

Table 1: Mean, S.D. and t- values for scores of achievement motivation and academic achievement with respect to gender

Variable	Gender	N	Mean	SD	t
Achievement motivation	**Male**	100	129.05	20.439	
	Female	100	132.18	18.517	1.135
Academic achievement	**Male**	100	487.72	72.750	
	Female	100	522.42	59.258	3.698**
** **Significant at 0.01 level**	**of significance**				

individually the "t' test for achievement motivation and academic achievement for

male and female was computed. The mean scores on achievement motivation of the male adolescent students and female students were 129.05 and 132.18 respectively. It indicates that the female students have higher achievement motivation as compared to male students. The calculated value of 't' is 1.135, which is less than the table value at 0.01 level of significance.

The mean scores on the academic achievement of the male students and female students are 487.72 and 522.42 respectively. It indicates that the female students perform academically better than male students. The calculated value of 't' is 3.698, which is greater than the table value at 0.01 level of significance.

Hence, it is evident that the male adolescent students and female a student's significantly differ in achievement motivation but not in Academic Achievement.

Hence the hypothesis *'There exists no significant difference between mean scores of achievement motivation and academic achievement of secondary students in relation to their gender'* is rejected for Academic achievement and accepted for achievement motivation

To explore the relationship between achievement motivation and academic achievement of adolescent students, product moment correlation was calculated. The correlation matrix is shown in table 2.

Table 2: Correlations between achievement motivation and academic achievement

Correlation between measures

	Academic achievement	Achievement motivation
1. Academic achievement	1	
2. Achievement motivation	.257**	1
** Significant at 0.01 level		
* Significant at 0.05 level		

Academic achievement and Achievement motivation

Pearson product-moment correlation coefficients between *Academic achievement and Achievement motivation* of adolescents are displayed in Table 2. As can be seen, modest but significant correlations emerged. As predicted,

academic achievement of students was positively related with achievement motivation by students $r(198) = 0.257$, $p = 0.000$.

Thus the hypothesis that *"There exists no significant relationship between academic achievement motivation and academic achievement of secondary school students"* was rejected leading to the conclusion that there is a relationship between academic achievement motivation and academic achievement.

Discussion

The findings of the study revealed that the female adolescent students have higher achievement motivation as compared to male adolescent students. The results are contradictory to the finding of Rao (2007) andKaushik & Rani (2005).

The study also revealed that there is no difference among male and female students in scores of academic achievement. The results are contradictory to the finding of Jacobs (2002); Cole (1997)and Duckworth&Seligman (2006).

A significant positive correlation was found between Academic Achievement and Achievement Motivation. The academic achievement of the students having high achievement motivation is better than that of students showing low achievement motivation. The findings of the study are in line with studies conducted by Gottfried (1990); Johnson, (1996); Kushman, Sieber, and Harold (2000); Sandra (2002); Broussard & Garrison (2004); Skaalvik and Skaalvik (2004) & (2006); Sandra (2002); Broussard & Garrison (2004).

Educational Implications of the Study

- Depending upon the level of Achievement Motivation of the students, the teacher should try to motivate students and build atmosphere of empathy as well as try to give students congenial classroom environment in order to develop a positive and higher level of achievement motivation among students as the result reveals that, high achieving senior secondary school students have high level of Achievement Motivation in comparison to low achieving senior secondary school students.
- Results of the present study reveal that male senior secondary school students have a low level of achievement motivation in comparison to female students; therefore teachers should try their best to increase the

level of achievement motivation of male senior secondary school students. The study will help the teachers and parents in comprehending the direction of the Achievement Motivation of the students.

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Relationship of Intrinsic Motivation and Academic Achievement across Styles of Learning

Kartick Chandra Pramanik*

Abstract

The aim of this study is to analyze the relationship of intrinsic motivation and academic achievement across styles of learning of students. Data have been collected from 400 plus two level students by the standardized instruments and are statistically treated in order to verify one research hypotheses. Findings indicate that some principal component factors of intrinsic motivation under different learning style group except global learning style groups are related to academic achievement of plus two level students.

Keywords: Intrinsic Motivation, Academic Achievement, Learning Style

Introduction

The tradition in the school setting has always been a teacher-centered approach, where the students are just passive receivers of knowledge. The underlying concept of the prevalent teacher-centered approach to school learning is based on the traditional pedagogy wherein knowledge is passed from teacher to children (Katsuko, 1995). However, the trend in schools now is to move away from that teacher-centered approach and to adopt a new approach called the learner-centered approach, which is also mentioned in the Eleventh National Plan of India. This has also been strongly articulated in the National Curriculum Framework (2005) and urged for a paradigm shift in school learning. Moreover, the national policy on education considers over very seriously curriculum renewal and continuous teacher development to face the new challenges. Unlike a teacher-centered approach, the learner-centered approach does not limit the students to acquiring knowledge solely from their teachers. Instead, they are to learn by their own capabilities along with approaches to learning (Fadul, 2004). Therefore, capability of learning of student differs from student to student. Schools now-a-days move towards

* Associate Professor, Department of Education, Bankura University, Bankura, yspmkartik@rediffmail.com

the learner-centered approach because of the benefits that the new approach offers. The new approach claims that students are more actively involved with the subject matter, they are more motivated as learners and they learn more skills, especially discipline, communication and collaboration skills (Johnson, 2000). The diversity in the students' needs have grown too large to a teacher-centered approach to address (Laboard *et al*., 2003) smartly. Therefore, the teachers have to know about how the students learn i.e. student learning style. Knowing students' learning style is not the all but there are several factors in the classroom that influence the students' achievement. Studies have shown that intrinsic motivation is related to academic achievement in positive way when studied separately. However, studies on relationship between intrinsic motivation and academic achievement under different learning styles have not been found on defining which particular factors of intrinsic motivation under which learning style be most related towards achievement. Hence, the present investigator likes to explain the above issues by understanding the fields of intrinsic motivation (developed by Deci and Ryan and their teams), and learning style (developed by Felder and his colleagues)

Intrinsic motivation is defined as an individual's ability to demonstrate competence (Deci, Eghrari, Patrick, & Leone, 1994), a readiness to engage in an activity because of his or her own internal interests and curiosity (Lepper, Henderlong, & Gingras, 2000) and a desire to master the environment (Brophy, 1983). Intrinsic motivation comes from within the individual and is related to the individual's identity and sense of well-being. Students are intrinsically motivated when learning is a goal in itself. They find intrinsically motivating tasks interesting and challenging; Moreover, Vallerand and Ratelle (2002) classified intrinsic motivation (IM) into three types i.e. IM-Knowledge, IM-Accomplishment and IM-Stimulation. IM-knowledge implies "engaging in activities because of the pleasure and satisfaction derived from learning, exploring and understanding new things". IM-Accomplishment refers to "engaging in activities because of the pleasure and satisfaction derived from trying to surpass oneself, creating, or accomplishing something". Finally, IM-Stimulation is related to the positive sensations stimulated by performing an activity in learning.

Intrinsic motivation has seven dimensions i.e. -Interest/Enjoyment, Perceived Competence, Effort, Value/Usefulness, Pressure and Tension, Perceived Choice, and Relatedness. Interest/Enjoyment is considered the self-

report measure of intrinsic motivation. Perceived Choice and Perceived Competence concepts are theorized to be positive predictors of both self-report and behavioral measures of intrinsic motivation. Value/Usefulness sub-scale is used in internalization studies (e.g., Deci *et. al*., 1994), the idea being that people internalize and become self-regulating with respect to activities that they experience as useful or valuable for themselves. Pressure/ Tensionis theorized to be a negative predictor of intrinsic motivation. Relatedness sub-scale is used in studies having to do with interpersonal interactions, friendship formation, and so on.

Learning style is "A model classifies students according to where they fit on a number of scales pertaining to the ways they receive and process information" (Felder and Silverman, 1988, p. 3). It has four bi-polar dimensions i.e. – Activity-Reflectivity, Sensory-Intuitive, Visual-Verbal, and Sequential-Global. Active learners tend to retain and understand information best by doing something active with it, discussing or applying it or explaining it to others. They tend to like group work more. On the other hand, reflective learners prefer to think about it quietly first and they involves examining and manipulating the information introspectively. They prefer working alone. Sensing learners tend to like learning facts. They involve observing, gathering data through the senses. But, the intuitive learners often prefer discovering possibilities and relationships. They involve indirect perception by way of the subconscious— accessing memory, speculating, imagining. Visual learners remember best what they see—pictures, diagrams, flow charts, time lines, films, and demonstrations. They prefer that information be presented visually—in pictures, diagrams, flow charts, time lines, films, and demonstrations. On the other hand, the verbal learners get more out of words—written and spoken explanations. Sequential learners tend to gain understanding in linear steps, with each step following logically from the previous one.But, the global learners tend to learn in large jumps, absorbing material almost randomly without seeing connections, and achieve understanding in large holistic leaps.

Objectives

1. To explore the factors of Intrinsic Motivation.
2. To find out relations of Intrinsic Motivation (IM) with Academic Achievement (AAch) of plus two students under different Learning Styles.

Hypothesis

H_1 : There is significant relationship between principal component factors of intrinsic motivation and academic achievement of plus two students across styles of learning (activity, reflectivity, sensory, intuitive, visual, verbal, sequential, and global).

Method

The present study has its objectiveto explore the relationships of intrinsic motivation and academic achievement across styles of learning of plus two students without any experimental manipulation, just collecting data from the field of the present study. So, it would be simplest and safest to adopt descriptive research design to describe what relations exist with respect to the variables under consideration. Hence, the investigator has selected survey method for his study.

Sample

The sample consist of four hundred (400) eleventh grade students, taken from nine Bengali-medium secondary schools (seven co-education, one boys and one girls) approved by the West Bengal Council of Higher Secondary Education situated in different areas of the District of Purba Medinipur, West Bengal.

Description of the tool

1. Learning Style: The investigator has used a Bengali translated version of the Index of Learning Style (ILS) constructed by Felder and Soloman (2001). It has been adapted and standardized by Roy (2008). The ILS consists of four scales. The four scales are coined as: Sensing – intuitive (S-N), Visual – Verbal (Vs-Vb), Active – Reflective (A-R), and Sequential – Global (Sq-G). Each learning style dimension has associated with eleven (11) forced-choice items, each with option, either 'a' or 'b', corresponding to one or other category / pole of the dimension (e.g. visual or verbal).

2. Academic Achievement: The investigator has collected two sets of total marks covering all the subjects obtained by the students in the examinations - Madhyamik Test Examination (questions were set by external expert teachers) and the Madhyamik Pariksha, conducted by the West Bengal Board of Secondary Education. The average of these two sets of marks has been taken as the measure of academic achievement.

3. Intrinsic Motivation Inventory (IMI): The Inventory is developed by Deci and Ryan (1985) and translated in Bengali language and standardized by Roy (2008). This tool is underpinned by the theory of intrinsic motivation of Deci and Ryan (1985). This is a multidimensional flexible tool consisting of 52 items with 7 sub-scales that determines subjects' level of intrinsic motivation with the help of interest/enjoyment (10 items), perceived competence (7 items), effort (10 items), value/ usefulness (3 items), felt pressure and tension (8 items), and perceived choice (8 items) while performing a given activity, thus yielding six subscale scores. Recently, a seventh subscale has been added i.e. experiences of relatedness (6 items) (Deci, 1994; and Ryan, 1982). The Bengali version of the IMI contains 52-items, 3 point Likert- type tool with three response alternatives. The response alternatives are labelled as 'Agree', 'Undecided', and 'Disagree' and the assigned weights are '3', '2', and '1' respectively.

The investigator used this scale after factor analysing for determining the relationship of intrinsic motivation and academic achievement across learning styles. For this, Principal Component Factors Analysis and varimax rotation of reference axes were also made to have meaningful/interpretable principal component factors. For doing this 52 × 52 correlation matrix and each item of the Intrinsic Motivation Inventory (IMI) was used as a test. The S. P. S. S. (version – 10.0.1) Computer Programme was used for extraction of Principal Component Factors Analysis and it was noticed that only first eighteen (18) principal component factors had eigen value greater than one accounted for nearly 60 % of variance of tests, hence eighteen factor solution was accepted for this purpose. For interpretation of common factors of 'Intrinsic Motivation' loadings more than andequal to 0.30 were used, as proposed by Child (1990). These 18 principal component factors, their eigen value, and their definition are given in **Table 1.**

Table 1: Descriptions of Principal Component Factors of Intrinsic Motivation

Sl. No.	Name of the Principal Component Factor (Eigen Value)	Definition of Each Principal Component Factor
1	Value/Usefulness (V/U) (2.03)	Using in internalization studies, the idea being that pupil internalize and become self-regulating with respect to their studies that they

		experience as useful or valuable for themselves.
2	Effort / Importance (E/I) (1.99)	Relating to some work (motivational work).
3	Relatedness (Rel.) (1.96)	Relating to study to do with interpersonal interaction, friendship formation.
4	Perceived Choice in Course (PCC) (1.93)	Preferring the course due to learning some useful skills.
5	Initiativeness (Ini) (1.86)	Putting effort in regular study.
6	Perceived Competence (PC) (1.83)	Relating to understand the course material very well.
7	Perceived Competence in Future Career (PCFC) (1.78)	Seeking to gather more knowledge for future benefit.
8	Value for Empowerment (VE) (1.73)	Seeking for empowerment of knowledge for using the information in new situation.
9	Valuing Class Lecture (VCL) (1.71)	Seeking for pleasing class lecture.
10	Striving for Academic Success (SAS) (1.69)	Desiring to fulfill the mission of life.
11	Enjoying Inclusiveness (EI) (1.68)	Desire to include both students and teacher.
12	Perceived Confidence in Course Work (PCCW) (1.66)	Relating to exam. Preparation communication skill and acquiring good grade.
13	Interest and Enjoyment in School (IES) (1.62)	Seeking enjoyment in school by engaging in studying the course.
14	Autonomy in Learning (AL) (1.61)	Seeking autonomy in their choice of learning.
15	Perceived Choice in Learning (PCL) (1.56)	Desire to have choice in learning.
16	Enjoyment in Studying (ES) (1.55)	Seeking enjoyment in studying the course.

17	Pressure and Tension (PT) (1.44)	Feeling pressure and tension while doing home work.
18	Interest in Course – Curriculum (ICC) (1.36)	Preferring to join the course.

Further, these factors were correlated with the original scale theoretically conceptualized by Deci and Ryan (1985).

Results and interpretation

The results show that the extraction of eighteen (18) Principal Component Factors of Intrinsic Motivation in the present study have much correspondence with the studies made by the Deci-Ryan group in the USA though some cultural variations are traceable.

As per design of the study, the major null hypothesis is portioned into eight null hypotheses as there are eight poles of learning styles. The portioned out eight sub-null hypotheses have been designed as $^{H}o_{1.1}$, $^{H}o_{1.2}$, $^{H}o_{1.3}$, $^{H}o_{1.4}$, $^{H}o_{1.5}$, $^{H}o_{1.6}$, $^{H}o_{1.7}$ and $^{H}o_{1.8}$ each relating to the variables principal component factors of intrinsic motivation and eight sets of learning style namely - activity, reflectivity, sensory, intuitive, visual, verbal, sequential, and global respectively.

For example $^{H}o_{1.1}$ stands as:

> $^{H}o_{1.1}$: There is no significant relationship between principal component factors of intrinsic motivation and academic achievement under activity learning style. The obtained results have been presented in **Table 2.**

Table 2: Product Moment Correlations between Academic Achievement and Principal Component Factors of Intrinsic Motivation across Styles of Learning

P.C. Factors of Intrinsic Motivation	"r" for Act. (N=257)	Ref. (N=143)	Sen. (N=346)	Int. (N=54)	Vis (N=340)	Ver. (N=60)	Seq. (N=272)	Glo. (N=128)
V/U	0.101	-0.024	0.054	0.051	0.067	0.003	0.096	-0.052
E/I	0.166*	0.173*	0.144*	0.299*	0.184*	0.113	0.275*	-0.085
Rel	0.131*	0.093	0.092	0.229	0.128*	0.092	0.170*	-0.046

PCC	0.144*	0.132	0.157*	0.068	0.151*	0.084	0.193*	0.003
Ini	0.048	0.014	0.010	0.235	0.012	0.191	0.080	-0.047
PC	0.284*	0.124	0.234*	0.198	0.238*	0.136	0.266*	0.128
PCFC	0.115	0.074	0.085	0.202	0.116*	0.062	0.116	0.052
VE	0.137*	-0.036	0.080	0.045	0.072	0.108	0.044	0.115
VCL	-0.020	-0.083	-0.092	0.259	-0.038	-0.052	-0.009	-0.122
SAS	0.176*	0.100	0.139*	0.236	0.157*	0.102	0.217*	-0.018
EI	0.037	0.044	0.026	0.234	0.027	0.122	0.040	0.086
PCCW	0.288*	0.118	0.255*	0.089	0.223*	0.222	0.267*	0.169
IES	0.066	0.012	0.084	-0.143	0.063	0.037	0.074	0.035
AL	0.110	0.213*	0.132*	0.192	0.131*	0.137	0.151*	0.071
PCL	0.025	0.048	0.049	-0.067	0.057	-0.178	0.097	-0.124
ES	-0.032	-0.110	-0.074	0.027	-0.063	-0.061	-0.042	-0.056
PT	0.197*	0.210*	0.189*	0.357*	0.203*	0.309*	0.252*	0.040
ICC	0.015	0.043	-0.024	0.282*	0.013	0.091	-0.002	0.038

* Significant at 0.05 level

N.B. Act. = Activity, Ref. = Reflectivity, Sen. = Sensory, Int. = Intuitive, Vis. = Visual, Ver. = Verbal, Seq. = Sequential, and Glo. = Global

The contents of Table 2 show that eight principal component factors of intrinsic motivation namely – effort / importance (E/I, r = 0.166), relatedness (Rel, r = 0.131), perceived choice in course (PCC, r = 0.144), perceived competence (PC, r = 0.284), value for empowerment (VE, r = 0.137), striving for academic success (SAS, r = 0.176), perceived confidence in course work (PCCW, r = 0.288), and pressure and tension (PT, r = 0.197) under Activity learning style; three principal component factors of intrinsic motivation namely - effort / importance (E/I, r = 0.173), autonomy in learning (AL, r = 0.213), and pressure and tension (PT, r = 0.210) under Reflectivity learning style; seven principal component factors of intrinsic motivation namely – effort / importance (E/I, r = 0.144), perceived choice in course (PCC, r = 0.157), perceived competence (PC, r = 0.234), striving for academic success (SAS, r = 0.139), perceived confidence in course work (PCCW, r = 0.255), autonomy in learning (AL, r = 0.132) and pressure and tension (PT, r = 0.189) under Sensory learning style; three principal component factors of intrinsic motivation namely – effort / importance (E/I, r = 0.299), pressure and tension

(PT, r = 0.357), and interest in course-curriculum (ICC, r = 0.282) under Intuitive learning style; nine principal component factors of intrinsic motivation namely – effort / importance (E/I, r = 0.184), relatedness (Rel, r = 0.128), perceived choice in course (PCC, r = 0.151), perceived competence (PC, r = 0.238), perceived competence in future career (PCFC, r = 116), striving for academic success (SAS, r = 0.157), perceived confidence in course work (PCCW, r = 0.223), autonomy in learning (AL, r = 0.131), and pressure and tension (PT, r = 0.203) under Visual learning style; one principal component factors of intrinsic motivation namely – pressure and tension (PT, r = 0.252) under Verbal learning style; and eight principal component factors of intrinsic motivation namely – effort / importance (E/I, r = 0.275), relatedness (Rel, r = 0.170), perceived choice in course (PCC, r = 0.193), perceived competence (PC, r = 0.266), striving for academic success (SAS, r = 0.217), perceived confidence in course work (PCCW, r = 0.267), autonomy in learning (AL, r = 0.151), and pressure and tension (PT, r = 0.252) under Sequential learning style are significantly correlated with the academic achievement of plus two level students at 0.05 level of significance. But the other principal component factors of intrinsic motivation are found almost independent of AAch of plus two level students under different learning styles. Further, it is noticed that no principal component factors of intrinsic motivation is found significant to the academic achievement of plus two level students under Global learning style.

Therefore, the parts of null hypotheses ${}^{H}o_{1.1}$, ${}^{H}o_{1.2}$, ${}^{H}o_{1.3}$, ${}^{H}o_{1.4}$, ${}^{H}o_{1.5}$, ${}^{H}o_{1.6}$ and ${}^{H}o_{1.7}$ indicating correlation between academic achievement and principal component factors of intrinsic motivation relating to E/I, Rel, PCC, PC, VE, SAS, PCCW, and PT under Activity learning style; E/I, AL, and PT under Reflectivity learning style; E/I, PCC, PC, SAS, PCCW, AL, and PT under Sensory learning style; E/I, PT, and ICC under Intuitive learning style; E/I, Rel, PCC, PC, PCFC, SAS, PCCW, AL, and PT under Visual learning style; PT under Verbal learning style; and E/I, Rel, PCC, PC, SAS, PCCW, AL, and PT under Sequential learning style could be rejected but the null hypothesis (${}^{H}o_{1.8}$) could not be rejected as no significant correlation is found between principal component factors of intrinsic motivation and AAch of plus two level students under global learning style at 0.05 level of significance. Thus, it may be concluded that ${}^{H}o_{1.1}$ is partially rejected.

The researcher has conceptualized that academic achievement is related with some principal component factors of intrinsic motivation under different

learning style. The significant relationships thus obtained have been shown in **Table 3.**

Table 3: Significant Relationships of Academic Achievement with Principal Component Factors of Intrinsic Motivation across Styles of Learning

Learning Styles	Principal Component Factors of Intrinsic Motivation
Activity	E/I, Rel, PCC, PC, VE, SAS, PCCW, and PT
Reflectivity	E/I, AL, and PT
Sensory	E/I, PCC, PC, SAS, PCCW, AL, and PT
Intuitive	E/I, PT, and ICC
Visual	E/I, Rel, PCC, PC, PCFC, SAS, PCCW, AL, and PT
Verbal	PT
Sequential	E/I, Rel, PCC, PC, SAS, PCCW, AL, and PT
Global	

Discussion

From the above findings, it emerges that different significant correlation between AAch and principal component factors of intrinsic motivation is found under different learning style and the relationship between AAch and principal component factors of intrinsic motivation depend to some extent on learning style. It is also observed that all the significant principal component factors of intrinsic motivation are positively correlated to the AAch of plus two level students.

For the **active** learner, it is observed that eight principal component factors of intrinsic motivation – relating to some work (motivational work) (E/I), relating to study to do with interpersonal interaction, friendship formation (Rel), preferring the course due to learning some useful skills (PCC), relating to understand the course material very well (PC), seeking for empowerment of knowledge for using the information in new situation (VE), desiring to fulfill the mission of life (SAS), relating to examination preparation communication skill and acquiring good grade (PCCW), and feeling pressure and tension while doing home work (PT) are significantly and positively correlated with AAch of plus two level students means the more that active

learners have their own choice to join the course, strive for academic success, give much effort in their studying, make friendship formation, understand the material very well, will empower of knowledge, and feel any pressure and tension for examination preparation to get good grade, the higher their AAch.

For **reflective** learner, three principal component factors of intrinsic motivation - relating to some work (motivational work) (E/I), seeking autonomy in their choice of learning (AL), and feeling pressure and tension while doing home work (PT) are significantly and positively correlated with the AAch of plus two students. It represents that the more that reflective learners have their choice in learning, give much effort in their studying, and feel any pressure and tension to complete daily assignment daily, the greater their AAch.

For **sensory** learner, it is observed that seven principal component factors of intrinsic motivation - relating to some work (motivational work) (E/I), preferring the course due to learning some useful skills (PCC), relating to understand the course material very well (PC), desiring to fulfill the mission of life (SAS), relating to examination preparation communication skill and acquiring good grade (PCCW), seeking autonomy in their choice of learning (AL), and feeling pressure and tension while doing home work (PT) are significantly and positively correlated with the AAch of plus two students means the more that sensory learners have choice in joining the course, strive for academic success, choice in learning, try hard to get good grade, understand the course material very well, and feel nervous while doing exam preparation and complete daily assignment daily, the higher their AAch.

For **intuitive** learner, three principal component factors of intrinsic motivation - relating to some work (motivational work) (E/I), feeling pressure and tension while doing home work (PT), and preferring to join the course (ICC) are significantly and positively correlated with the AAch of plus two students means the more that intuitive learners give much effort to get good grade, feel pressure and tension to complete daily assignment daily, and are interested in joining the course-curriculum, the higher their AAch.

For **visual** learner, nine principal component factors of intrinsic motivation - relating to some work (motivational work) (E/I), relating to study to do with interpersonal interaction, friendship formation (Rel), preferring the course due to learning some useful skills (PCC), relating to understand the course material very well (PC), seeking to gather more knowledge for future benefit

(PCFC), desiring to fulfill the mission of life (SAS), relating to examination preparation communication skill and acquiring good grade (PCCW), seeking autonomy in their choice of learning (AL), and feeling pressure and tension while doing home work (PT) are significantly and positively correlated with the AAch of plus two level students. It represents that the more that the visual learners give their excel effort to get good grade, make interpersonal relationship, have choice in joining the course, understand the course material very well, gather more knowledge from the course for future benefit, strive for academic success, do not feel nervous while doing exam preparation, have autonomy in their learning, and feel pressure and tension while completing daily assignment daily, the higher their AAch.

For **verbal** learner, only one principal component factor of intrinsic motivation - feeling pressure and tension while doing home work (PT) is significantly and positively correlated with the AAch of plus two students. It indicates that the more that verbal learners feel pressure and tension for completing daily assignment daily, the higher their AAch.

For **sequential** learner, eight principal component factors of intrinsic motivation - relating to some work (motivational work) (E/I), relating to study to do with interpersonal interaction, friendship formation (Rel), preferring the course due to learning some useful skills (PCC), relating to understand the course material very well (PC), desiring to fulfill the mission of life (SAS), relating to examination preparation communication skill and acquiring good grade (PCCW), seeking autonomy in their choice of learning (AL), and feeling pressure and tension while doing home work (PT) are significantly and positively correlated with the AAch of plus two students. It signifies that the more that the sequential learner give their excel effort to get good grade, make interpersonal relationship, have choice in joining the course, understand the course material very well, strive for academic success, do not feel nervous while doing exam preparation, have autonomy in their learning, and feel pressure and tension while completing daily assignment daily, the higher their AAch.

For **global** learner, it is revealed that no principal component factor of intrinsic motivation is significantly correlated to the AAch of plus two level students due to low correlation between principal component factors of approaches to studying and AAch of plus two students under Global learning style.

From the above discussion, it may be concluded that some of the principal

component factors of intrinsic motivation are significantly correlated under different learning style group, though the value of r are not so high. Some of the previous findings which are supported to this finding regarding the relationship between AAch of plus two level students and principal component factors of intrinsic motivation but not under different learning style are given here, though they have not been identified these eighteen principal component factors of intrinsic motivation. Some of the findings are: there has a positive relationship between intrinsic motivation and performance (Lepper & Iyengar, 2003). Henderlong & Lepper (1997) reported that intrinsic motivation was positively correlated with academic achievement and a decline in intrinsic motivation may signify a decline in achievement. Fortier, Vallerand, and Guay (1995) reported that students who feel competent and self determined in the school context develop an autonomous motivational profile toward education, which in turn leads them to obtain higher school grades.

Implications

The findings of the study have explored the **factors of intrinsic motivation** of plus two level students by which students can understand how intrinsic motivation helps in their learning and also be helpful to identify the factors which will enhance their academic achievement.

The new tools (principal component factors of intrinsic motivation) of this study may be used in further study.

The results of the study suggest that most of the factors of intrinsic motivation are related to academic achievement of plus two level students under different learning style conditions. Therefore, a balance is looked forward so that learning style dimensions of the learners are becoming exercisable in relation to several factors of intrinsic motivation which are generally thought of as correlates of academic achievement.

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Teachers' Involvement and Nurturence of Self Defence Mechanism among Girls of Secondary and Higher Secondary Schools in North 24 Parganas

Sahin Mondal* and Sanghamitra Ghosh (Gayen)*

Abstract

Women across the globe face various challenges in their lives. They are facing numerous obstacles. The answer to dealing with crime against women is not as difficult as it may seem. Each girl can benefit from self defence awareness and various strategies. Various techniques and programs, through which women can protect them, are organized by various government and non-government agency. This can help women to protect them from becoming the victim of brutal crime. This research focuses on how much girls students are conscious about defence mechanism and also involved in practice of Self defense mechanism. In this study the sample consisted of girls of secondary and higher secondary schools from rural and urban areas in north 24 parganas. Three separate standardized questionnaires were made by researcher for collection of data. The findings indicate that slightly significant difference exists between rural and urban girl students in respect to their involvement towards self defence mechanism. The findings further show that rural girl students are significantly different from urban girl students in respect to their consciousness towards self defence mechanism. The investigation also indicates significant and moderate relationship between consciousness and involvement regarding self defence mechanism in north 24 parganas. The findings further show that many are teachers also involve in practice of self defence mechanism.

***Key Words*:** Socio-Economic Background,Creativity, Academic Achievementand Self defence mechanism.

* Assistant Professor, JNP College of Education, Ashoknagar, North 24 Parganas, W.B. E-mail: sahin.mo91@gmail.com

* Assistant Professor& OSD, WBUTTEPA,25/2 and 25/3, Ballygunge Circular Road, Chakraberia, Ballygunge, Kolkata, West Bengal 700019.
E-mail:ahana2012ghosh@rediffmail.com

Introduction

Gender violence now-a-days is a serious problem which is rising day by day in India. Girls are facing several crimes like eve teasing, acid attack, molestations, domestic violence, stalking and rape in various places like schools, roads, public places and home too.Violence in schools has reached epidemic proportions and is the major cause of mortality among girls' students in the United States (PsycINFO, 2004).West Bengal ranked third in crimes against women, according to the report on Crimes in India 2013 report released by National Crime Records Bureau (NCRB). For this reasons self defence training has become a necessity today, which will make school going girls self-sufficient by providing knowledge about various strategies and enabling them to defend themselves in case of situations like violence and abuse. Self defence is a countermeasure that involves defending the health and well-being of oneself from harm. The use of the right of self defence as a legal justification for the use of force in times of danger is available in many jurisdictions, but the interpretation varies widely. Self defence skills will make them more aware of their surroundings and not to feel helpless in any adverse situation. Self defence builds confidence in them. This training may help to recover from mental trauma.

Rodrigues (2014) in his study also tried to find out the importance of self defence skills for safety and empowerment of school going girls' students. In the study it was found that after training Girls are able to defend a person who is stronger than her. Aanchal & Goel, (2015) also supported this in his study. Kaur (2014) in his study tried to find out how much our females are conscious about their safety. He found the needs to educate our girls about their safety and also empower them to confront any threat with courage. Khan (2012) also supported this in his study. In his studyhe had shown that criminals choose those targets more, who are unaware of their surroundings and also about what is going on around them.

Government of West Bengal has proposed a plan for '*Rashtriya Madhyamik Shiksha Abhiyan'* (*RMSA*) for training self defence skills for girls of secondary and higher secondary scholls. Kolkata police is also running a project 'Sukanaya' for girls where v training is given on arious self defence skills like Judo, Karate , Kick boxing have been chosen.So theadolescent girls need to aware themselves to acquaint with different Self-defence techniques and programs. Thus it is importance to know how far adolescent students are receiving the techniques of self defence mechanism and how

much they are conscious about this.

Therefore the present research has aimed to examine the awareness about self defence among various school going girls students of north 24 parganas district. The study has also aimed to know the role of teachers and their involvement in the training of self defence mechanism.

Objectives of the study

Following major objectives were set for the present study:

- To know the consciousness about self defence mechanism among girl student of secondary and higher secondary schools in north 24 parganas.
- To study the involvement of secondary and higher secondary girl students in practice of self defence mechanism in various schools of north 24 Parganas.
- To know the relationship between consciousness and involvement regarding self defence mechanism in north 24 parganas.
- To know the role of teachers and their involvement in the training of self defence.

Hypotheses of the study

- H_O1: There would be no significant difference between rural secondary and higher secondary girls and urban secondary and higher secondary girls in consciousness of self defence mechanism in North 24 parganas.
- H_O2: There would be no significant difference between rural and urban secondary and higher secondary girl students regarding involvement of self defence mechanism in various schools of north 24 parganas.
- H_O3: There would be no significant relationship between consciousnessand involvementamong secondary and higher secondary girls regarding self defence mechanism in north 24 parganas.

Sample of the study

205 secondary and higher secondary (IX, X & XI) standard girl students were selected randomly from district of north 24 parganas as sample for this

study. Number of total sample is 205, the rural sample is 125(60.976 %) and urban sample is 80(39.024 %). 50 secondary and higher secondary (IX, X & XI) standard. Trained teachers' were selected randomly from districts of north 24 parganas as sample for this study.

Tools for the study

Three standardize questionnaires were made by the researcher-

First, the three point scale for measuring consciousness of self defence mechanism for girl students were composed of 12 items.

Secondly, the five point scale formeasuring involvement of self defencemechanism for girl students was composed of 14items.

Thirdly, to know the role and involvement of the secondary and higher secondary school teachers in the training of self defence mechanism was composed of 10 items.

Data Collection

For the study 205 girls students of secondary and higher secondary (IX, X & XI) and 50 trained teacher were selected randomly from different schools of North 24 Parganas.

Standardization of the tests

The tests were administered (pilot study) on representative samples and all tests were found reliable. The internal consistencies of the tests were calculated by finding the inter item and item total correlations. The reliability of the tests was further measured by Cronbach's Alpha. All tests were validated by three experts.

Analysis and Interpretation

Interpretation of H_o1

Table-1: (Consciousness of self defence mechanism)

Descriptive statistics				t-test for Equality of Means		
location of school	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Rural	125	29.57	3.557	-3.785*	203	.000
Urban	80	31.50	3.579			
(* significant at 0.05 level of significance)						

Comment: The above table shows that mean scores of the rural school girl students,

which is 29.57, and mean scores of the urban school girl students is 31.50 respectively. The standard deviation for rural girl students is 3.557 and the standard deviation for urban girl students is 3.579.We can conclude that slightly difference exist between rural and urban school girl students in respect to their consciousness towards self defence mechanism in north 24 parganas. Again table- 1 shows that, the calculated **t (203)** value is -3.785 and 'p' value is 0.000 ($p< 0.05$). Hence, t is significant at 0.05 level and $\mathbf{H_o 1}$ is rejected. So, it can said that rural girl students are significantly different from urban girl students in respect to their consciousness towards self defence mechanism in North 24 parganas.

Interpretation of $H_o 2$

Table-2 (Involvement in self defence mechanism)

Descriptive statistics			t-test for Equality of Means			
location of school	N	Mean	Std.	t	df	Sig. (2-tailed)
Rural	125	46.07	12.490	-2.233*	203	.027
Urban	80	50.00	11.951			
(* significant at 0.05 level of significance)						

Comment: The above table shows that mean scores of the rural school girl students, which is 46.07, and mean scores of the urban school girl students is 50.00 respectively. The standard deviation for rural girl students is 12.490 and the standard deviation for urban girl students is 11.951.We can conclude that slightly difference exist between rural and urban school girl students in respect to their involvement towards self defence mechanism in north 24 parganas. Again table-2 shows that, t-test for equality of Means in case of comparing the Rural and Urban schools' in practice of self defence mechanism in North 24 parganas, the calculated **t(203)** value is -2.233 and 'p' value is 0.027 ($p< 0.05$). Hence, t is significant at 0.05 level and $\mathbf{H_o 2}$is rejected. So, it can say that rural girl students are significantly different from urban girl students in respect to their involvement towards self defence mechanism in North 24 parganas.

Interpretation of $H_o 3$

Table-3

	Involvement Total	Consciousness Total
Involvement Total	Pearson Correlation	1 .413**
	Sig. (2-tailed)	.000
	N	205 205
Consciousness Total	Pearson Correlation	.413** 1
	Sig. (2-tailed)	.000
	N	205 205
** Correlation is significant at the 0.01 level (2-tailed).		

Comment: The table- 3 shows that the, Pearson correlation value is .413**(r) and sig value is 0.000.Hence; correlation(r) is significant at 0.01 level (2-tailed) and H_o**3**is rejected. So, it can say that moderate relationship exists between involvement and consciousness regarding self defence mechanism among girls secondary and higher secondary school in north 24 parganas.

Frequency of Teacher Involvement

Objective- 4, To know the role of teachers and their involvement in the training of self defence

Table- 4: Frequency % of Teacher Involvement

Score	Frequency	Percent	Valid Percent
15	3	6.0	6.0
16	14	28.0	28.0
17	14	28.0	28.0
18	13	26.0	26.0
19	4	8.0	8.0
20	2	4.0	4.0
Total	50	100	100

This table shows that the teachers involved in the process but not so highly involve in the process, they moderately involve in the practice of self defence mechanism

in their schools.

Major Findings

After the careful analysis of the obtained data and interpretation of the results with regard to the objectives and hypotheses of the study, the investigator obtained the following findings:

- The rural girl students are significantly different from urban girl students in respect to their consciousness.
- The rural girl students are significantly different from urban girl students in respect to their involvement.
- Moderate relationship exists between consciousness and involvement regarding self defence mechanism.
- The maximum teacher involve in the process of self defence mechanism.

Implication of the study

Self defence, specially for women, is of utmost importance in the world we live in today. Women, usually referred as the weaker sex, are considered easier targets. In a country like India where the cases of gender violence are on the rise, out of which many go unreported, self defence for women has become a necessity more than ever.Rape, molestation, kidnapping, acid attacks, eve-teasing and murder are the most common forms of crime against women in India.

The study will be significant in such way that it will help to understand the present situation of training, regarding self defence mechanism practiced in schools of North 24 Parganas district. It will also help to know how many students are benefited from self defence training; how much they get help from their teachers.

Different types of training were started with government initiatives to protect self in various schools of the district, but their positive results have not yet been seen as a prevention of social crime. One of the reasons is the training time is limited. As a result, students are deprived of the success of this strategy and the necessary skills. Because of the lack of proper management and adequate trainers, students are unable to fully grasp such techniques.

The training of self defence strategies can be compulsorily linked to the curriculum fort's better result. All students may benefit from this. Teachers must

come forward on behalf of humanity. This will increase training time and management. Then there will be hopeful success.

So we can expect that from the success of such a strategy, the daily trend of crime against women in the society will be reduced to some extent.

Conclusion

Self defence is one important weapon by which a girl can protect herself from the offence.As a valuable part of our society the girls can elevated themselves through this activities and they will feel secure mentally, emotionally and physically.

Self defence activities will increase their mental strength. If a girl can increase her own self-awareness, she can spread herself in multiple areas of success. Teenage girls can also protect themselves by self defence activities and participate freely in the world of work.

In this study we found that, in north 24 parganas district, students of secondary and higher secondary schools are conscious and involve in training of self defence. But it was found that training they received it is not enough to deal with any adverse situation. Govt. started various types of training related to self defence strategies for the students in different schools of the district. The government should take a more positive role in the village, for bridging the gap between urban and rural.

Finally, it can be said that training and awareness of self defence strategies will enable them to deal with different types of adverse situations. The role of teachers in this regard is outstanding. This great aim is to be succeed with the help of student-teacher bonding anddefinitely it will be.

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Relationship of Socio-Economic Background, Creativity and Academic Achievement of Students at Secondary Level of Education

Md Hedaytullah Sarder[*] *and Md. Kutubuddin Halder*[*]

Abstract

The study explores mainly the relationship of socio-economic status, creativity and academic achievement of students at secondary level of education. 109 students of class VIII from a school of South 24 Parganas were selected through systematic sampling technique. Socio-economic status scale developed by Kuppuswammy and Creativity scale developed by Baqer Mehdi were used. Percentage, mean, standard deviation, chi-square and t-test were applied and qualitative analysis was also done. It is found that there were significant relationship between socio-economic status and academic achievement and creativity of students. But there was no significant difference between male and female students with regard to academic achievement.

Key Words*: Socio-Economic Status, Creativity, Academic Achievement and Secondary School*

Introduction

*I*n the era of post modernization, education is considered as a first step for every human activity and the quality of education remains at top most priority for educators as well as for the learners. Academic achievement of student is one of the major dimensions of the outcome of quality of education. Some studies revealed that academic achievement depends on several variables like sociological, psychological and school variables. Sociological variables included the socio-economic background of students, cultural background, home environment, parental involvement; family size etc. age, sex, health etc are considered as personal variable and intelligence, creativity, achievement motivation, interest etc are considered as psychological

* Research Fellow, Department of Education, University of Calcutta
* Professor, Department of Education, University of Calcutta

variables. School related variables are connecting of school environment, teaching method, teaching aids etc. Achievement means all those behavioral changes which take place in the individual as a result of learning experience of various kinds. Academic achievement refers to the degree of success or level of attainment by pupil in the scholastic or the curricular subjects prescribed within the syllabus. In brief it is the amount of knowledge derived from learning in the classroom. Previous research has indicated that among all the factors socio-economic status and creativity is most commonly linked to academic performance.

Academic achievement of the students of Class IX in the state of Haryana was related with creativity (Kaur, Harvinder 2016). Academic achievement of the students of Class X in Assam was related with intelligence and home environment (Saikia, Pallabi 2016). Academic achievement related with socio-economic status (Bornstein and Bradley, 2003; Brooks- Gunn and Duncan, 1997; Coleman, 1988; Mcloyd, 1998). Rafaqi,Md.Zia-Ul-Haq (2015) studied in Jammu and Kashmir and found that academic achievement of the students of Class IX was related with achievement motivation and socio-economic status. Achievement means all those behavioral changes which take place in the individual as a result of learning experience of various kinds. Academic achievement refers to the degree of success or level of attainment by pupil in the scholastic or the curricular subjects prescribed within the syllabus. In brief it is the amount of knowledge derived from learning in the classroom. Hence, this study is an attempt to investigate the relationship of academic achievement with socio-economic background and creativity of the students of Class VIII.

Academic achievement of students especially at the secondary school level is not only a pointer to the effectiveness or otherwise of schools but a major determinant of the future of youths in particular and the nation in general. Learning outcomes have become a phenomenon of interest to all and this account for the reason why scholars have been working had to unravel factors that militate against good academic performance (Aremu and bokan, 2002). This phenomenon has been variedly referred to in literature as academic achievement, or scholastic functioning. Academic achievement of learners has attracted attention of scholars, parents, policy-makers and planners. Adeyemo (2001) opined that the major goal of school is to work towards attainment of academic excellence by students. According to him, the school may have other peripheral objectives: emphasis is always placed

on the achievement of sound scholarship. Besides, virtually everybody concerned with education places premium on academic achievement; excellent academic achievement of children is often the expectation of parents (Osiki, 2001).

Academic achievement assumes primary importance in the context of an education system aimed at progressive scholastic development of the child and human resources development at the micro level. The importance of scholastic and academic achievement has raised important questions for educational researcher. What factors promote achievement in student? How far do the difference factors contribute towards academic achievement? (Ramasway, 1990). In this context, the role of socio-economic status cannot be denied as it has a great effect on personality, learning and development of the individual and his academic achievement.

The secondary school students' background factors are important in the students' life and may determine the academic achievement outcomes. Among the factors that may determine the academic outcomes are the family's socio-economic status, family type and the home location. The family Socio-economic status is commonly determined by the parental level of education, occupation and incomes levels. Families with high socio-economic status provide their children with more opportunities at home to build academic skills (Ferguson, 2007). Family background and its socio-economic status is a key to a student's life and outside of school and also influences student academic achievement. The social economic and educational status of a family determines the quality of academic achievement of a student. It is generally believed that children from high and middle socio-economic status parents are better exposed to a learning environment at home Because of the provision and availability of extra learning facilities.

Creativity is no more a biological constant. It is considered more as a variant being perceptually influenced by environment, socio-economic status and cultural conditions. Though no individual differences in creativity can be attributed to heredity, various demographic factors like age, sex, birth order, socio-economic status, locality etc play a significant role (Torrance, 1975). Further, studies have shown that creativity of individuals is affected by factors like family background, education of parents, intellectual and social bases of family, professional background, birth order and age (Roe, 1953; Weisberg and Springer, 1961; Antasi, 1968; Raina, 1970; Jarial, 1979; Sharma, H.L. 2005).

The present education system is achievement oriented. It is given a lot of importance in admission to higher studies and in job selection etc. Students achievement depend upon different factors such as personal factors which include age, sex and health etc, socio-cultural factors which include socio-economic conditions, the cultural background, home environment etc and psychological factors like intelligence, creativity, achievement motivation, interest etc. Past research has indicated that among all the factors socio-economic status and creativity is most commonly linked to academic performance.

Review of Related Literature

Chandra and Azimuddin (2013) study examines the relationship between socio-economic status and Academic Achievement of 14 secondary school students of Lucknow city. The results of the study revealed that difference between high, average and low socio-economic status group and their academic achievement. A positive correlation is observed between socio-economic status and academic achievement.

Anwar at el (2012) conducted a survey on secondary school students to find out the relationship between creative thinking and academic achievements. Results disclosed significant correlation between creative potential and students' academic performance.

Saha (2012) conducted a study on creativity in relation to socio-economic status in secondary school students in West Bengal.

Objectives: (1) to study the relationship between creativity and socio-economic status. (2) To study the relationship between boys and girls in regard to socio-economic status. (3) To study the relationship between boys and girls in regard to creativity.

The analysis revealed that (1) creativity is positively related with socio-economic status. Result show that high socio-economic status children were more creative than below socio-economic status children. (2) There is no such difference observed between boys and girls with regard to socio-economic status. (3) There is no such difference observed between boys and girls with regard to creativity.

Parasirat (2013) studied the relationship between creativity and family socio-economic status and found that a significant positively relationship between family economic status and creativity.

Socio-economic background is a global measure comprising ratings on income, education and occupation level of the family. In the study socio-economic background was assessed by level of income, education and occupation of the family. Student creativity is considered to be the creative ability of students represented by their scores on various factors of verbal and non verbal creativity such as originality, fluency, flexibility and elaboration as measured by Mehdi (1973, 1985)-

- *Fluency:* Fluency means the ability to produce many thoughts at a determined time.
- *Flexibility:* Flexibility means the ability to change the thoughts and make diversity in making thoughts.
- *Originality:* Originality means the ability to produce new thoughts.
- *Elaboration:* Elaboration means the ability to pay attention to the details of a thought.

Achievement is a performance in school or college on standardized of education tests. The term is used more generally to describe performance in the subjects of the curriculum.

Hypothesis of the Study

Ho1: There is no difference between students academic achievement in respect of socio-economic status in secondary schools.

Ho2: There is no relationship between creativity and academic achievement of students in secondary school.

Ho3: There is no relationship between socio-economic status and creativity of students in secondary school.

Sample

Systematic sampling technique was adopted. The present sample comprised of 109 eight grades students. All enrolled students in Class IX of two rural schoolsof South 24 Parganas were selected.

Tools of the Study

1. Socio-economic Status Scale: It was by Kuppuswamy's. It was modified by the researcher.

2. Verbal test of creative thinking: It was developed and standardized by Baqer Mehdi (1985).
3. Non-verbal Test of creative thinking: It was developed and standardized by Baqer Mehdi (1973).
4. Academic Achievement scores of students were collected from the Progress Report Registers of their respective schools.

Statistical Techniques

For quantitative analysis of data, frequency distribution, percentage, mean, standard deviation, chi-square test and t-test were applied and qualitative analysis was done.

Result and Discussion

The academic achievement of the students was measured by their marks obtained in their previous examination held under the supervision of their school and is presented below-

Table1: Academic Achievement level of class IX students in their previous examination

Grade	No of students	Percentage of students
A+	0	0
A	1	0.92
B+	9	8.25
B	15	13.76
C+	21	19.27
C	35	32.11
D	28	25.69

Table1
gives the detail of sampled students' academic achievements according to their respective grades. It is observed from the table 1 that no student obtained A+, 0.92% of students obtained 'A' grade. 8.25% of students obtained 'B+' grade, 13.76% of students obtained 'B' grade, 19.27% of students obtained 'C+' grade, 32.11% of students obtained 'C' grade and 25.69% of students obtained 'D' grade.

Based on the scores of the academic achievement, the subjects were grouped into three, viz, high, moderate and low. The subjects whose scores

were top 27% on the academic achievement were grouped as high achievers group and those scores were below 27% on the academic achievement were grouped as low achievers group. The subjects whose scores were between top 27% and below 27% were grouped as moderate achiever groups. Category of achievement group of students in secondary school is shown in Table 2.

Table 2: Category of achievement group according to obtained scores

Achievement group	No of students in sample	Percentage
High achievement group	29	26.61%
Moderate achievement group	51	46.78%
Low achievement group	29	26.61%
Total	109	100%

Table 2 gives the detail of sampled student's academic achievement according to their respective marks. It shows that 29 students or 26.61%students were high achiever group, 51 students or 46.78%students were moderate achiever group and 29 students or 26,61% students were low achiever group.

To assess the socio-economic status of the students, their family's income, education and occupation were measured and according to the basis of these it is classified into three groups. The socio-economic status of students in secondary school is shown in Table 3.

Table 3: Percentage showing Students According to Social Class

Level of social class	No. of students	Percentage
Higher class	2	1.83
Middle class	47	43.12
Lower class	60	55.05
Total	109	100

Table-3 indicates that in the selected sample 1.83% students were from the higher class, 43.12% students were from middle class and 55.05% students were from lower class. This also indicates that a majority of students of middle and lower class are studying in secondary school.

Table 4: Demographic characteristics of students under study

Age		No of students	Percentage	Total
	14 years	75	68.81	109
	15 years	34	31.19	
Mother tongue	Bengali	109	100	
	English	0	0	109
	Hindi	0	0	
Religion	Hindu	54	49.54	109
	Muslim	55	50.46	
Caste	General Hindu	5	4.59	
	Schedule caste	43	39.45	109
	Minority	55	50.46	
	OBC	6	5.50	

It is observed from the Table 4 that 75 students of total sample were 14 years which was 68.81% and rest 34 students of total sample were 15 years which was 31.19%. It is observed from the table 4 that all students (100%) speak Bengali. So, all of them are in Bengali medium. Religion-wise classification of number of students is shown in Table 4 that 54(49.54%) students were Hindu and 55(50.46%) students were Muslim. Caste wise classification of number of students is shown in Table 4 indicated that 5 students were General Hindu which was 4.59%. 43 students were schedule Caste which was 39.45%. 55 students were minority which was 50.46% and rest 6 students were OBC which was 5.50%. Table 4 indicated that 93 students were from nuclear families which were 85.32% and rest 16 students were from joint families which were 14.68%.

Table 5: Condition of the residence of the students

		No of students	Percentage	Total
Type of house	Hut house	4	3.67	Number Percentage

Kutcha house	34	31.19	109	100
	Pucca house	67	61.47	
	Mixed house	4	3.67	
Type of roof	Hay	8	7.34	
	Tin	2	1.83	
	Asbestos	35	32.11	109 100
	Tiles	44	40.37	
	Concrete	20	18.35	
Type of flooring	Mud	68	62.39	
	Brick	7	6.42	109 100
	Concrete	34	31.19	
Number of room	One room	32	29.36	
	Two room	64	58.71	109 100
	Three room	13	11.93	
Kitchen room	Yes	59	54.13	109 100
	No	50	45.87	
Type of toilet	No	27	24.77	109 100
	Common	82	75.23	
Electric connection	Yes	81	74.31	109 100
	No	28	25.69	
Type of drinking water	Tube well	109	100	109 100
	Pond	0	0	
Water of rice and vegetable wash	Tube well	12	11.01	109 100
	Pond	97	88.99	

Cooking water	Tube well	26	23.85	109	100
	Pond	83	76.15		
Bath water	Tube well	21	19.27	109	100
	Pond	88	80.73		
Land of family	No land	37	33.94	109	100
	Less than 1 acre	24	22.02		
	1-5 acre	43	39.45		
	5-10 acre	5	4.59		
	Above 10 acre	0	0		

Table 5 indicated that 3.67% of households were hut house. 31.19% of households were kutcha house. 61.67% of households were pucca house and rest 3.67% of households were mixed house. Table indicated that 7.34% of families were roof of hay, 1.83% of families were roof of tin, 32.11% of families were roof of asbestos, 40.37% of families were roof of tiles and rest 18.35% of families were roof of concrete. Table reveals that 62.39% of families were flooring of mud, 6.4% of families were flooring of brick and rest 31.19% of families were flooring of concrete. Table indicated that the 29.36% of families were a room, 58.71% of families were two room and 11.93% of families were three and above three rooms. Table reveals that the 54.13% of families had kitchen room and rests 45.87% of families were not having kitchen room. Table indicated that the 24.77% of families had no toilet and rest 75.23% of families had common toilet. Table 5 indicated that the 74.31% of families had electric connection and rest 25.69% of families had no electric connection. Table also indicated that the drinking water of all families (100%) were water of tube well. Table indicated that the water of rice and vegetable washing of 11.01% families were the water of tube well and rests 88.99% of families were water of pond. Table indicated that the water of cooking of 23.85% of the families was water of tube well and 76.15% of families were water of pond. Table indicated that the water of bathing of 19.27% of the families was the water of tube-well and 80.73% of the families were the water of pond. Table also indicated that the 37 students (33.94%) families had no land, 24 students (22.02%) families had land of less than 1 acre, 43 students (39.94%) families had land of 1-5 acre and rest 5 students (4.59%) families had land of 5-10 acre. None of the students' family had land of above 10 acre.

Table 6: Educational background of head of the family's of the students

Educational background	Profession	Post graduation and Graduation	Higher secondary	Secondary	Upper primary	Lower primary	Illiterate
No. of respondent	0	5	6	18	29	21	30
Percentage	0	4.59	5.50	16.51	26.61	19.27	27.52

It is observed from the Table 6 that No head of the families had any profession, 4.59% of head of the families passed graduation, 5.50% of head of the families passed higher secondary education, 16.51% of head of the families passed secondary education, 26.61% of head of the families passed upper primary education, 19.27% of head of the families passed lower primary education. Among these 27.52% of head of the families of the school students were illiterate.

Table 7: Occupation of head of the family's of the students

Occupation of head of family	Profession	Clerical, shop-owner and Farmer	Skilled worker	Unskilled worker	Unemployed	Total
N. of respondent	2	52	35	15	5	109
Percentage	1.83	47.71	32.11	13.76	4.59	100

Table indicated that the 1.83% of head of the families were profession, 47.71% of head of the families were Clerical, shop-owner and farmer, 32.11%.

of head of the families were skilled worker such as mason, carpenter, biribinders, woodwork, cobbler, tailoring etc. 13.76% of head of the families were unskilled worker such as fisherman, temporary laborers engaged by contractors, ghorami, van puller, basket weavers, huckster and 4.59% of head of the families were unemployed.

Table 8 Economic condition of the families

Level of income	39587and above	19793-39586	14846-19792	9897-14845	5936-9896	1997-5935	1996 and below	Total
No of respondents	2	10	8	8	52	29	0	109
Percentage	1.83%	9.17%	7.34%	7.34%	47.71%	26.61%	0%	100%

Table 8 presents are the total income of student families. It is found from the table that Monthly income of 1.83% of families had above RS 39587, 9.17% 0f families had between RS 19793-39586, 7.34% 0f families had between RS 14896-19792, 7.34% of families had between RS 9897-14845, 47.71% of families had between RS 5936-9896 and rest 26.61 % of families had between RS1997-5935. The no students' families were not below RS 1996.

Table 9: The Mean and SD of row scores of verbal creativity components

Descriptive statistics	Verbal fluency	Verbal flexibility	Verbal originality
Mean	19.07	18.32	5.14
SD	7.19	6.52	6.08
N	109	109	109

Table 10: The Mean and SD of row scores of non verbal creativity components

Descriptive statistics	Non verbal elaboration	Non verbal originality
Mean	35.33	18.74
SD	11.52	12.92
N	109	109

The Mean and SD were calculated for all the components of creativity and are presented in table 9 and 10.They were used to convert different components of row scores into standard scores (T) by using the following formula.

$T=10(X-M)/SD+50$

T= Standard scores

X= Row scores

M= Mean of the row scores

SD= Standard deviation of the row scores

Table 11: Descriptive statistics of total verbal creativity, total non-verbal creativity and composite creativity (standardized scores)

Variable	Mean	Median	Standard deviation	Maximum scores	Minimum scores
Verbal creativity	149.94	145.50	26.91	258.88	98.5
Non-verbal creativity	100.82	94.94	19.97	148.61	66.11
Composite creativity	250.76	246.31	39.49	372.18	179.17

Table 12: Chi-square analysis between socio-economic status and academic achievement

Socio-economic status level	Level of academic achievement				df	Chi-square value
	Low achievement	Moderate achievement	High achievement	Total		
Higher class	0	1	1	2	4	28.96*
Middle class	6	17	24	47		
Lower class	23	33	4	60		
Total	29	51	29	109		

Total

*significant at 0.01 level

Table 12 shows that the obtained chi-square value=28.96 is higher than the table value 13.277 with df (4) required for significance at 0.01 level. It's indicating that there is a significant at 0.01 levels. It concludes that there is a significant relationship between socio-economic status and academic achievement of students at secondary level of education. So the hypothesis no 1 is rejected.

Table 13: Chi-square analysis between academic achievement and Composite creativity of students

Level of academic achievement	Composite creativity		Total	df	Significance
	Below median	Above median			
High achievement	7	22	29	2	21.10*
Moderate achievement	22	29	51		
Low achievement	24	5	29		
Total	53	56	109		

*significant at 0.01 level

Table 13 shows that the obtained chi-square value=21.10 is higher than the table value 9.210 with df (2) required for significance at 0.01 level. It's indicating that there is a significant at 0.01 levels. It concludes that there is a significant relationship between academic achievement and composite creativity of students at secondary level of education.

So, the hypothesis 2 is rejected.

Table 14: Chi-square analysis between socio-economic status and Composite creativity of students

Level of socio academic achievement	Composite creativity		Total	df	Chi-square value
	Below median	Above median			
High class	1	1	2	2	14.71*
Middle class	13	34	47		
Lower class	39	21	60		
Total	53	56	109		

* Significant at 0.01 level

Table 14 shows that the obtained chi-square value=14.71 is higher than the table value 9.210 with df (2) required for significance at 0.01 level. It's indicating that there is a significant at 0.01 levels. It concludes that there is a significant relationship between Socio-economic status and composite creativity of students at secondary level of education. So, the hypothesis no 3 is rejected.

Table 15: Significance of difference between mean of academic achievement of male and female students

Gender	N	Mean	SD	Mean difference	t-value
Male	44	42.16	20.40	1.89	0.48
Female	65	40.27	19.85		df=107

Not significant=0.05 level

Table 15 shows that the obtained 't' value 0.48 which is less than the table value 1.98 with df (107) required for significance at 0.05 level ($p>0.05$) indicating that It is not significant. It concludes that there is no significant difference between academic achievement of male and female students in secondary school. Hence, the stated null hypothesis 4 is accepted.

Table 16: Significance of difference between mean of socio-economic status of male and female students

Gender	N	Mean	SD	Mean difference	t-value
Male	44	11.43	4.55	0.71	0.85
Female	65	10.72	3.94		df=107

Not significant=0.05 level

Table 16 shows that the obtained 't' value 0.85 which is less than the table value 1.98 with df (107) required for significance at 0.05 level ($p>0.05$) indicating that It is not significant. It concludes that there is no significant difference between socio-economic status of male and female students in secondary school. Hence, the stated null hypothesis 5 is accepted.

Table 17: Significance of difference between mean of composite creativity of male and female students

Gender	N	Mean	SD	Mean difference	t-value
Male	44	259.51	43.13	14.66	1.85
Female	65	244.85	36.55		df=107

Not significant

Table17 shows that the obtained 't' value 1.85 which is less than the table value 1.98 with df (107) required for significance at 0.05 level ($p>0.05$) indicating that It is not significant. It concludes that there is no significant difference between composite creativity of male and female students in secondary school. Hence, the stated null hypothesis is accepted.

Table 18: Chi-square analysis the significance difference between academic achievement and total verbal creativity

Level of academic achievement	Total verbal creativity		Total	df	Chi-square value
	Below median	Above median			
High achievement	3	26	29	2	33.37*
Moderate achievement	25	26	51		
Low achievement	25	4	29		
Total	53	56	109		

* Significant at 0.01 level

Table 18 shows that the obtained chi-square value=33.37 is higher than the table value 9.210 with df (2) required for significance at 0.01 level. It's indicating that there is a significant at 0.01 levels. It concludes that there is a significant relationship between academic achievement and total verbal creativity of students at secondary level of education.

Table 19: Chi-square test analysis the significance difference between academic achievement and total non-verbal creativity

Level of academic achievement	Total verbal creativity		Total	df	Chi-square value
	Below median	Above median			
High achievement	13	16	29	2	11.65*
Moderate achievement	21	30	51		
Low achievement	23	6	29		
Total	57	52	109		

* Significant at 0.01 level

Table 19 shows that the obtained chi-square value=11.65 is higher than the table value 9.210 with df (2) required for significance at 0.01 level. It's indicating that there is a significant at 0.01 levels. It concludes that there is a significant relationship between academic achievement and total non- verbal creativity of students at secondary level of education.

Table 20:Chi-square test analysis the significance difference between socio-economic status and total verbal creativity

Level of academic achievement	Total verbal creativity		Total	df	Chi-square value
	Below median	Above median			
High class	0	2	2	2	12.32*
Middle class	15	32	47		
Lower class	38	22	60		
Total	53	56	109		

*Significant at 0.01 level

Table 20 shows that the obtained chi-square value=12.32 is higher than the table value 9.210 with df (2) required for significance at 0.01 level. It's indicating that there is a significant at 0.01 levels. It concludes that there is a significant relationship between Socio-economic status and total verbal creativity of students at secondary level of education.

Table 21: Chi-square test analysis the significance difference between socio-economic status and total non-verbal creativity

Level of socio economic status	Total verbal creativity		Total	df	Chi-square value
	Below median	Above median			
High class	1	1	2	2	4.77**
Middle class	19	28	47		
Lower class	37	23	60		
Total	57	52	109		

**not significant

Table 21 shows that the obtained chi-square value=4.77 is less than both the table value 5.991 and 9.210 with df (2) required for significance at 0.05 level and 0.01 level. It's indicating that there is a no significant at 0.05 levels and 0.01 levels. It concludes that there is no significant relationship between Socio-economic status and total non-verbal creativity of students at secondary level of education. So, the stated null hypothesis is accepted.

Table 22: Significance of difference between mean of total verbal creativity of male and female students

Gender	N	Mean	SD	Mean difference	t-value
Male	44	150.52	25.96	0.9	0.17
Female	65	149.62	28.27		df=107

Table 22 shows that the obtained 't' value 0.17 which is less than the table value 1.98 with df (107) required for significance at 0.05 level ($p>0.05$) indicating that It is not significant. It concludes that there is no significant

difference between total verbal creativity of male and female students in secondary school. Hence, the stated null hypothesis is accepted.

Table 23: Significance of difference between mean of total non verbal creativity of male and female students

Gender	N	Mean	SD	Mean difference	t-value
Male	44	108.96	13.60	13.64	3.40*
Female	65	95.32	24.14		df=107

Table 23 shows that the obtained 't' value 3.40 which is greater than the table value 2.62 with df (107) required for significance at 0.01 level ($p<0.01$) indicating that It is a significant. It concludes that there is a significant difference between total non verbal creativity of male and female students in secondary school. Hence, the stated null hypothesis is rejected.

Table 24: Mean difference of various creativity dimensions of high, moderate and low socio-economic status students

Dimensions of creativity	Number	Socio-economic status	Mean	SD
Fluency	2	High	54.07	5.56
	47	Moderate	54.56	10.40
	60	Low	46.62	8.56
Flexibility	2	High	53.34	3.83
	47	Moderate	54.39	10.70
	60	Low	46.44	8.62
Originality	2	High	60.46	7.40
	47	Moderate	53.79	13.11
	60	Low	46.59	6.32
Elaboration	2	High	46.67	10.85
	47	Moderate	52.03	7.61
	60	Low	48.03	9.62

Table 24 shows that the mean scores of fluency between high, middle and low socio-economic status students were 54.07, 54.36 and 46.62 respectively. It indicated that the mean scores of middle socio-economic status students are found to be better on fluency as compared to high and low socio-economic

status students. Table 4.34 shows that the mean scores of flexibility between high, middle and low socio-economic status students were 54.34, 54.39 and 46.44 respectively. It indicated that the mean scores of middle socio-economic status students are found to be better on flexibility as compared to high and low socio-economic status students. Table 4.35 shows that the mean scores of originality between high, middle and low socio-economic status students were 60.46, 53.79 and 46.59 respectively. It indicated that the mean scores of high socio-economic status students are found to be better on originality as compared to middle and low socio-economic status students. Table 4.36 shows that the mean scores of elaboration between high, middle and low socio-economic status students were 46.67, 52.03 and 48.03 respectively. It indicated that the mean scores of middle socio-economic status students are found to be better on elaboration as compared to high and low socio-economic status students.

Conclusion

Agriculture was the main and the most important economic activity in rural areas of South 24 parganas district of West Bengal. Hawkery, working in bakery, sweet shop, tea stall, hotel boy, weaving, woodwork, tailoring and pottering were other important sources of family income. Due to financial hardship of the family, students were always bound to help their parents in all this activities to make ends meet, thus affecting their regular studies.

This study has explored the factors affecting measured academic achievement and creativity in the students at secondary school and how different level of academic achievement and creativity affects student's perception of school subjects. Overall academic achievement and creativity scores were related to children's parental background with better education, occupation and income. When parents were considered separately there were exceptions. The children of educated parents seemed to academic achievement scores more highly than those with low education. With regard to the head of the family the better education and occupation of head of the family the higher the level of academic achievement. The children of high socio-economic status families seemed to academic achievement score more highly those with low socio-economic status. With regard to the socio-economic status the better socio-economic status of the students the higher the level of total verbal creativity and composite creativity. This did not apply to non-verbal creativity. With regard to the students, the better creativity of the students the higher the level of academic achievement.

Educational Implication

- Understanding the home environment of the learner is a pre requisite for effective teaching.
- Emotional stress is a major cause for cognitive decline and low achievement. So teachers must render comfortable emotional atmosphere for students.
- Mothers are also in need to guidance and counseling as far as bringing up their children effectively with the democratic attitude.
- This study will be produce important information about students' socio-economic status.
- While teacher teaching in their classes they should always keep in the mind the type of socio-economic status of their students and accordingly plan their lesson.

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Rethinking Teacher Education for Inclusion in the Light of Foucault and the Art of Transgression

Piku Chowdhury*

Abstract

Inclusion is a challenge, often branded as utopian by practitioners, and questions are being raised by teachers' unions, researchers, policy makers and practitioners about the nature of teacher preparation and development for inclusive settings. With Warnock, the so called "architect" of inclusion now calling it a "big mistake" and advocating a return to special schooling, the very idea of inclusive education is under threat. Every idea evolves from a profound philosophy and this article takes the key ideas of exclusion elaborated by Michael Foucault and applies them to reconsider teacher education for inclusion, subverting, exploring and discovering new facets in the process. Propositions include using arts to challenge exclusion, in order to gain fresh insights into possibilities of a more productive and political engagement with inclusion in teacher education.

Key Words**:** Inclusion, teacher education, philosophy, arts, transgression, Foucault.

Introduction

Fielding (2001) expresses the need for an engagement with philosophy in order to rescue education from the "tyranny of the technical"(p.10) which has locked the intellect into technical assessments and a resultant feeling of impossibility and exclusion. A tour of the range of conditions and pathologies that teachers may encounter in their inclusive classes is what is taught in teacher education courses in order to "fix the world concretely and reductively" (Brantlinger, 2004, p.497), with very little or no understanding of the concept and practice of inclusion, thereby laying the foundation for frustration, guilt and exhaustion in tandem with lack of self-confidence. The root of this problem is , as Bartlinger (2004) aptly observes, is thefact that education policies are overemphasized in teacher education courses instead

* Assistant Professor, Satyapriya Roy College of Education Bharati University, Kolkata. E-mail: chowdhury.piku@yahoo.com

of theory and philosophy as a source of guidance for practitioners. Bartlinger (2006) calls these policy documents "big glossies" that, along with special education text books apparently providing convenience, practically function as "authoritative purveyors of technical knowledge"(p.67). Absence of any critical interrogation of the texts taught in teacher education courses as well as in schools ensures that higher order thinking is denied (Pinar, 2002) and that the innate values associated with difference, inclusion and justice are given little attention. Teachers thus subjected to textual politics, buy into the policy guidelines of students' behaviour modification through modification of their own behaviour and mechanical strategies taught during their training. They trade off their autonomy in the process, failing to provide effective interventions when needed and the essence of inclusive culture remains yet to be understood as they receive their degrees. In the words of Gregoriou (2001) –

Incompleteness, often valorized in textual politics as ambiguity which exposes the limits of the metaphysics of voice, in the discourse of corporate training (which in a way has colonized the discourse of education) becomes another tactics of control in human resource management. (p.230)

Inclusive teacher education has come under the scanner, especially in our country, primarily because of perspectival fallacy that leaves much to theorization and little to practice in true sense of the term. As Barton & Rioux (2007) aptly points out–

One of the important responsibilities that advocates of inclusion need to continually practise is that of self-criticism. This includes examining and re-examining the assumptions informing our perspectives, the concepts that we use including "inclusive education" and pour intentions, especially in relation to the question of change. We need to be aware of the danger of unexamined orthodoxies, the possibilities of adopting inclusive language with little, if any, changes in our thinking and practice and a sterile and insensitive position with regard to the pursuit of new or alternative ideas. (p.vii)

Warnock (2005) denounces the damaging effect of the "ideology of inclusion" suggesting that inclusion springs from the rational and empathetic hearts but as an ideology it does dictate , entail and leads to children with special needs being "lumped together indiscriminately, as though they share a common right to be educated in mainstream schools"(p.40). According to Warnock, It is ultimately the children who suffer from the aftermath of ideology:

The fact is that, if educated in mainstream schools, many such children are not included at all. They suffer all the pains of the permanent outsider. No political ideology should impose this on them. (p.45)

The conditions under which teachers are put to teach for inclusion are primarily associated with a legislative and policy context in which inclusion of inclusive education appears to fail consistently. Lady Macbeth had counselled her husband In Shakespeare's play *Macbeth*, that failure could be avoided "if you screw your courage to the sticking place" and a proper philosophical understanding of the dynamics of exclusion and inclusion with respect to transgression seems to be that sticking place, as this study strives to argue.

***Foucault's Concept of Hierarchies*:**

Foucault's reference to norm based construction of identity appears to be of central significance in a discussion on the operation, policy creation and implementation of inclusive teacher education. Foucault, like Derrida and Deleuze & Guattari, defies categorization. In Foucault's discourses on institutions like prisons and schools in *Discipline and Punish: the Birth of the Prison* (1977), his genealogies revealed how knowledge and power were interlinked and essentially constructed individuals as – (i) objects of knowledge and (ii) subjects who were controlled. His analysis subverted the conception of freedom, revealing that while we might think we have greater freedom, in reality we might be more tightly constrained than ever before. He developed a series of constructs about power and knowledge that he referred to as a 'box of tools' (p.208) for understanding how concepts are controlled and engineered through agencies of power. The child with special needs or the concept of inclusion too can be understood as having been constructed through a hierarchy of power and knowledge with the special needs identified categorically through a complex process of assessment based on a distinction between the normal and abnormal, and a process of standardization. In a way, each and every person with special needs has been subjectified and Tremain's (2005) discussions in Foucault and The Government of Disability, analyzed epistemologies, ontologies, histories, governmentalities, ethics and politics which reveal 'some of the Fascism which still runs round in our heads and still plays itself out in our everyday behaviour' (McWhorton, 2005; p.xvii). From the Foucauldian perspective, medical, juridical, administrative as well as social practices construct and demarcate the special needs and the subject with the special needs and the

discourse of inclusion is heavily underpinned by a homogenising imperative. The very first step in effective inclusive teacher education, therefore, lies in recognizing the pattern of subjectification and categorization, and trying to transcend the same. In the worlds McWhorter (2005) –

The point here, I think, is not to feel bad about the injustice or the suffering in the world...The point is to pull up short before the possibility that what you thought was true might not be, that what you thought was normal or natural might be the product of political struggle, and to start - from just that place - to think, which means to question, to critique, to experiment, to wonder, to imagine, to try. (p.xvii)

A number of scholars have used Foucauldian constructs to interpret the lack of progress towards inclusion as effects of power and as part of a wider system of control. For instance, Slee (2001) in his article 'Social Justice and the Changing Directions in Educational Research: The Case of Inclusive Education', questioned inclusive education which enabled teacher education to carry on their old practices, thereby turning the student teachers into 'card carrying designators of disability' (p.171) under a more publicly acceptable label. Again, Simons & Masschelein (2005) suggest that the very concept of inclusive education essentially implies an effect to pull a group of exclusive marginalized people to a standardized centre, which in a way, is another form of categorization and implicit complacency in the accepted normality of the so called centre. Despite extensive scholarship on the individuality of the special needs person, modern teacher education, in its curriculum and pedagogy, has little or no scope of individualized education programs and absolutely no reference to the philosophical and conceptual outline of a person as simultaneously an individual and part of a greater totality. Drinkwater (2005) in his article 'Supported Living and the Production of Individuals' aptly questions whether the move from institutionalized living to care in the community represents any emancipation or humanitarian reform and suggests that it might as well be a "new dispersal of power relations, entirely in keeping with the modern drive to greater efficiency" (p.229). Considering these institutions as ineffective for persons with special needs, is an act of conceptual complacency and an intensification of control over the subject. Foucault's later work like 'On the Genealogy of Ethics: An Overview of Work In Progress' (1984) contains a profound view of agency and depicts individuals as capable of working on themselves and construct or achieve a new kind of existence, without any external standardization, or concerted effort.

***Foucault's Ethical Framework* :**

Foucault's ethical framework primarily focuses on - "The forms of relations with the self, on the methods and techniques by which he works them out, on the exercises by which he makes of himself and object to be known, and on the practices that enable him to transform his own mode of being" (*TheUse of Pleasure: The History of Sexuality*, 1985; p.30). Foucauldian ethics urges an individual to transgress borders of self-perception and perceive oneself as the main source of transformation, rather than waiting for a more substantial structural or material change. As aptly pointed out by Veyne (1997) in 'The Final Foucault and His Critics', "The self is the new strategic possibility" (p.231), capable of responding to the adversities around. In the words of Foucault (1984) –

The ethico-political choice we have to make every day is to determine which is the main danger...my point is not that everything is bad but that everything is dangerous...If everything is dangerous, then we always have something to do. So my position leads not to apathy but to a hyper and pessimistic activism. (On the Genealogy of Ethics: An Overview of Work In Progress, p.343)

Foucault's ethical framework consists of four mutually complimentary dimensions, namely, (a) determination of the ethical substance, (b) the mode of subjection, i.e., the way in which an individual recognizes how he operates in relation to certain rules and find alternative modalities of observing those basic rules in case of difficulty or unfavourable conditions, (c) self practice or ethical work, i.e. the denial of foreseeing one's conduct into compliance with any given norm, but to effect transformation of oneself into the ethical subject of one's own behaviour, and (d) the Telos, i.e., the ultimate goal which every individual tries to achieve through ethical efforts. Foucauldian ethical framework explains the essence of inclusion in that it endorses the fact that every stakeholder in inclusive education like the teachers, researchers, teacher educators, the marginalized as well as the guardians has to examine themselves to identify what McWhorton (2005) aptly explains in the following manner –

We must realize that what looks right and modern and beyond reproach, what seems natural and inevitable can be seen and experienced quite otherwise (p.xvii).

The framing of inclusive teacher education, therefore, entails fundamental realization that we cannot train teachers to apply a set of predetermined strategies and norms to identify and pull the students with special needs

towards a predetermined and normative centre in a callous act of homogenization in the name of mainstreaming. They must, on the contrary, strive to initiate self practice and a steady progression toward the Telos in every student with special needs, whether physically, mentally or sociologically marginalized.

***Foucauldian Concept of Transgression* :**

Foucault's ethical framework offers the concept of transgression as a subversive tactic, which could enable individuals to transform themselves. Transgression emerges as a form of resistance involving the crossing of limits but it is in no way suggestive of antagonism or aggression. Transgression, according to Foucault, is subtle and creative and a significant means of challenging the various types of barriers to inclusion. Foucauldian concept of transgression is a more practical and political form of engagement that is different from the Kantian concept of transcendence, and suggests that transgression comes from within a marginalized or categorized individual, who in every transgressive thought or action asserts his identity as 'the other'. It is in this assertion of otherness, and not in compliance with any preconceived model of normality, that the transgressive act liberates the individual. Reframing the entre teacher education framework and teaching praxis with this essence in mind could possibly lead to the creation of a truly inclusive society that is not a patchwork, but a beautiful mosaic. Transgression has been viewed as an attractive concept in relation to the marginalized and oppressed groups, because it forces recognition of exclusion and subverting the norms of exclusion to celebrate otherness as an agency of inclusion. Boyne (1990) in his book " Foucault and Derrida: The Other Side of Reason", argues that or those who transgress, 'otherness lies ahead' (p.82) and this allows individuals to shape their own identities by subverting the norms which compel them to repeatedly act as subjects within a definite marginalized identity. They need not reject these identities totally, but as transgressive agencies, can vary the way in which they have to repeat these performances.

Foucault (1977) in his *Preface to Transgression* acknowledges the absence of adequate language to express and recognize transgression as an agency of inclusion, but expresses his hope that one day transgression will be as much a part of our culture as contradiction was for dialectical thought. Allan's study *Actively Seeking Inclusion* (1999), conceptualized as a study of the experiences of the students with special needs and their regular peers in mainstream schools found students controlled by discourses and practices

of special education through hierarchies of surveillance in form of assessment procedures and inclusive teaching practices that practically had disciplinary and homogenizing effects. Allan found a very subtle and yet remarkably strong resistance to this amongst students with special needs. Almost every physically challenged student discovered transgressive strategies to challenge the limits placed upon them traditionally and socially established conceptions, and through such acts of transgression they reflected and interesting subversion of the basic assumptions of inclusive education practices taught in teacher education courses and implemented in schools. For instance, Allan cites the example of a wheelchair bound student who encouraged her peers to run errands for her and proudly described how she easily manipulated and fooled the so called normal people to slave for her using their unsolicited sympathy for her physical condition generally perceived as deficits. Allan's study revealed that teachers were critical of the transgressive students' obstinate refusal to accept help for their special need and misinterpreted as a failure to accept the fact that they were disabled. However there is a need to recognize the discourse of desire to be identified as a person categorically subjected to the discourse of difference. There is an urgent need to recognize every small act of transgression as a manifestation of the individual's Foucauldian journey towards the Telos with a stark denial of the hierarchy of power. Such acts of transgression are to be recognized as a refusal to comply with the benevolence and nobility of inclusive practices that the trained teachers try to practice. It is a stark denial of the superior power position of the so called socially and medically established versions of normality that try to be " helpers" in form of sympathetic peers or so called trained inclusive practitioners trying to pull the deviant ones into a homogeneous social superstructure that the transgressive individuals are least interested in. Foucauldian vision and the researches done on this line expose the stupendous fallacy of the thoughts that perceive "giving" education to the marginalised in preconceived forms or frame policies conducive to the development of the others in the callously self-obsessed normative societal framework. There is a need to see the agency and forces of transgression that celebrate the very otherness we feel so sympathetic about and even resorts to manipulation and assertion of superiority as evident from Allan's study. Allan reported a recorded expression of a student indignant of the teacher's inability to perceive the strong resistance to popular inclusive strategies as traditionally teachers are trained in:

I think they [teachers] sometimes go out of their way to help the disabled students, but she [student] does not like it…if anybody makes a fuss of her she gets really embarrassed and she doesn't like it. She's always complaining if teachers make a fuss of her. (p.63)

Conclusion

A highly sophisticated understanding of the significance of this strong resilience as an expression of the special needs person's desires needs a transfer of focus from the needs, special or not, to the innate human desires of the marginalized, and all policy documents that teacher education courses so heavily depend on, have failed to touch upon this. There is a strong micro-regime of Foucauldian governmentality in the desire of the excluded while we repeatedly focus on their needs as if we are some benevolent agencies conveniently located upward in the power hierarchy and in a position to address and satisfy needs of other human beings, mainstream or excluded. There is a strong need to legitimize the transgressions of the disabled pupils and develop teachers to recognize such acts as agencies of progress. The governmental regime may be investigated for pedagogical and pastoral elements and breaking traditional norms of peer support and interaction. Transgression can no longer be denied and operates as a powerful agency of challenging and negotiating the hierarchical positions and limits imposed upon the disabled by a disabling society. It is futile to assume that transgression means transcendence as pointed out by Foucault, but transgression simply allow the disabled and marginalised to expose and realize the exclusionary politics and feel the frontiers of abilism in order to negotiate it limitlessly as humans with individual limitations. What is important for teacher education sector is to rethink and reconstruct inclusion in terms of transgression that solely operates upon the discourse of desire and not only on needs based discourses that have guided or misguided policy and teacher education praxis so long. The element of micro-governmentality may be noted and reinforced to investigate the varying strata of desires and assertion in order to proceed towards the Foucauldian telos together, each in his or her own way. Teacher education may train the teachers as fellow travellers in the journey with conscious recognition of the desire discourse endorsed by transgression and freedom from a typical homogenising needs-based discourse.

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Role of Non-Government Organizations in Educating the Children of Sex Workers in Kolkata

Marisha Chakrabarti [*] ***and Mita Banerjee*** [**]

Abstract

Education enhances life. It ends generational cycle of poverty and disease and provides the means for sustainable development. UNICEF advocates quality basic education for all children- girls and boys- with emphasis on gender equality and eliminating disparities of all kinds. In promoting equity, UNICEF focuses on the most disadvantaged children through a range of innovative programmes and initiative in education. The life of the sex workers and their children are hazardous in a society where they are stigmatized and socially isolated from the so called main stream society. The importance of educating the children of sex workers was highly neglected in our country. But in the Right to Education Act (2009) the importance of education for sex worker's children has been specially mentioned. The intention is to ensure that these children among the most marginalized and most likely to be denied admission to school have access to free and compulsory education. In Kolkata prostitution is present in different forms. The children of sex workers are more prone to sexual exploitation, they have a low self-esteem, and they have no opportunity for education. Different NGOs in Kolkata work for mainstreaming and rehabilitation of the children of sex workers. Thus the objective of the present paper is to find out and assess the role of different NGOs engaged in academic involvement of the children of sex workers. The sample of the study consists of randomly selected 10 NGOs in and around Kolkata. Tools of the study consist of one questionnaire schedule for the 10 NGOs to find out their role related to the academic involvement of these children and participant observation method has been used as a tool to gather information regarding this area.

***Key Words*:** Children of Sex Works, Education, NGO.

* Assistant Professor, Sammilani Mahavidyalaya, Mobile No. 8336012039.
E-mail: marishachakrabarti@gmail.com

** Professor, Department of Education, University of Calcutta and presently Vice Chancellor, The West Bengal University of Teachers Training, Education Planning and Administration, Mobile No.9830120890.
E-mail: mitabanerjee@hotmail.com

Introduction

Education enhances life. It ends generational cycle of poverty and disease and provides the means for sustainable development. UNICEF advocates quality basic education for all children- girls and boys- with emphasis on gender equality and eliminating disparities of all kinds. In promoting equity, UNICEF focuses on the most disadvantaged children through a range of innovative programmes and initiative in education.Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs and habits. As a lifelong process education contributes greatly towards the development of individual. It not only provides professional and social mobility but also widens the minds resulting in all-round development of personality. The life of the sex workers and their children are hazardous in a society and they are stigmatised and socially isolated from the so called mainstream society. Sex trade came into existence in all strata of society but the sociological process was very complex. Simple connection cannot be drawn between social determinants and entry of women in sex trade. Not only women from low social status are prone to prostitution but also there are women from all social class, caste, religion who engage themselves in sex trade. The importance of education of the children of the sex workers was highly neglected in our country. But in the Right to Education Act (2009) the importance of education for sex worker's children has been specially mentioned. The intention is to ensure that these children among the most marginalized and most likely to be denied admission to school have access to free and compulsory education. In Kolkata prostitution is present in different forms. The children of sex workers are more prone to sexual exploitation, they have a low self-esteem, and they have no opportunity for education and so on. It will be a fallacy if we put the sex worker's children with all these problems on the one side and other children having a better life on the other side. Sometimes children facing many difficulties in their situation develop better survival skills and they have more reflective capabilities. On the contrary many overprotected schooled children may have less coping skills. But there exists some specific problems of the children of sex workers like the shame they feel when others despise them should not be overlooked.

Different NGOs in Kolkata work for the mainstreaming and rehabilitation of the children of sex workers. The present study wants to investigate the role of NGOs in educating the children of sex workers. Numerous studies have documented the health problems of sex workers. However there is limited

research documenting the well-being of children of sex workers. According to Wills, Hodgson and Lobich (2013) threats to the health and welfare of these children span their lives. Field observation by the staff at NGOs suggests that children of sex workers experience significant risk to health and safety. Qualitative studies explored the threats and risks to the health and welfare of children of sex workers. Findings indicates that stigmatization and discrimination against these children and their mothers are underlying conditions that comprises their access to safe housing, childcare, health care, education and protection of law enforcement.

Dalla (2000) investigated that the daily stressors include victimization, difficult client and police harassment. They also encounter stress from their involvement in a hazardous workers lived with their children. Those who maintain custody of their children also have problems. They experience shame in being mothers**.**Sloss and Harper (2004) conveyed that many women who engage in street sex work experience pregnancy and become mothers. These mothers discussed how parenting while regularly working causes them and their children to feel ashamed of themselves and anxious for their own and their children's safety. The study also said that these women have to go through a stressful situation while bringing up their children. Another study by Janette Nortington (2007) shows that sex worker mothers are at the risk of losing their children to the state because there is a concern that the children will lack morals and decency. Their sexual life styles do not conform to societal expectation. This study examines how parental sexual behaviour impacts perceptions of "parental fitness" and child custody determinations. Beard et al (2010) investigated that children of drug users and sex workers can face unique risks, stigma and discrimination, but both child vulnerability and resilience are associated in the drug use literature with the physical and mental health of parents and family context. Family-centred interventions have been implemented in low- and middle-income contexts, but they tend to be small, piecemeal and struggling to meet demand; they are poorly documented, and most have not been formally evaluated.

Statement ofthe Problem

There are various organizations who work to rehabilitate and educate the children of sex workers. They work to save these children from various hazards that they face and try to bring them out from the area where their mothers work. The study investigates to find out the role of NGO in educating the children of sex workers in Kolkata.

Method

Objective of the Study

Following are the objectives of the study:

1. To find out and assess the role of different NGOs engaged in academic involvement of the children of sex workers.
2. To find out how far the children of the sex workers have been academically involved.

Hypotheses

Following are the hypotheses for objective 2:

1. There is no significant difference in the achievement level of the students of class III in the subject Bengali/ English taught by the 10 NGOs.
2. There is no significant difference in the achievement level of the students of class III in the subject Mathematics the 10 NGOs.

Design of the Study

This is a cross-sectional empirical study based on descriptive survey research design and mixed method research design. This is a factorial research design in which the researcher seeks to understand the relationship between dependent and independent variables. Case study method is used along with quantification of data collected by means of close ended questionnaire. Thus this study has combined both qualitative and quantitative procedures thereby practicing the concurrent triangulation strategy, in which two different methods, cross-validate or corroborate findings are used within a single study.

The Sample

The sample of the study consists of-

1. Randomly selected 10 Non-Government Organizations working with children of sex workers in and around Kolkata.
2. 100 children studying in class III were selected from the ten NGOs working with these children.

Tools of the Study

For objective 1 a questionnaire schedule from Hayder has been adapted to find out the role of different NGOs engaged in academic involvement of the children of Sex Workers in Kolkata. Field visits have also been done to get the first hand information.

For Objective 2 two achievement tests constructed by the researcher have been used, they are:–

- Achievement tests constructed by the researcher in the subject Language (Bengali/English) (of 50 marks) for Class III.
- Another achievement test was constructed by the researcher on the subject Mathematics for Class III (of 50 marks).

Validity and Reliability of the Tools

The tools for objective 1 are a Questionnaire schedule. The questionnaire schedules were reliable to the extent which the respondents answered the questions honestly.

For objective 2 achievement tests for language and Mathematics were used. A pilot study was conducted to construct the test to find out the reliability value. Those tests were administered on the sample after one month and reliability value is.089. So far as the validity is concerned those test have content and consensus validity.

Data Analysis and Findings

3.1 Objective 1:

Table 1: Nature of the 10 non-government organizations

Sr. No.	Name of NGOs	Location	Project managed by				No. of Projects	
			Self	Govt. of India	CLPOA (KMC)	CRY	Single	More than
1.	Sanlaap	South	1					1
2.	Durbar	North	1					1
3.	IPER	South	1	1	1			1
4.	Vikramshila Education Resource society	South				1	1	
5.	ApneAap	West	1					1
6.	WIF	South	1					1
7.	Diksha	South	1				1	
8.	Jabala Action Research	South	1		1			1
9.	New light	South	1		1			1
10.	CINI	Central		1	1			1
Total			8	2	4	1	2	8

The Table 1 revealed that :–

- Out of 10 NGOS, 1(10 %) NGO is located in central Kolkata, 1(10 %) NGO is located in west Kolkata, 7(70%) NGOs are located in south Kolkata and 1(10%) NGO is located in North Kolkata.
- Out of 10 NGOs, 8(80%) had projects that were self-managed, receiving funds and donations from different agencies. 2(20%) had projects running under the government of India, Controller of Vagrancy with the Social Welfare Officer as the coordinator of the projects. 4(40%) had projects running with the City Level Programme of Action with Kolkata Municipal Corporation (KMC) and 1 (10%).

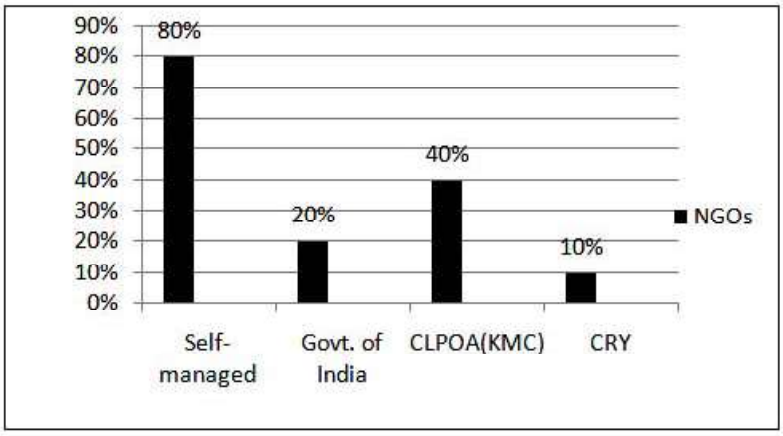

Figure 1: Projects Managed by

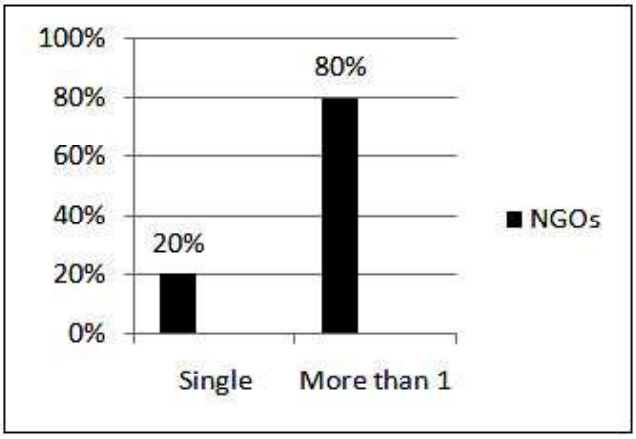

Figure 2: Number of Projects

Table 2: Procedure of enrolment in the centres of the 10 NGOs

No. of NGOS	Procedure for enrollment		Admission at the age of 5	Age no bar
	Ward wise	Locality wise		
1. Sanlaap		1(10%)		1(10%)
2. Durbar	1(10%)			1(10%)
3. IPER		1(10%)		1(10%)
4. Vikramshila		1(10%)		1(10%)
5. ApneAap		1(10%)		1(10%)
6. WIF	1(10%)		1(10%)	
7. Diksha		1(10%)	1(10%)	
8. Jabala Action Research	1(10%)			1(10%)
9. New life	1(10%)			1(10%)
10. CINI		1(10%)		1(10%)
Total	4(40%)	6(60%)	2(20%)	8(80%)

The Table 2 revealed that :–

- Out of 10 NGOs, 4(40%) made ward wise inspection to enroll all the children and 6(60%) made locality wise study to enroll the children.
- The table also revealed that out of 10 NGOs 2(20%) got children admitted at the age of 5 and for 8(80%) age did not play any role in matter of admission.

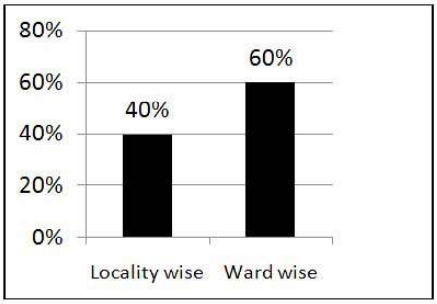

Figure 3: Procedure of enrollment

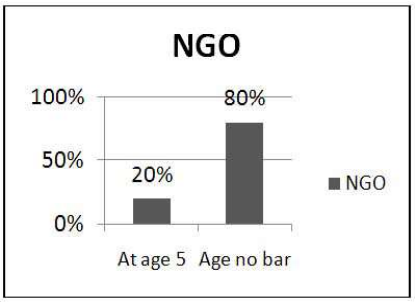

Figure 4: Age of admission

Table 3: Availability of physical facilities in the centres of 10 NGOS

	NGO	1	2	3	4	5	6	7	8	9	10	Total
Building exists	Yes	1	1	1							1	4(40%)
	NO				1	1	1	1	1	1		6(60%)
Classroom Exists*	Yes		1	1							1	3(30%)
	NO	1			1	1	1	1	1	1		7(70%)
Sitting Arrange-ment	Mats					1	1		1	1		4(40%)
	Chair /table										1	1(10%)
	Both	1	1	1	1			1				5(50%)

*Separate classroom for each grade.

As regard the physical facilities available in the centres of the 10 NGOs the Table 3 revealed that :–

- 4(40%) held classes in the school building, 6(60%) had no building.
- Regarding the classroom facility 3(30%) had separate classroom for each grade and 7 (70%) had to manage with single classroom.
- Regarding sitting arrangement 4(40%) had provision for mats and carpets only 1(10%) had provision for table and chairs, and 5(50%) had provision formats in some of their centres and table, chairs or benches in other centres.

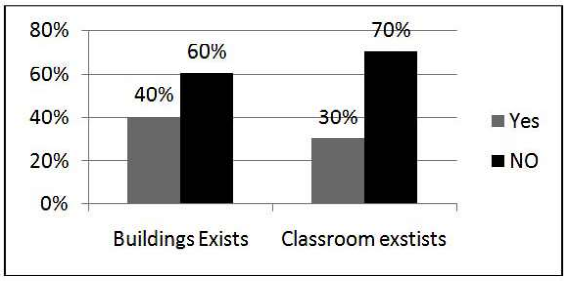

Figure 4: Physical facilities in the centres of 10 NGOs (Building and classroom)

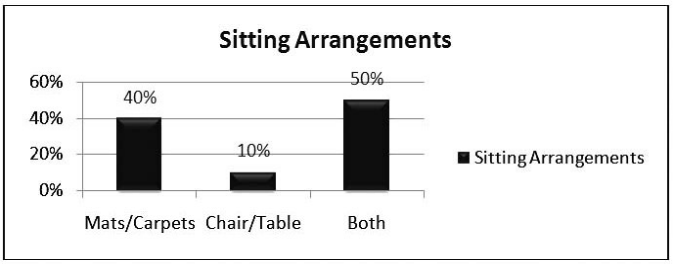

Figure 5: Physical facilities in the centres of 10 NGOs (Sitting arrangements)

Table 4: Availability of teaching - learning materials in the centres of the 10 NGOs

	NGO	1	2	3	4	5	6	7	8	9	10	Total
Text Books	Available	1	1	1	1	1	1	1	1	1	1	10(100%)
	Not Available											0(0%)
Black board and chalk	Available	1	1	1	1	1	1	1	1	1	1	10(100%)
	Not Available											0(0%)
Teaching Aids*	Available	1	1	1	1		1	1	1	1	1	9(90%)
	Not Available					1						1(10%)
Method of Teaching	Interactive	1	1	1	1	1	1	1	1	1	1	9(90%)
	conventional											1(10%)

*Charts, pen/pencil, colour pencil, rubber, globe, maps

Table 4 revealed that :–

- Regarding the availability of teaching learning materials in the centres of the 10 NGOs it was found that all the10 NGOs had adequate supply of text books for the students
- All of them had provision of black board and chalk in their respective class rooms.
- 9 (90%) out of 10 NGO had various teaching aids except 1(10%).
- As far as method of teaching is concerned all the 8(80%) NGOs uses interactive session like storytelling, field trips, role playing and question answer session and 2(20%) uses conventional method of teaching.

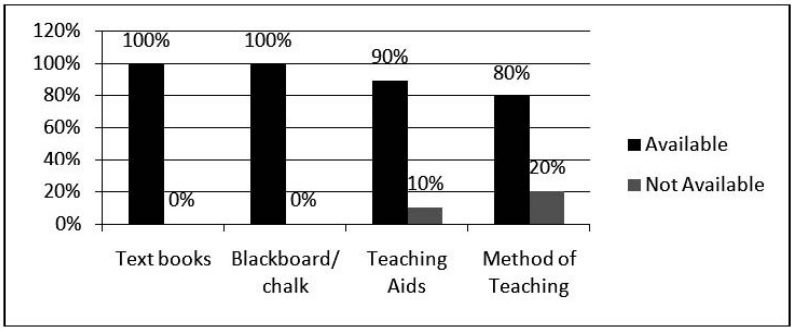

Figure 6: Availability of teaching learning material in the centres of 10 NGOs

Table 5: Learning Environment in the centres of the 10 NGOs

Classroom environment	No. of NGOs
• Well electrified and airy	3(30%)
• Dull and gloomy	7 (70%)
Classes held in	
• Proper classrooms	2 (20%)
• Clubrooms/garages	8(80%)

Table 5 revealed that:-

- Learning environment is found to be not as satisfying as most of the classrooms (70%) are dull and gloomy and 30% of them are airy and well electrified. There is lack of proper classrooms.
- 2 (20%) NGOs have proper classroom for the children where regular classes are being held. 8 (80%) of them arrange classes at clubrooms or garages.

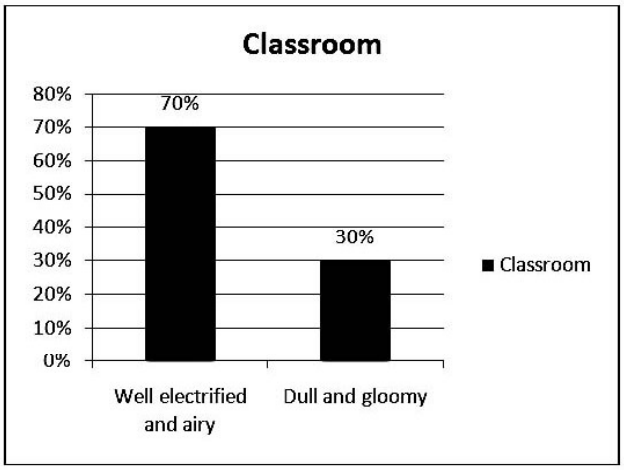

Figure 7: Clasrroom environment

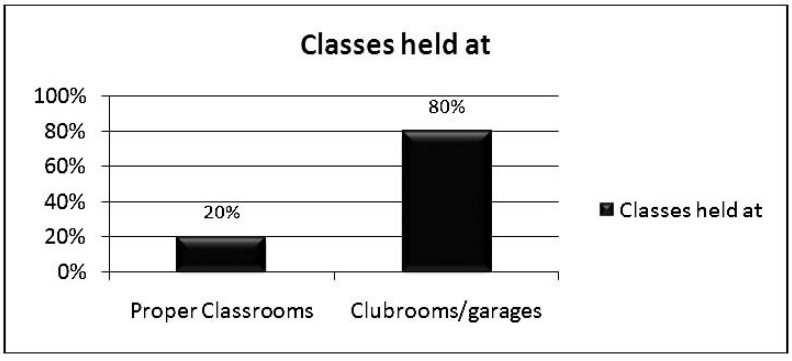

Figure 8: Places where classes are held

3.2 Objective 2

Ho1: There is no significant difference in the achievement level of the students of class III in the subject Bengali/ English the 10 NGOs.

Ho2: There is no significant difference in the achievement level of the students of class III in the subject Mathematics the 10 NGOs.

Table 6: Descriptive analysis (N, Mean & S.D.) of the scores of students' academic achievement of Language and Mathematics of the sub sample groups based on 10 NGOs (of Class III)

Subject	NGO	N	Mean	S.D.	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Language	1	10	23.80	9.931	3.140	16.70	30.90	14	47
	2	10	21.90	9.701	3.068	14.96	28.84	12	45
	3	10	19.90	3.414	1.080	17.46	22.34	14	24
	4	10	22.60	6.867	2.172	17.69	27.51	13	38
	5	10	21.00	7.087	2.241	15.93	26.07	10	31
	6	10	20.30	5.272	1.667	16.53	24.07	12	30
	7	10	19.80	6.529	2.065	15.13	24.47	10	29
	8	10	16.70	7.484	2.367	11.35	22.05	9	33
	9	10	19.50	5.893	1.863	15.28	23.72	13	31
	10	10	17.50	5.740	1.815	13.39	21.61	10	27
	Total	100	20.30	7.026	.703	18.91	21.69	9	47
Mathematics	1	10	24.10	6.118	1.935	19.72	28.48	17	33
	2	10	24.30	7.181	2.271	19.16	29.44	16	38
	3	10	21.10	5.425	1.716	17.22	24.98	15	30
	4	10	19.90	5.343	1.690	16.08	23.72	12	28
	5	10	24.50	3.808	1.204	21.78	27.22	21	31
	6	10	20.30	6.767	2.140	15.46	25.14	10	28
	7	10	19.50	2.838	.898	17.47	21.53	16	24
	8	10	18.60	5.168	1.634	14.90	22.30	13	27
	9	10	19.20	3.225	1.020	16.89	21.51	14	24
	10	10	25.60	7.168	2.267	20.47	30.73	10	34
	Total	100	21.71	5.819	.582	20.56	22.86	10	38

Table 7: Summary of the Analysis of Variance (ANOVA) for the Scores of Students' academic achievements of Language and mathematics of the Sub- Sample Groups based on 10 NGOs (of Class III)

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Language	Between Groups	424.400	9	47.156	0.951	0.486
	Within Groups	4462.600	90	49.584		
	Total	4887.000	99			
Mathematics	Between Groups	618.290	9	68.699	2.261	0.025
	Within Groups	2734.300	90	30.381		
	Total	3352.590	99			

Observation

Ho[1] is to be accepted. There is no significant difference in the achievement level of the students of class III in the subject Language (Bengali/English) between the 10 NGOs.

Ho[2] is to be rejected. There is significant difference in the achievement level of the students of class III in the subject Mathematics between the 10 NGOs.

Findings and Conclusion

Who is a Child who becomes a victim? A child is mentioned because one always sees that the demand for prostitution, labour or marriage mostly targets a child and the age group is generally between 8 and 18 year of age. Women do get trafficked but generally it is girl if we are talking about commercial sexual exploitation, marriage or cheap labour (house maid) (Krishnan and Bhowmik, 2016). Care and protection is a continuous process that needs to be looked into. We are dealing with human being and not a case. Hence we need to be careful and we should keep in mind the human rights of the person we are dealing with (Sinha, 2014). Women and men, sex workers and other workers are equal; therefore they should have equal rights and participate e equally in society. Thus it is essential to empower women in

general and sex workers in particular. Love between the equals is the only way to peace. Thus empowering them would help them to overcome various problems and challenge the norm of stigma and social discriminatory practices. This would encourage them to educate their children. NGOs organise different training programmes for the children as well as their mothers. Those who participate in this program showed improved self-esteem, a greater sense of willingness to send their children to these programmes(Dey, 2011). Apart from the various educational programs the first and foremost these NGOs work as a sheltering for the children of sex workers. Each and everyone needs to be looked at from a special preventive perspective. They needed to be treated sensitively and plans for them should be made after consulting them. Only then they will be able to confront and deal with their own physical and mental needs, they start cooperating with their peers, doctors, physiatrists and counsellors and work for their betterment. Making these plans are the first step towards survival. (Sinha, 2009).

Though various programmes for education and rehabilitation of the children are carried out by these NGOs, there exists various problems and the NGOS also face many hazards while implementing their programmes. One of the main problems is lack of adequate funds and proper strategy or guidelines from government. To be successful at school education requires not only motivation on the student's part but also an environment that facilitates learning. Lack of proper learning environment further aggravates their situation. For the children of sex workers in this study supportive surroundings were missing both at school and home. The rooms where children lived were shared by many, leaving no space where they could study in quiet. Since their rooms were their mother's workplace the child had to vacate it all hours of day and night. Such itinerancy along with the raucousness of the neighbourhood did not encourage the children to concentrate on their studies. A school the children were the butt of their classmates mockery and the targets of their teachers insult due to their circumstances of their birth. The harshness of this background acted as deterrent to children's educational aspirations and encouraged them to quit schools. And once the child dropped out, the chronic dearth of family finances led the mothers to place them in the petty income generating jobs rather than pursuing education. But some mothers aspire to get their child educated and keep them away from them; so that they do not have to face the situation their mothers go through every day. They admit the child to faraway places keeping them in hostels or they keep the child in shelter home of the NGOs.

Thus it can be concluded by saying that mothers struggle to help their children get off the treadmill of commercial sex which links them to all mothers who sacrifice their own lives for the wellbeing of their sons and daughters.

Objective 1

- The 10 NGOs operating in the city's Red light area has rescued thousands of children of sex workers providing them food, shelter and education. The NGOs are located in the different parts of the Kolkata.
- In all the 10(100%) NGOs charity and public contribution was a very important source of fund for different projects. In all the NGOs Government (both centre and state) and private funding agencies (both national and international) were the main agencies where they acquired their fund for different activities.
- As far as procedure of enrollment is concerned for most of them age did not play a factor in enrolling the children at the NGOs educational programme. They rescued the children of what age they may be and enrolled them into their educational programme or admitted them to the nearby schools.
- Teaching learning materials like text books, black board chalk, colour pencil, drawing books were given to the children by the NGOs and children got good opportunity to study once they were under the supervision of the NGOs.

Objective 2

There exists significant difference in the achievement score of the students in the subjects Language (Bengali/English) and Mathematics among 10 NGOs. Except in the subject Language (Bengali/English) of class III where no significant difference among the students of the 10 NGO was found. This means that students of some NGOs performed better while in some other NGO the performance of the students are poor.

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Study Habits of Secondary School Students in West Bengal

Kamalesh Karan**[*] **and Nandini Banerjee**[**]

Abstract

Study habits play a very important role in the life of students. Success or failure of each student depends upon his own study habits. The present study is an attempt to find out the study habits of secondary school students. A descriptive survey method was adopted. The sample of the study comprised of 200 secondary school students of class IX from 6 secondary schools and simple random sampling was used. In the study, Study Habits Inventory constructed and validated by Dr. B. V. Patel (1975) has been used to measure the study habits of students. For the analysis of data Mean, S.D., and t- test have been used in the present study. Findings revealed that there is no significant difference in study habits of male and female secondary school students. Further, there is no significant difference in study habits of rural and urban secondary school students.

***Key Words*:** Study habits, secondary school students.

Introduction

Today, the world is becoming more and more competitive and quality of performance is the key factor for personal progress. Study means to supply one's mental capacities to the acquisition of knowledge. Students of any grade level can have difficulty in school due to a lack of sufficient study skills (Gettinger& Seibert, 2002). Habit is something that is done and on a scheduled, regular and planned basis that is not regulated to a second place or optional place in one's life. According to Good's dictionary of education, "Study habit is the tendency of pupil to study when the opportunities are given, the pupil's way of studying whether systematic or unsystematic, efficient or inefficient." Good study habits lead to good academic record and bad study-habits lead to poor academic record. Different students have

* Guest Faculty,Dept. of Education, Kazi Nazrul University, Asansol, W.B.
E-mail: kamaleshkaran27@gmail.com

** Assistant Professor& Co-ordinator, Dept. of Education, KaziNazrul University, Asansol.
E-mail: nandinibanerjee11@gmail.com

different study habits, but the achievement of the students depends on good study habits among students (Mittal, 2009). Study habits can be improved step by step. Study habits somehow interrelate with good habits which are very important for the acquisition of knowledge. Ramamurti (1993) has rightly emphasized that despite possessing good intelligence and personality, the absence of good study habits hampers academic achievement. Teacher plays a significant role in drawing the best potentialities from the student to nourish a good study habit.

Significance of the Study

Study habits of students play important role in learning and fundamental to school success.The present study is of immense educational importance to the students, teachers, parents and counselors. The study helps the students to change their faulty study-habits. Teachers should draw programmes that will attract and encourage students to engage in effective study habits. Parents should provide students with suitable and interesting different study materials that will engage students in study and also prevent them from spending too many hours on television viewing. Counseling programs should be organized for the students to develop good study habits in them because this program helps the students to identify their strengths and weakness in the learning strategies and they may become more conscious about better study habits. Finally, the role of school library cannot be overlooked because library as a part of school system serves as a store house of knowledge. So, students should be encouraged to use library text books, reference books, story books, newspapers and magazines to develop good study habits. There is a need to evolve co-curricular activities in school programme in which students may actively participate. This will promote school effectiveness and hence students' learning.

Review of Related Literature

Samuel & Kwabena (2017) investigated that gender variation in reading habits in schools in Moland: using Asantekwaa S.D. A. Junior High School in the Kintampo Municipality of Ghana as a case study concluded that female students have higher positive attitudes towards reading than their male students.

Ebele & Olofu (2017) investigated the impact of study habits on secondary school students' academic performance in the Federal Capital Territory and found that a significant relationship between study habits and students' academic performance.

Ahsan& Kumar (2016) investigated that the relationship between test anxiety and study habits of physical education male and female students. The study found that there is a negative correlation between study habits and test anxiety; researchers concluded that the academic performance will get affected negatively because of high level of test anxiety and poor study habits.

Razia (2015) explored the relationship of study habits with socio-economic status and gender. Findings revealed that significant difference exists in the study habits of students in relation to gender; significant and positive relationship exists between study habits and socio-economic status but interaction effect of gender and socio-economic status was not found on study habits.

Gudaganavar & Halayannavar (2014) found that there was no association between boys and girls on study habits. Boys and girls differed significantly on two dimensions of reading & note taking habits & preparation for examination. There was significant association between study habits and academic achievement of girls; that there was no significant difference between study habits and academic achievement of boys.

Chand (2013) studied the study habits of the students studying in government and private schools as well as students belong from nuclear and joint family. The finding of the study revealed that there exist no significant difference between secondary school students belonging to nuclear and joint family on different components of study habits and total study habits. Secondary school students studying in Govt. schools are significantly better on home environment and planning of work and planning of subjects than students studying in private schools but private school students are significantly better than Govt. school students on preparation for exam component of study habit; and no significant difference exists between Govt. and private secondary school students on reading and note taking, concentration, habit and interest, school environment component of study habit and total study habit.

Chaudhari (2013) explored the study habit of higher secondary school students in relation to their academic achievement in the Banaskantha District of Gujarat. Findings of the study revealed a significant positive correlation between study habit and academic achievement of higher secondary school students as whole and dimension wise and a significant difference between high and low academic achievement students on study habits in general.

Objectives of the Study

O_1: To find out the level of study habits of secondary school students.

O_2: To compare study habits of male and female secondary school students.

O_3: To compare study habits of rural and urban secondary school students.

Hypotheses

$H_0$1: There is no significant difference in study habits of male and female secondary school students.

$H_0$2: There is no significant difference in study habits of rural and urban secondary school students.

Delimitation of the Study

In order to conduct the study, the researcher had delimited his investigation in the following way:

(i) The investigation was delimited only to Hooghly district of West Bengal.

(ii) The study was restricted to the secondary school students in Hooghly district of West Bengal.

Methodology

In the present investigation, descriptive survey method was adopted and it was a quantitative study.

Variables

The present researchers had identified two types of variables –

A) Major

(i) Study habits of secondary school students.

B) Categorical

(i) Gender (Male and female).

(ii) Locale of school (Rural and urban).

Population

The population of the study includes all the students of class IX of secondary schools in Hooghly District of West Bengal.

Sample and Sampling Procedure

The researchers have conveniently elected 200 students of class IX from 6 secondary schools which are situated in Hooghly District of West Bengal as sample for the present study. 122 male and 78 female; 104 rural and 96

urban students are in the sample. The random sampling procedure was adopted for the investigation.

Tool of the Study

For the purpose of data collection, Study Habits Inventory constructed and validated by Dr. B. V. Patel (1975) has been used to measure the study habits of students. The tool consists of 45 items distributed in seven dimensions, namely, Home Environment & Planning of work, Reading and Note Taking, Planning of Subjects, Habit of Concentration, Preparation for Examination, Habits and Attitudes and School Environment. Each item was to be rated on a five point scale –'Always', 'Often', 'Sometimes', 'Seldom' and 'Never'.

Techniques of Analysis

Quantitative data analysis procedure was followed for this study. The collected data were analyzed through SPSS 22.0 version. The statistical techniques such as mean, S.D. and t-test were used in this study and the significance of 't' values were tested at 0.05 level of significance.

Techniques of Measuring the Level of Study Habits

After all the items are scored, the scores of all the 45 items are added to obtain the total score of an individual sample on the questionnaire. The range of the total score is 45-225 as the Questionnaires are constructed by 45 items on the basis of 5 point Scale. So, the Level of Study Habits is considered from Score of the answers and is classified into 5 levels to the Best's Criteria (1977) as follows –

Highest Score - Lowest Score

$$\frac{\text{Number of Level}}{}$$

$$= \frac{225 - 45}{5}$$

$$= \frac{180}{5}$$

$$= 36$$

Data Analysis and Interpretation

Objective wise Analysis of Data

O_1: To find out the level of study habits of secondary school students.

Table 1: The level of study habits of secondary school students

Variables	Level	Range of Scores	% of Students
Study Habits	Very High	193-229	12
	High	156-192	43
	Average	119-155	45
	Low	82-118	–
	Very Low	45-81	–

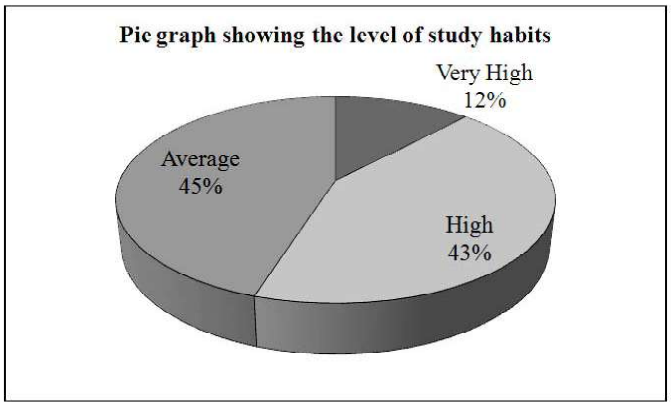

Figure 1: Percentage of study habits of secondary school students

Interpretation: Analysis of Table 1 shows that only 12% of secondary school students have very high level study habits, remaining 43% of secondary school students' shows high level and 45% of secondary school students show average level of study habits.

O_2: To compare study habits of male and female secondary school students.

Table 1.1: Group Statistics and Independent Samples test in study habits of male and female secondary school students

Gender	N	Mean	S.D.	t value	df	Sig.
Male	122	162.24	23.205	–.723	198	.470
Female	78	164.65	22.773			

*Not significant at 0.05 level of significance (2-tailed)

Interpretation: Analysis of Table 1.1 shows that the calculated $t_{(198)}$ value is 0.723 and 'p' value is .470 ($p > 0.05$). Hence,'t' is not significant at 0.05 level. So, $H_0 1$ is accepted andit can be safely concluded that there is no significant difference in study habits of male and female secondary school students.

O_3: To compare study habits of rural and urban secondary school students.

Table 1.2: Group Statistics and Independent Samples test in study habits of rural and urban secondary school students

Gender	N	Mean	S.D.	t value	df	Sig.
Rural	104	165.03	24.254	1.184	198	.238
Urban	96	161.18	21.529			

*Not significant at 0.05 level of significance (2-tailed)

Interpretation: Analysis of Table 1.2 shows that the calculated $t_{(198)}$ value is 1.184 and 'p' value is .238 (p> 0.05). Hence,'t' is not significant at 0.05 level. So, $H_0$3 is accepted and it can be safely concluded that there is no significant difference in study habits of rural and urban secondary school students.

Major Findings

I. The study indicates only 12% of secondary school students with very high level, 43% of students with high level and 45% of students with average level of study habits. So, it can be concluded that majority of students have average study habits.

II. It is found that there is no significant difference in study habits of male and female secondary school students.

III. It is found that there is no significant difference in study habits of rural and urban secondary school students.

Conclusion

The findings of the study revealed that there is a variation in study habits among male and female students. In contrast, female students engage in study habits more frequently than the male counterparts as shows by the difference between the mean scores. However, the study also reports that there is a variation in study habits among rural and urban students. The rural students engage in study habits more frequently than the urban students. Majority of students belong to average level about study habits. Keen interest should be created among secondary school students with regard to study habits.

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Teachers' Attitude towards Sustainable Consumption

Dr. Pintu Kumar Maji* and Prof. Madhumala Sengupta**

Abstract

The sustainable consumption has been extensively studied as it is the ultimate objective of environmental education. Sustainable consumption aims for social and economic progress but not at the cost of exhaustion of natural resource as resources are limited. The construct of Sustainable consumption is not very easy to explain though it has been researched extensively across diverse social situations. This Cross-sectional empirical study was based on survey type research. The sampling frame (N=140) of the study is the teachers of age group 30 to 60 years comprising male and female teachers in West Bengal. The difference in this respect among male and female was also noticed with female teachers reporting more positive attitude though difference is not statistically significant. The significance of the study lies in the fact that pattern of consumption and consumer behavior are linked to attitude towards consumption and the nature of consumption and consumer behavior is the fundamental determinant of sustainable development. Though consumption depends on resource scarcity and income yet the taste and preferences of the consumers also determine their buying patterns. Therefore the researches on teachers' attitude towards consumption can help to understand the issue sustainability in higher education.

***Key Words*:** Teachers' Attitude, Sustainable consumption,anthropocentric & Eco-centric concern, Environmental ethics and values.

* Assistant Professor, Department of Education, Sarsuna College, (Affiliated to University of Calcutta), 4/HB/A, Ho-Chi-Minh Sarani, Sarsuna Upanagari, Kolkata-700 061.
Post-Doctoral Fellow, Indian Council of Social Science Research (ICSSR), New Delhi.
Guest Faculty, Department of Education, Rabindra Bharati University, Kolkata, West Bengal.
E-mail: pkm.edu@rediffmail.com

** Senior Fellow, Indian Council of Social Science Research (ICSSR), New Delhi.
Professor (Rtd), Department of Education, University of Calcutta, Kolkata-700027.
E-mail: dr.msengupta@rediffmail.com

Introduction

Sustainable consumption has been defined as the consumption of goods and services that have minimum impact upon the environment. This type of consumption is socially equitable and economically viable. It also makes sure that basic needs of every one across all states and nations are met. The notion of sustainable consumption is now a buzz word as it is realized that during last 50 years human kind has consumed so much natural resources, the total of which was not consumed by all previous generations (*Tillard,* 2000). Thus current consumption is unsustainable, destroying the environment and depleting the stock. The social problems like poverty and communal tension have cropped up. However economy is growing but due to differing patterns of consumption in rich and poor nations due to economic imbalance the problem of inequity has risen. According to *Tillard* (2000) one fifth of rich nations consume 86% of resources while one fifth of poor nations use 1% of resources. This type of consumption is not sustainable neither it augurs well for world peace and equity. The need for sustainable consumption is the need of the hour to safe guard the planet. It is not easy to implement as the barriers to it are many. There are lack of awareness and training on the part of the common people, government, and industries. Sustainable consumption is a multidisciplinary multinational approach and needs creative implementation.

Sustainable consumption and production should be based on some desirable practices. The SPREAD report (2011) mentioned the emerging consumer practices for fostering more sustainable living. The main areas in this respect are –

- Efficient housing which reduces household energy consumption, offers incentive schemes to carry out home energy efficiency, new building designs aimed at positive energy balance etc.
- Efficient use of resources signifying smart consumption feedback, awareness for potentials for saving energy and motivation for long term behavioral changes, educating the stakeholders in environmental management programmes.
- Efficient infrastructure ensures that stakeholders collectively participate in urban planning, designing of transport and other infrastructural supports for community leading to urban sustainable living.

The economic reform in India has had started from early 90's of last century. Since then monetary deregulation liberalized excise and custom duties for commodities and other economic factors which have boosted private enterprises. Revenue generated as a result of all these changes has helped the Indian government to use fiscal advantages in eradication of poverty, promotion of education, safety nets, provision of electricity and water, sanitation etc, But flip side of the development is also over consumption of luxury items (*Mohun,* 2008).

Although the per capita consumption in India is still low in comparison to Western countries but it has to be admitted that this advantage is counterbalanced by huge burgeoning population. The world's $1/6^{th}$ population lives in India and it has second largest population among the countries of the world. But it has also been recognized by the *World Economic Forum* (2017) despite being such densely populated country as one of the lowest per capita emission but contradictorily third biggest generator of emission. A country characterized by diversity and contradictions, it is third largest economy but largest number of people live below international poverty line. Thus due to India's size and growth sustainability poses a challenge.

The consumption pattern followed by the middle class people in India has been surveyed extensively. Although the consumption pattern in India and subsequent resource depletion is different and less in comparison to resource hungry North yet it is to be noted that the disposable income in India has doubled since 1985(*Boao Survey Report,* 2012). The report pointed out that in 2007 India is ranked to be the 12^{th} largest consumer market and is projected to be 5^{th} largest in 2025. Small car ownership has also achieved double digit growth (12.7%) from 2004-05 to 2010-2011 (*Boao Report*, 2012).

Of course, increase in consumer level has benefited most of the countries including India, in the context of economic growth but the flip side of this growth is the huge price is paid in the form of degradation of many eco system services and exacerbation of inequities and disparities between people (*WWI,* 2004). Promoting green consumption per se will not enable a consumer to adopt sustainable life style rather it requires redesigning ways of living, feeling, communicating and thinking (*Lorek,* 2010).

Reducing consumption voluntarily and adopting a restrained lifestyle is a difficult proposition which calls for adequate relevant value system, motivation, control over one's purchasing spree and of course situational factors including the intervention of the government. This is also due to the

fact that it is exceedingly difficult to change behaviour which is the basic building block of sustainable lifestyle. *Mearns* (2012) pointed out that people often fail to change behaviour because they are creatures of habit. The sustainable consumption requires unfreezing of old habits and forming new ones. Besides, information and exhortation are often ineffective towards change in behaviour. Most importantly people do not like being told what to do as *Branson, et. al* (2012) opined that personal freedom and sense of individual right can be ascribed to this reluctant attitude. There are number of divergent factors which contribute to the behaviour change for which predicting behaviour change towards sustainable life style is not straightforward. The two main variables in this regard are infrastructural factors and behavioural factors. Both the factors include a large number of related components. The infrastructural factor constitutes of situational factors, geography, social learning, information, access to capital, institutional framework, social network etc. On the other hand behavioural factors comprise belief, norm, experience, attitude, self efficacy, values, awareness, altruism, perception etc. *Guagnano et. al.* (1995) discussed behaviour as the interaction between attitudinal variables and contextual variables. In the context of consumer behaviour, the attitudinal variables include general environmental predisposition, behaviour specific norms and belief, non environmental attitudes (about product attributes), perceived costs and benefits of action. The personal capabilities are literacy, social status, financial resources, behaviour specific knowledge and skills. All these variables influence consumer purchase behaviour, maintenance of house hold equipments, changes in equipment use, lifestyle, waste disposal, green consumption etc.

From a long time it has been recognized that attitude as a psychological construct plays a significant role in social behaviour and therefore has been extensively studied (*Ajzen and Fishbein,* 1980). It is considered to be a state of readiness to respond to external stimuli. Attitude of an individual makes him evaluate an object. The evaluation may range from extreme positive perspective to extreme negative perspective towards the object of attitude. However people are likely to harbor conflicted or ambivalent attitude towards most of the objects of attitude. In this respect *Eagly and Chaiken* (1993) defines attitude as a psychological tendency that is expressed by evaluating a particular entity with some degree or favour or disfavor. The presence of ambivalent attitude raises the question of whether an individual may have multiple attitudes towards the same object (*Wood,* 2000).

The construct of attitude has some related words like opinions, beliefs and values. *Oraif* (2007) has analyzed the relation among these various terms. According to *Oraif,* when knowledge is evaluated it may lead to beliefs, Beliefs in small groups are likely to form attitudes. Attitudes in constellation create values whereas values holistically comprise the worldview. Thus from the point of view of this research the study of attitude towards consumption is important as consumption pattern relates to sustainable living.

The importance of attitude study lies in the fact that it is a network of cognitive, affective and behavioural elements (*Reid,* 2011). Besides it has an evaluative dimension. So teachers' attitude towards consumption is related to the teachers' knowledge base in the context of sustainable development. The quantum of such knowledge develops belief and value system essential for positive world view. The affective element within the attitude gives rise to feeling for the environment and humanity which again is connected with sustainable development. The behavioural component of attitude influences the individual to take action for the environment

The attitude serves several social functions. According to *Katz* (1960) the functional aspects of attitude are –

- helping an individual gain utilitarian knowledge
- Serves as an ego defense , in other words the individual develops his self esteem
- Develops value system which is expressed through behavior of the individual. It is related to self esteem and social approval.

Thus attitude in the context of consumption has important implication as positive attitude towards various sustainable issues predisposes the person to behave in pro environmental ways. As a matter of fact attitude and behavior are connected as attitude determines one's behavior. The various attitude behavior theories have been proposed e.g. theory of planned behavior, theory of reasoned action motivation and opportunity as determinant.

The attitude of the teachers and their consequent behavior has a far reaching effect on the students especially at tertiary level of education. The teachers interact with their students often as dispenser of knowledge and at personal level while discussing various academic and non academic issues. So teachers can play major role in influencing the social behavior of the students apart from being academic guide. This is why the study selected teachers of undergraduate colleges and post graduate departments of the universities to find out their attitude regarding consumption which is considered to be an integral part of sustainability education. Thus the problem of the research proposal is stated as college Teachers' Attitude towards Sustainable consumption.

Aims and / or Objectives of the Study

The following objective of the study are undertaken in consideration to the findings from the literature survey-

- To study the Teachers' Attitude towards Sustainable consumption.

Activities under objective of the Study

(a) To measure the level of Teachers' Attitude towards Sustainable consumption.
(b) To assess the effect of gender on Attitude towards Sustainable consumption.
(c) To find out the relation among the various components of the Attitude towards Sustainable consumption.

Methodology

Design

The design of the study is case study based on community survey, where the questionnaires are used to collect data and to analyse them quantitatively.

The Population of the study

The population for the proposed study comprises the teachers at higher level of education including under graduate colleges and the universities in West Bengal. The sampling frame of the study is the teachers of age group 30 to 60 years belonging to higher middle class residing in West Bengal. Among the two subgroups of sample, the two sampling frames are college and university teachers list.

Method of sampling

The sample was drawn randomly from the population. Since the study was conducted on college and university teachers, a list of undergraduate colleges and universities situated within the administrative jurisdiction of the West Bengal was used as the sampling frame. However, a sample from universities was not being based on stratification.

Sample size

The sample size is decided by compromising between theoretical perfection and practical feasibility. The size is considered on the basis of level of precision, level of confidence and the degree of variability in the attributes to be measured Sample size should be decided by using technique of determining sample size by using statistical technique. The number of college (99) and university teachers (41) included in the sample was 140. The numbers

of colleges and universities included in the sample were 9 and 4 respectively situated in West Bengal.

Instruments

By attitude towards sustainable consumption it is meant the observable and reported perceptions of the individuals, either done or willingness to do in future, regarding the protection of the environment. The researcher developed the Likert type (5-point) scale (30 items) having a reliability (KR-21) value of 0.82. The item validity was testedby *Tetrachoric correlation* and the values varied from 0.2-0.7. The factors included were attitude towards sustainable consumption related to *use of natural resources, support for interventionist conservation policies, conservation motivated by anthropocentric concern, confidence in science and technology, environmental threat, ecocentric concern, support for population growth policies, environmental ethics and values.* Some of the sample items of the instrument are –

a. *Nature exists primarily for human use.*
b. *Science has done more harm to environment.*

Results and Discussion

The results were analyzed by both descriptive and inferential statistics. The following table shows the descriptive statistical analysis of the data.

Table-1: Descriptive Statistics Concerning Distribution of Teachers' Attitude towards Sustainable Consumption

N	140
Mean	91.37
Std. Error of Mean	1.088
Median	92.50
Mode	90
Std. Deviation	12.876
Variance	165.789
Skewness	-1.286
Kurtosis	2.895
Range	76
Minimum	42
Maximum	118
Sum	12792

The descriptive statistics in Table -1 for Teachers' attitude towards sustainable consumption the scores of mean, median and mode show an average performance ranging 91.37. However the S.D. (12.87) showed that the scores were somewhat scattered from the mean. The skewness is negative (-1.286) and high indicating more number of teachers has scored on the higher side of the scale. The positive value of Kurtosis (2.895) indicated flatness of the distribution.

Table-2: Mean and Standard Deviation of Teachers' Attitude towards Sustainable Consumption Regarding Gender

	Gender	N	Mean	S.D.
Use of natural resources	Male	38	13.58	6.640
	Female	102	**23.82**	1.038
Support for interventionist conservation policies	Male	38	**10.05**	2.818
	Female	102	9.43	2.344
Conservation motivated by anthropocentric concern	Male	38	**9.08**	4.239
	Female	102	7.31	2.782
Confidence in science and technology	Male	38	**5.82**	2.129
	Female	102	5.53	1.060
Environmental threat	Male	38	11.55	6.137
	Female	102	**18.95**	0.894
Ecocentric concern	Male	38	10.61	2.937
	Female	102	**11.10**	1.998
Support for population growth policies	Male	38	**7.74**	2.627
	Female	102	7.49	2.165
Environmental ethics and values	Male	38	4.08	1.421
	Female	102	**4.19**	1.855
Attitude	Male	38	80.21	16.368
	Female	102	**95.51**	8.153

Table-3: Summary of the t-Test for the Scores of Teachers' Attitude towards Sustainable Consumption Regarding Gender

	t	df	Sig. (2-tailed)
Use of natural resources	–15.18	138	**0.00**
Support for interventionist conservation policies	1.318	138	0.19
Conservation motivated by anthropocentric concern	2.869	138	**0.005**
Confidence in science and technology	1.056	138	0.293
Environmental threat	–11.911	138	**0.00**
Ecocentric concern	–1.133	138	0.259
Support for population growth policies	0.565	138	0.573
Environmental ethics and values	–0.323	138	0.747
Attitude	–7.334	138	**0.00**

It is evident that there is a significant difference in the two groups (male and female teachers) in Attitude towards Sustainable Consumption scores (t-value =-7.334, P<0.01), Use of natural resources (t-value =-15.18, P<0.01),conservation motivated by anthropocentric concern and Environmental threat (t-value =11.911, P<0.01).

Table-4: Correlations among Various Dimensions of Teachers' Attitude towards Sustainable Consumption

		A	B	C	D	E	F	G	H
A	Pearson Correlation	1	0.019	–.248**	0.011	0.891**	0.241**	0.007	–0.046
	Sig. (2-tailed)		**0.826**	0.003	**0.900**	0.000	0.004	**0.936**	**0.587**
	N	140	140	140	140	140	140	140	140
B	Pearson Correlation	0.019	1	0.062	–0.002	0.042	0.662**	0.313**	–0.085
	Sig. (2-tailed)	**0.826**		**0.465**	**0.981**	**0.625**	0.000	0.000	**0.318**
	N	140	140	140	140	140	140	140	140
C	Pearson Correlation	-.248**	0.062	1	0.297**	–0.204*	0.159	0.442**	0.473**
	Sig. (2-tailed)	0.003	**0.465**		0.000	0.015	**0.061**	0.000	0.000
	N	140	140	140	140	140	140	140	140
D	Pearson Correlation	0.011	-0.002	0.297**	1	-0.079	-0.123	0.001	0.201*
	Sig. (2-tailed)	**0.900**	**0.981**	0.000		**0.351**	**0.147**	**0.987**	0.017
	N	140	140	140	140	140	140	140	140

E	Pearson Correlation	0.891**	0.042	–0.204*	–0.079	1	0.372**	–0.009	0.036
	Sig. (2-tailed)	0.000	**0.625**	0.015	**0.351**		0.000	**0.914**	**0.674**
	N	140	140	140	140	140	140	140	140
F	Pearson Correlation	0.241**	0.662**	0.159	-0.123	0.372**	1	0.266**	0.099
	Sig. (2-tailed)	0.004	0.000	**0.061**	**0.147**	0.000		0.002	**0.246**
	N	140	140	140	140	140	140	140	140
G	Pearson Correlation	0.007	0.313**	0.442**	0.001	-0.009	0.266**	1	0.088
	Sig. (2-tailed)	**0.936**	0.000	0.000	**0.987**	**0.914**	0.002		**0.303**
	N	140	140	140	140	140	140	140	140
H	Pearson Correlation	-0.046	-0.085	0.473**	0.201*	0.036	0.099	0.088	1
	Sig. (2-tailed)	**0.587**	**0.318**	0.000	0.017	**0.674**	**0.246**	**0.303**	
	N	140	140	140	140	140	140	140	140

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

A–use of natural resources,
B–Support for interventionist conservation policies,
C–Conservation motivated by anthropocentric concern,
D–Confidence in science and technology,
E–Environmental threat,
F–Eco-centric concern,
G–Support for population growth policies,
H–Environmental ethics and values.

From table 4 it is observed that there are significant relationship among the variables use of natural resources and Conservation motivated by anthropocentric concern (r = –0.248) use of natural resources and environmental threat (r = 0.891) and use of natural resources an Eco-centric concern (r = 0.241) use of natural resources and environmental threat (r = .587). Support for interventionist conservation policies correlated significantly with most of the other variables like Conservation motivated by anthropocentric concern (r = 0.465), use of natural resources (r = 0.826), Confidence in science and technology (r = 0.981), Environmental threat r = 0.625) and Environmental ethics and values (r = 0.318). Conservation motivated by anthropocentric concern relates significantly with Support for interventionist conservation policies, (r = 0.415), with Confidence in science and technology (r = 0.297) with Support for populationgrowth

policies (r = 0.442),with Environmental threat (r = 0.204) and with Environmental ethics and values (r = 0.473). It is observed that Confidence in science and technology correlates significantly with use of natural resources (r = 0.9), with Environmental threat,(r = 0.351) with Support for population growth policies (r = 0.987) and with Environmental ethics and values (r = 0.201).Environmental threat and Environmental threat, correlates significantly (r = 0.372) along with Support for population growth policies and Environmental ethics and values (r = 0.914 and r = 0.674 respectively). Significant correlations also exist with use of natural resources (r = 0.936) and Environmental ethics and values (r = 0.303).So it is evident that the various dimensions of attitude towards sustainable consumption correlate among themselves depicting a comprehensive view of the variable. The attitude towards sustainable consumption has been studied extensively as a determinant of sustainable behavior which is the ultimate objective of education for sustainability development. The attitude scale used here comprises the items related to use of natural resources, opinions regarding conservation policies, ethics and value system, environmental threat and concern, opinion about population growth. Inter correlations among this factors were found to be positive and in many cases statistically significant. Conservation motivated by anthropocentric concern was observed to be negatively correlated with use of natural resources. The inter correlation matrix indicates that the components together assess the overall attitude of the respondents towards sustainable consumption. The attitude towards sustainable consumption is determined by many factors as this study identified.

Balderjahn et al, (2013); *Carrington et al.,* (2010); *Vermeier and Verbeke,* (2006) maintained that attitude towards sustainability is formed by many factors like individual determinants (age, sex, education, income, needs, wants, motivation, personal values norms, habits etc) social determinants societal norm, cultural context, mass media etc, and situational parameters namely purchase situations incentives, consumer options. As a matter of fact attitude is studied in relation to environmental actions. The earlier researches reported attitude-action gap. This study is considered as a preliminary one in which the attitude scale constructed for further investigation.

The women are more concerned with the environmental degradation, as quite a large number of researches have reported it though findings are often of mixed nature. In this study also female respondents have disclosed their

concern and subsequent positive attitude towards sustainable consumption more than their male counterparts. However, no such statistically significant difference was observed among the teachers from college and universities.

Conclusion

The gender sensibility in sustainability researches has been found to be a common theme. In this study also a significant difference is observed among the male and female teachers regarding various components of attitude towards consumption. The role of women and effect of gender on consumption is no less significant. Researchers have shown that women earn less and more likely to spend on food, household items and clothing whereas men are more likely to buy electronics, cars and other luxury items. Women are more likely to recycle, buy eco-labeled items and energy efficient products. They also often affirm their role as care takers. So the various sustainability programmes undertaken by higher education institutes should target women teachers as they are more likely to support and initiate changes towards changing the culture of sustainability. It has already been mentioned that the positive attitude towards sustainable consumption does not ensure sustainable behavior. *Nair and Harikrishna* (2015) were puzzled by the fact positive attitude along with hesitant purchase behavior. The consumers showed high concern, awareness about environmental degradation by rampant use of natural resources, yet the barriers to sustainable purchase are difficult to overcome.

Implications

The research study is significant and has implications for the policy makers including economic policy perspectives as the study will provide necessary inputs regarding essential government policies that need to be undertaken to encourage sustainable consumption especially how consumers should be 'nudged' towards living more sustainably. Moreover suggestions regarding major policy decisions may be offered for turning the HEIs into green campuses.

Limitationsm

Limitation of the study is the small size of the sample. A sample from a larger group including students and administrators would have given a broader perspective. The qualitative study of the research has not been included due to paucity of time. It is required to understand the relationship between the other variables in depth. Also the effects of different

psychological variables like, values, belief, locus of control etc. were not included in the present study.

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Teachers' Awareness and Attitude towards Constructivist Approach in Teaching for Enhancing Quality of Secondary Schools in West Bengal

***Ujjwal Paul**[*] and Dr. Abhijit Guha**[**]*

Abstract

Teachers' awareness in constructivism put an affirmative impact on teachers' positive attitude towards constructivist approach in teaching. Teachers' attitude is an important motivational construct that shapes teacher effectiveness in the classroom. Teacher with a high level of awareness have been shown to be more resilient in their teaching and likely to try harder to help all students to reach their potential. Constructivism as a set of beliefs provides a model of cognition that leads directly to a method of teaching that, in turn, credits the student with the power to become an active learner. The present study was conducted to inquire the in attendance status of awareness & attitude of school teachers of West Bengal in advocating constructivist approach in their teaching strategy to enhance quality education. . "Awareness Scale of Constructivist Approach in Teaching" (ASCAT); and "Constructivist Attitude Scale for School Teacher" (CASST) *were administered to 236 randomly selected school teachers as sample for measuring their awareness &attitude towards constructivist approach in teaching. It was found that the teachers of W.B. possess high positive awareness in Constructivist approach but a moderately positive attitude towards constructivist approach in daily classroom teaching situation and location-wise & gender-wise insignificant difference in teachers' both awareness & attitude in advocating constructivist approach in teaching was observed. Moreover, teachers' awareness & attitude towards constructivist approach in teaching shared a highly positive correlation.*

Key Words**:** *Constructivist Approach, Teachers' Awareness & Attitude, Teaching Quality, Secondary school teacher*

* Research Scholar (Ph.D.), Ramakrishna Mission Sikshanamandira and Assistant Professor, Government College of Education (C.T.E.), Banipur, North 24 Parganas, W.B.
E-mail: ujjwalpaulss9@gmail.com

** Associate Professor, Ramakrishna Mission Sikshanamandira (Autonomous P G College of Teacher Education), Belur Math, Howrah, West Bengal.
E-mail: abhi.guha68@gmail.com

Introduction

Since the dawn of civilization, human society respects the act of teaching and her teacher most. Knowledge explosion, research, development in education make it must that the teachers are to be upgraded, updated, well trained for better performance in their profession. Among certain teaching ideas, concept of Constructivist approach in teaching is one which has been introduced to propagate for construction of efficient knowledge by learner himself. Constructivism works on the philosophy that there is no knowledge independent of the meaning attributed to experience (constructed) by the learning, or community of learners. Literally, it can be said that learners construct, find or develop meaning in their subjective experiments, and this result becomes knowledge for them. Teachers can create the favorable environment for achieving the learner's goal. Pritchard and Woollard (2010) explained Vygotsky's consideration that social interaction was a fundamental aspect of successful cognitive and intellectual growth in the arena of Constructivism. Von Glasersfield (1995, as cited in Allus &Shore, 2008), "Constructivism as a set of beliefs provides a model of cognition that leads directly to a method of teaching that, in turn, credits the student with the power to become an active learner ."

Awareness means to acquire concern and sensitivity towards a specific issue and its problems. It is the ability to perceive, to feel, or to be conscious of events, object or sensory pattern (http://en.wikipedia.org/wiki/awareness). Teachers with a high level of awareness in orientation of an area have been shown to be more resilient in their teaching and likely to try harder to help all students to reach their potential. On the other hand, Attitude means to acquire values, feelings of concern, and motivations towards the participation of specific activity. The attitude of teachers' towards constructivist approach in teaching determines his behavior of teaching and guides him to adopt constructivist approach as teaching strategy which might help in students' achievement and make the sense of positive influence (Tobias, 2010). Teacher's attitude is an important motivational construct that shapes teacher effectiveness in the classroom. Thus the teachers' awareness and attitude towards constructivist approach and its relationship with each other was felt necessary to inquire about in Indian perspective especially in West Bengal so that quality enhancement in school education can be ensured from the part of the teachers.

The principal investigator of Biological Science Curriculum Studies (BSCS), (as cited in Ahmed, 2009) developed an instructional model for

constructivist approach in teaching which was called the 'Five Es' and were indicated as follows:

1. **Engage:** The student's first encounter and identity the instructional task.
2. **Explore:** Learning get directly involved with the phenomena and materials.
3. **Explain:** At this stage explanation is multidirectional.
4. **Elaborate:** Students apply their understanding to the world around them, which they had learned in the past.
5. **Evaluate:** This is an ongoing diagnostic process.

So, in a constructivist pedagogy learning would take place in authentic and real- world environments that should involve social negotiation and mediation (pp.85-86).

Objectives of the study

Following major objectives were identified for the present study:

1. To compare the awareness of Constructivist approach of teaching of secondary school teachers' in teaching learning process under different categorical variables.
2. To compare the attitude towards Constructivist approach of teaching of secondary school teachers' under different categorical variables.
3. To study the existing relationship between awareness and attitude of Constructivist approach of teaching of school teachers' in their teaching process.

Hypotheses

$^{1}H_{0}$: There would be no significant difference of awareness of Constructivist approach between urban and rural teachers under WBBSE.

$^{2}H_{0}$: There would be no significant difference of awareness of Constructivist approach between male and female teachers under WBBSE.

$^{3}H_{0}$: There would be no significant difference of attitude towards Constructivist approach between urban and rural teachers' under WBBSE.

$^{4}H_{0}$: There would be no significant difference of attitude towards Constructivist approach between male and female teachers' under WBBSE.

$^{5}H_{0}$: There would be no significant relationship between teachers' attitude towards Constructivist approach in teaching and teachers' awareness of Constructivist approach under WBBSE.

Methodology of the study

The present study was done through descriptive survey method.

Population

All the teachers of secondary schools under West Bengal Board of Secondary Education (WBBSE) were the population in this study.

Sample structure

236 school teachers were selected from five districts viz. North 24 Parganas, Hooghly, South 24 Parganas, Howrah and Kolkata of West Bengal as sample for this study. Stratified random sampling method was selected for this study.

Table – 1.1: Sample *structure*_locality wise

URBAN. (N=136)		RURAL. (N=100)		TOTAL
Male	Female	Male	Female	
94	42	63	37	236

Table – 1.2: Sample *structure*_gender wise

MALE (N= 157)		FEMALE. (N=79)		TOTAL
urban	Rural	urban	Rural	
94	63	42	37	236

***Tools of the study*:**

Two separate scales viz. "Awareness Scale of Constructivist Approach in Teaching" (ASCAT); and "Constructivist Attitude Scale for School Teacher" (CASST) were used for collection of data. Both the scales were developed by the present researchers.

Description of Awareness Scale of Constructivist Approach in Teaching (ASCAT)

The Scale was consisted of 19 items; Content validity was judged by the experts rating of items by two experts. The inter-rating agreement model was used (Gregory, 2005) to see reliability of the raters. The coefficient of content validity was found 0.85. The reliability of the scale was computed by using Cronbach's Alpha and was found 0.75. The categories of responses were 'Yes' & 'No' and '1', '0' were the respective scores awarded for the positive responses. Some items were negative in nature and the scoring was done in reverse order i.e. '0', '1'.

Description of Constructivist Attitude Scale for School Teacher (CASST)

The Scale was consisted of 33 items; Content validity was judged by the experts rating of items by two experts. The inter-rating agreement model was used (Gregory, 2005) to see reliability of the raters. The coefficient of content validity was found 0.90. The reliability of the scale was computed by using Cronbach's Alpha and was found 0.66. The scale has a good alpha value and it was acceptable. The categories of responses were 'strongly agree', 'agree', 'undecided', 'disagree', 'strongly disagree' and '5', '4', '3', '2', '1' were the respective scores awarded for the responses. Some items were negative in nature and the scoring was done in reverse order i.e. '1', '2', '3', 4", '5'.

Procedure of Data collection

For conducting the study, data had been collected in one phase. 22 schools were selected randomly from the district of North 24 Parganas, Hooghly, South 24 Parganas, Howrah and Kolkata. Two scales were administered to 236 teachers from those schools chosen under study and asked to response according to their own belief and thought without any consultation with another teacher and to submit the responded scale by putting it into an envelope to maintain confidentiality.

Analysis and interpretation of data

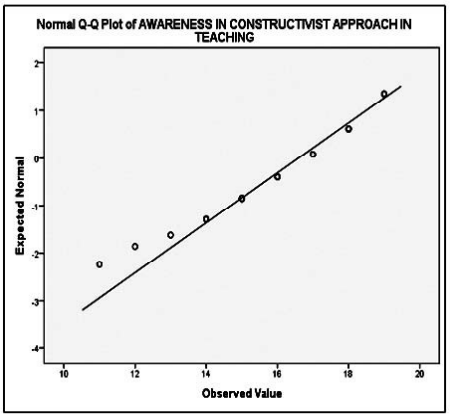
Data analyses were done in SPSS 21.0 version and the results of the study are presented in the following tables:

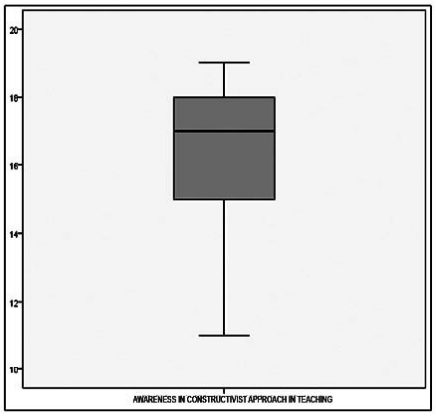
Test of Normality of data

Data Distribution of ASCAT

Table 1.3: Tests of Normality_Descriptives

	Descriptives	Statistic	Std. Error
Awareness in Constructivist Approach in Teaching	Mean	16.59	0.124
	Median	17.00	
	Variance	3.69	
	Std. Deviation	1.90	
	Skewness	-0.778	0.158
	Kurtosis	0.327	0.316

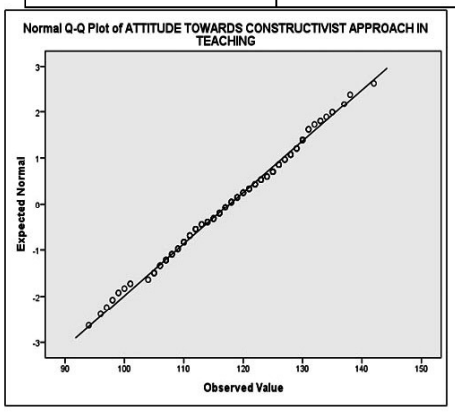


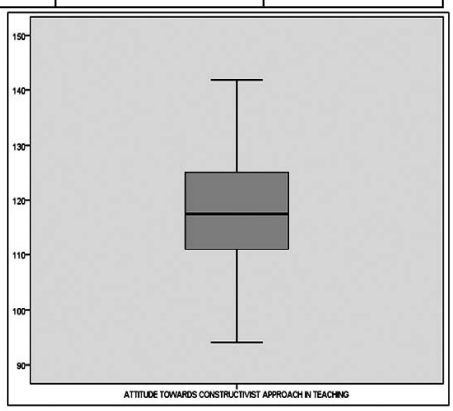


Data Distribution of CASST

Table 1.4: Tests of Normality_Descriptives

Attitude Towards	Descriptives	Statistic	Std. Error
Constructivist Approach in Teaching	Mean	117.75	0.582
	Median	117.50	
	Variance	79.848	
	Std. Deviation	8.93	
	Skewness	-0.074	0.158
	Kurtosis	-0.309	0.316





From the analysis of samples (N>200) conjunction with Box plot, P–P or Q–Q plots (Field, 2009) shows the normal distribution of the data and as a rule of thumb, we say that if the skewness and/ or kurtosis measure is more than 2.5 times its standard error the assumption of normality has been violated

(Morgan,1998). In this study, in case of both awareness and attitude towards Constructivist Approach in Teaching the value of skewness/ standard error or kurtosis/ standard error is within the reference value (i.e. <=2.5). It is also reported that the Box plot and Q–Q plots shows no outlier of data and the data are distributed on the straight line of the Q-Q plot. Hence, data are considered to be normally distributed and there is an ample scope to test the hypotheses with parametric statistics.

Objective wise Analysis of Data

Objective no.1

O_1 : To compare the awareness of Constructivist approach of teaching of secondary school teachers' in teaching learning process under different categorical variables.

Scale	**Table: 1.5:Group Statistics of ASCAT_location of school**			
ASCAT	Location of School	N	Mean	Std. Deviation
	Urban	136	16.5294	1.92812
	Rural	100	16.6800	1.87961
	Total	236	16.604	1.903

(ASCAT: Awareness Scale of Constructivist Approach in Teaching).

Scale	**Table: 1.6:Group Statistics of ASCAT_ gender-wise**			
ASCAT	Gender	N	Mean	Std. Deviation
	Male	157	16.5414	1.84839
	Female	79	16.6962	2.02139
	Total	236	16.618	1.934

(ASCAT: Awareness Scale of Constructivist Approach in Teaching).

While estimating the mean value of awareness in constructivist approach of the school teachers (in case location wise of the schools) it was found 16.604 (table: 1.5) and in case of gender wise it was 16.618 (table: 1.6). In ASCAT a respondent can score from 0 to 19. So, it can be said that, schools teachers of West Bengal possess a moderately high positive awareness in constructivist approach in their teaching situation in classroom.

To fulfill this objective, further two null hypotheses were formulated and tested which were as follows

Ho1: There would be no significant difference of awareness of Constructivist approach between urban and rural teachers under WBBSE.

Ho2: There would be no significant difference of awareness of Constructivist approach between male and female teachers under WBBSE.

Testing of Null Hypotheses

To test the $^{1}H_{0}$ and $^{2}H_{0}$ descriptive and inferential statistics were computed. The results are given below:

Testing of $^{1}H_{0}$

Groups: Teachers of urban schools and rural schools

Table 1.7: Independent samples test_ASCAT_urban vs. rural						
Sub-scale	Levene's Test for Equality of Variances			t- test for equality of means		
ASCAT	Equal variances	F	Sig.	t	df	Sig. (2 tailed)
	assumed	.003	.955	–.599**	234	.550

(** not significant at 0.05 level of significance); (ASCAT =Awareness Scale of Constructivist Approach in Teaching).

Interpretation

Analyses of Levene's test for equality of variances in Table 1.7 it isseen that the **p** value is 0.955 (p>.05) so, equal variances can be assumed. Table 1.7 also shows that in case comparing of teachers awareness in Constructivist Approach between urban and rural schools the calculated $\mathbf{t_{(234)}}$ value is -0.599 and 'p' value is 0.550 (p> .05). Hence, 't' is not significant at 0.05 level. So, $^{1}H_{0}$ is not rejected and it can be safely said that urban teachers are not significantly different from the rural teachers with respect to their awareness in Constructivist Approach in teaching situation.

Testing of $^{2}H_{0}$

Groups: Male and FemaleTeachers of School.

Table–1.8: Independent samples test of ASCAT_Male vs. Female						
Sub-scale	Levene's Test for Equality of Variances			t- test for equality of means		
ASCAT	Equal variances	F	Sig.	t	df	Sig. (2 tailed)
	assumed	.597	.441	–.588**	234	.557
(**not significant at 0.05 level of significance);(ASCAT =Awareness Scale of Constructivist Approach in Teaching).						

Interpretation

From the analyses in Table 1.8 it isseen that in case of Levene's Test for equality of variances the p value is 0.441 (p>.05) so, equal variances can be

assumed. Table 1.8 also shows that in case of comparing teachers awareness in Constructivist Approach between male and female teachers the calculated $\mathbf{t_{(234)}}$ value is -0.588 and 'p' value is 0.557 (p> .05). Hence, 't' is not significant at 0.05 level. So, $^{2}\mathbf{H_0}$ is not rejected and it can be assumed that male teachers are not significantly different from the female teachers with respect to their awareness in Constructivist Approachin teaching at school level.

Objective no. 2

O_2: To compare the attitude towards Constructivist approach of teaching of secondary school teachers' under different categorical variables.

Scale Table: 1.9:Group Statistics of CASST_location of school

	Location of School	N	Mean	Std. Deviation
CASST	Urban	136	117.18	8.823
	Rural	100	118.52	9.075
	Total	236	117.850	8.949
(CASST = Constructivist Attitude Scale for School Teacher)				

Scale Table: 1.10: Group Statistics of CASST_ gender-wise

	Location of School	N	Mean	Std. Deviation
CASST	Male	157	117.50	8.815
	Female	79	118.24	9.209
	Total	236	117.87	9.012
(CASST = Constructivist Attitude Scale for School Teacher)				

After estimating the mean value of CASST from the data that collected from the school teachers at location wise of the schools, it was found 117.850 (table: 1.9) and in case of gender wise the CASST mean value is 117.87 (table: 1.10). In CASST scale a respondent can score 33 to 165. So, it can be said that, school teachers of West Bengal possess a moderate positive attitude towards constructivist approach in their teaching situation.

To fulfill this objective, further two null hypotheses were formulated and tested which were as follows:

$^{3}H_0$: There would be no significant difference of attitude towards constructivist approach between urban and rural teachers' under WBBSE.

$^{4}H_0$: There would be no significant difference of attitude towards constructivist

approach between male and female teachers' under WBBSE.

Testing of Null Hypotheses:

To test the $^{3}H_{0}$ and $^{4}H_{0}$ descriptive and inferential statistics were computed. The results are given below:

Testing of $^{3}H_{0}$

Groups: Teachers of urban schools and rural schools

Table 1.11: Independent samples test_CASST _urban vs. rural

Sub-scale	Levene's Test for Equality of Variances			t- test for equality of means		
CASST	Equal variances assumed	F	Sig.	t	df	Sig. (2 tailed)
		.201	.654	–1.136**	234	.257

(**not significant at 0.05 level of significance);(CASST = Constructivist Attitude Scale for School Teacher)

Interpretation

Analyses of Levene's test for equality of variances in Table 1.11 it isseen that the **p** value is 0.654 (p>.05) so, equal variances can be assumed. Table 1.11 also shows that in case of teachers' attitude towards Constructivist Approach between urban and rural schools the calculated $\mathbf{t_{(234)}}$ value is -1.136 and 't' value is 0.257 (p> .05). Hence,'t' is not significant at 0.05 level. So, $^{3}\mathbf{H_{0}}$ is not rejected and it can be safely said that urban teachers are not significantly different from the rural teachers with respect to their attitude towards Constructivist Approach in teaching situation.

Testing of $^{4}H_{0}$:

Groups: Male and FemaleTeachers of school.

Table 1.12: Independent samples test of CASST_Male vs. Female

Sub-scale	Levene's Test for Equality of Variances			t- test for equality of means		
CASST	Equal variances assumed	F	Sig.	t	df	Sig. (2 tailed)
		.421	.517	-.597**	234	.551

(**not significant at 0.05 level of significance);(CASST: Constructivist Attitude Scale for School Teacher)

Interpretation

From the analyses in Table 1.12 it isseen that in case of Levene's Test for equality of variances the p value is 0.517 (p>.05) so, equal variances can be assumed. Table 1.12 also shows that in case of teachers' attitude towards Constructivist Approach in teaching between male and female teachers the calculated $\mathbf{t_{(234)}}$ value is –0.597and 'p' value is 0.551 (p> .05). Hence, 't' is not significant at 0.05 level. So, $\mathbf{^4H_0}$ is not rejected and it can be interpreted that male teachers are not significantly different from the female teachers with respect to their attitude towards Constructivist Approach in teaching at school level.

Objective no.3

O_3: To study the existing relationship between awareness and attitude of Constructivist approach of teaching of school teachers' in their teaching process.

To fulfill this objective, one null hypothesis was formulated and tested which was as follows:

$^5H_0$: There would be no significant relationship between teachers' attitude towards Constructivist approach in teaching and teachers' awareness of Constructivist approach under WBBSE.

Testing of $^5H_0$

Groups: Attitude towards constructivist approach and Awareness in Constructivist Approach in Teaching.

Table 1.13: Correlations matrix of CASST & ASCAT

		CASST	ASCAT
CASST	Pearson Correlation	1	.950**
	Sig. (2-tailed)		.000
	N	236	236
ASCAT	Pearson Correlation	.950**	1
	Sig. (2-tailed)	.000	
	N	236	236

** Correlation is significant at the 0.01 level (2-tailed)

(CASST: Constructivist Attitude Scale for School Teacher, ASCAT: Awareness Scale of Constructivist Approach in Teaching.)

Interpretation

While to find the relationship between teachers' attitude towards constructivist approach and teachers' awareness in Constructivist Approach in Teaching it has found from analysis in table1.13 that, correlation coefficient i.e. 'r' between score of CASST and ASCAT is 0.950 and p value is 0.000($p<0.05$) which is significant at the 0.01 level. Hence, $^{5}\mathbf{H_0}$ is rejected. So, it can be interpreted that there is a high positive correlation between teachers' attitude towards constructivist approach and teachers' awareness in Constructivist Approach in Teaching.

Discussion

Within the realm of learning theory, Constructivism emphasizes the importance of the knowledge, beliefs and skills that an individual brings to the experience of learning. Each of us will build an idiosyncratic version of reality based partly on identical experiences but shaped by individual experience and, importantly, upon an individual's prior knowledge, understanding and experience (Pritchard and Woollard, 2010).

While to search and compare the present scenario of constructivist approach that adapted by school teachers of West Bengal (W.B.) under different categorical variables it has been found from this study that schools teachers of West Bengal possess a moderately high positive awareness in constructivist approach in their teaching situation in classroom which implies that Teachers are aware about several components of constructivist teaching approach. It may be due to intensive training on Constructivist teaching programme organized by the Board of Secondary Education since last few years. But teachers' attitude towards constructivist approach in teaching is moderately positive which is formed not only awareness but also belief , interest and motivation on teaching. However, our study supports Uredi's (2012) which uttered that most classroom teacher's attitudes towards the constructivist approach were positive; they created constructivist learning environment at medium level; that result support the present result of the study.

In the present study an interesting observation of no significant difference was held in both the teacher' awareness & attitudes toward constructivist approach in teaching in case of both locality of school wise (urban and rural) as well as gender wise (female and male). It shows that urban or rural school settings do not influence teacher's attitude and awareness to make it different.

Though it was revealed that awareness & attitudes level of female teacher was slightly higher than the male teacher, still it is not statistically significant.

The study also reveals that significant high positive correlation remain between teachers' awareness in constructivist approach in teaching and teachers' attitude towards constructivist approach in teaching. This leads the present researcher to conclude that awareness in Constructivism may play a role for the formation of positive attitude towards constructivist approach in teaching process which nearly supports the findings of Evrekli et al. (2010) as indicated that in pre-service teachers' self-awareness in teaching efficacy is highly correlated with teachers' constructivist approach in teaching.

Conclusion

The idea of constructivism and the term give the impression to us is western one, but Swami Vivekananda opined almost the same idea when he defined education as a process of manifestation of the perfection already in human mind. The reason of advocacy of the constructivist approach was proved as better way of teaching and learning.

The most appealing point in this study is that though the teachers' awareness in Constructivist Approach in Teaching is moderately high but their attitude towards Constructivist Approach in Teaching is moderately positive in respect to used scales, which shows that the teachers though being theoretically well adept in constructivism i.e. their awareness in Constructivism is well but, are yet to take firm position (attitude) for translating constructivist vision into practice (action) in real classroom situation. The study is an indicative one to conclude awareness form attitude. If the attitude will be converted to action then teachers' quality of teaching will be improved thus quality of education in school will be enhanced. Hence, it may be suggested that teachers, educators and researchers are to be jointly and actively engaged and put hands together for exploring how this teachers attitude can be transformed into better action so that Constructivist approach can be made a real success in teaching-learning for maximizing the learning outcomes of the learners. We are sure that if the teachers in large scale use constructivist approach in teaching, then quality of teaching will be enhanced and in turn quality of students will be at per with the expectations of the society.

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Research Abstracts

Educational Psychology: Parenting Style and Psycho-Social Characteristics of Adolescents

Title	A Study of the Relationship Between Perceived Parenting Style and Psycho-Social Characteristics of Adolescents
Research Scholar	Sabnam Sultana
Supervisor	Prof. Aditi Ghosh
Department	Education, University of Calcutta
Degree Awarded	Ph.D. 2018
Availability	Central Library, Calcutta University

Parents are the main influence on adolescents' life. They not only nurture the adolescents physically, but their styles of nurturance contribute to the development of the latters' psyche. Of particular interest is the influence of parenting styles on adolescents' academic achievement and various psycho social aspects of development.

The objectives of the study are as follows

(1) To find out the prevalence of different parenting styles among adolescents.

(2) To examine adolescents subject to different parenting styles with respect to their –

- Achievement motivation
- Social maturity
- Adjustment
- Moral judgment
- Their activities

The target population considered was Secondary school going students of Bashirhat in North 24 Parganas, West Bengal. The sample comprised of 218 girls and 220 boys.

Tools used for objective 1: Construction of a Scale on Perceived Parenting Style (Sultana and Ghose) and objective 2: Culture fair intelligence scale,

scale II (Cattell and Cattell., Form A), Achievement Motivation Scale (Deo and Mohan), Social Maturity Scale, (RSMS) (Rao), Adjustment Inventory For School Students (AISS) (Sinha and Singh), Moral Judgment Scale (Ghose and Goenka). Personal data sheet and interview schedule were constructed by investigator.

The tools were administered, and responses were subjected to appropriate quantitative and qualitative techniques. Descriptive statistics and chi- square test were applied for quantitative analysis. Content analyses were carried out on responses to the interviews.

The findings showed that–

a) Authoritarian parenting was more prevalent as compared to other parenting styles. Authoritarian parenting increases from age groups 13 to 15.

b) Authoritative children are open with their parents and do not hide their activities from their parents when they are younger. However, as they grow older they tend to hide some of their activities from their parents.

c) Authoritarian parents' children are well behaved, obedient and less confident, because parents take decisions on their behalf. These children follow parental rules when they are younger, but do not toe the line when older, particularly in the absence of their parents.

d) Permissive parents' children's natures are unpredictable and they display lack of self-discipline. When older, they often engage in some improper activities like smoking, meeting with inappropriate persons and consuming alcohol. They are prone to increase their demands as they grow older.

e) Uninvolved parents' children often feel lonely and depressed, because their parents are physically and emotionally detached from them. When older, they may engage in some improper activities to relate with others.

The findings indicate the need for sagacious parenting, and cooperation between teachers and parents in nurturing well-balanced adolescents.

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Research Abstracts

Secondary Education: Attitude, Vocabulary and Concepts in Relation to Achievement

Title	Attitude, Vocabulary and Concepts in Relation to Achievement of Secondary School Students in Geography
Research Scholar	Pradip Sarkar
Supervisor	Kamal Krishna De
Associate Supervisor	Dr. Nimai Chand Maiti
Department	Education, University of Calcutta
Degree Awarded	Ph.D. 2016
Availability	Central Library, Calcutta University

The study attempts to find the impact of Attitude towards Geography, Vocabulary in Geography and Concepts in Geography (Independent Variables) of the students of secondary level on their Achievement in Geography (Dependent Variable).

Objectives of the study

(1) To study the significance of mean difference sex-wise and habitat-wise on each of the independent variables.

(2) To find the significance of inter correlations of the variables under study

(3) To find the significance of effect of each independent variable on the dependent variable

(4) To find the significance of joint impact of independent variables on the dependent variable

Methodology

Null hypotheses were used. Out of four variables, Attitude towards Geography was a variable in affective domain and others being in the cognitive domain. Attitude contained 6-dimensions. All the tests were prepared and standardized. For attitude test, criterion validity was found and for all other tests, content

validity was found. 'Preference' of the school students for Geography was selected as a 'Criterion'. For internal consistency subtest-subtest & subtest-total correlations were found out. The sample was drawn by cluster sampling method from the schools under WBBSE in WB. The final tests were applied on 800 boys and girls of class IX.

For testing the significant differences, ANOVA & t-test were used. Test-retest reliability was found for all the tests. Significance of difference in percentage scores in 'preferences' was found by 'proportion' formula. To find the impact of attitude, vocabulary and concept separately on achievement, t-tests were used. To predict the scores of achievement in Geography a regression equation was developed with Achievement on Attitude towards Geography, Vocabulary in Geography and Concept in Geography. Paired OGIVES were drawn to compare the different distributions of scores on different variables.

Major Findings

(1) Sex-wise and Habitat-wise, there are no significant differences in mean vocabulary scores.
(2) Vocabulary has significant impact on Achievement.
(3) Urban Boys &Urban Girls significantly differ in Attitude.
(4) Urban Boys & Rural Boys significantly differ in Attitude.
(5) Boys & Girls significantly differ in Concept.
(6) Rural Boys & Rural Girls significantly differ in Concept.

***Impact study*:** Each of the three independent variables (Attitude, Vocabulary & Concepts) has significant impact on dependent variable (Achievement)

***Correlation*:** Significant positive correlations exist among the four variables of the study [three *independen*t variables Attitude, Vocabulary & Concepts, and one *dependent* variable Achievement]

Prediction*:** Three independent variables can ***jointly predict the scores on dependent variables.

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Research Abstracts

Secondary Education: Effective Method of Teaching History

Title	Development of an Effective Method of Teaching History in the Secondary Classes
Research Scholar	Kamalika Koner choudhuri
Supervisor	Dr. Nimai Chand Maiti
Joint Supervisor	Dr. Gangaram Mitra
Department	Education, University of Calcutta
Degree Awarded	Ph.D., 2017
Availability	Central Library, Calcutta University

History is a veritable mine of life experiences. It is a scientific study and a record of our complete past. It is an important subject of social science group at secondary level. It is necessary to be taught History in secondary classes to improve and prevent repeating our past mistakes. The contents of History need to be explicitly explained and presentation of the subject matter should be scientific, logical and psychological. However the textbooks on methodology of teaching history enlist techniques and methods of teaching the subject, essentially teacher oriented and not so much learner oriented. Now it is strongly advocated that learner-oriented teaching method need to be used at secondary level. In this context, the author has conducted a study for identification of the effective method among three methods of teaching History, namely lecture method, programmed learning method and biographical method. To achieve the goal of the study, the author selected three objectives. Three hypotheses were formulated on the basis of the three objectives. Class IX was taken for experiment of three types of school (co-ed, boys' and girls') situated in rural and urban areas. Latin Square Design was followed in the research. Three groups of students (A, B and C) had been formed after carefully matched. Three topics were selected from the history syllabus of class IX and three methods (Lecture method, Biographical method and Programmed learning method) were followed. The author used self-developed 'Achievement Tests of History' as research tools and also

developed learning modules for her study. 600 homogeneous samples were taken from rural and urban areas of South 24 Paraganas district & South Kolkata and stratified random sampling technique was used for sample collection. The author divided the total samples into six strata and each stratum into two homogeneous groups - controlled and experimental group; each being treated separately- the controlled groups treated under formal classroom teaching method (i.e. lecture method) and the experimental groups treated under the programmed learning method and biographical method. Descriptive statistics like Mean & Standard Deviation and Inferential Statistics, ANOVA were applied in the study. The significance was tested at 0.01 level. Data were represented by Percentage, chart, graph and table. After analyzing the collected data the author shows that programmed learning method is more effective than lecture method and biographical method. Teaching through programmed learning method making the students interested towards History subject. Some educational recommendations and suggestions for further study are also given in the thesis.

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Research Abstracts

Secondary Education: Effectiveness of three Teaching Strategies

Title	Relative Effectiveness of three Teaching Strategies on Achievement of School Students in Life Science
Research Scholar	Ayan Chakraborty
Supervisor	Prof Debjani Sengupta
Associate Supervisor	Dr Debashis Dhar
Department	Education, University of Calcutta
Degree Awarded	Ph.D. 2017
Availability	Central Library, Calcutta University

Effective teaching in class room is the outcome of different strategies.It is a popular belief that discovery learning is always the best way to learn, specially in science classroom. According to cognitive constructivist theory, knowledge is actively constructed by individuals through a series of internal intellectual stages or steps, and learning is an ongoing effort or adapt to the environment through assimilation and accommodation.Learning, to a large extent, depends on what we already know. Meaningful learning occurs through rethinking old ideas and coupling to new conclusions about new ideas which conflict with our old ideas.

In this study, 8th grade students were taught (the topic 'Units of Life') with three different strategies. The strategies are Lecture Method (LM), Teaching With Analogy (TWA) and Computer Assisted Instruction (CAI).The participants were taught by the researcher for almost a month in order to examine the influence among the three methods on achievement of students. A quasi-experimental research style was followed to conduct the study. For this purpose three intact groups were formed with the eighth graders from different secondary schools, where students came from more or less the same academic and socio-economiclevel.However, their equivalence was again ensured through Levene's test of homogeneity of variance (F significant 0.05level) on the performance scores in an Entry level test. Two parallel

criterion referenced tests were applied on the students immediately after the teaching achievement & delayed retention respectively.

- Both immediate achievement & delayed retention result showed that there exists significant difference in the mean achievement score in life science taught with above mentioned methods for the intact group as well as for the boys and girls group. The estimated marginal means and post-hoc pair wise comparison showed subsequent higher results for immediate achievement when taught with CAI, TWA & LM respectively.
- But in delayed retention CAI showed marginally better results then with TWA.
- With both the methods showed significantly higher mean value than LM.
- Furthermore, Gender impact showed significant difference in immediate achievement & no significant difference in delayed retention.
- However, no interaction effect was observed.

The essence of TWA as a teaching strategy is that it can be used with simple materials from everyday household products without the use of any sophisticated materials. What is needed is only a through planning with a bit of homework by the teacher. Hence its utility in the schools from the remotest part of the country with the worst of impoverished classroom environment is beyond doubt. Furthermore it can be good example of learning by doing in its simplest form when conducted collaboratively with the teacher and her pupils.

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Research Abstracts

English Language Acquisition: Problems with English Language Acquisition.

Title	Role of Motivation and Attitude in English Language Acquisition of the Undergraduate Students in West Bengal.
Research Scholar	Rajesh Kumar Saha
Supervisor	Nimai Chand Maiti
Department	Education, University of Calcutta
Degree Awarded	Ph.D. 2016
Availability	Central Library, Calcutta University; http://shodhganga.inflibnet.ac.in

Adequate proficiency in English language means acquisition of four basic language-skills: listening, speaking, reading and comprehension and writing skill. The researchers of Second Language Acquisition mainly belong to the category of linguists, psychologists, and educationists. The study integrates the approaches of the above mentioned researchers and intends to provide a comprehensive picture of the acquisition of English language at undergraduate level in West Bengal.

The objectives are –

- To study the Attitude and motivation of the students towards learning English as a Second language at the undergraduate level in West Bengal.
- To assess the Skills of language acquisition in English.
- To study the nature of relationship of the level of language acquisition with students' Motivation and Attitude towards learning English as compulsory subject.

To identify the problems of students in learning English at the undergraduate level. Descriptive survey method was followed. Samples consisting of 600 students and 100 teachers were drawn randomly.

The Tools were - i) Attitude/Motivation Test Battery, ii) Test Battery for assessing English language skills iii) Questionnaire. Descriptive as well as inferential statistics were used; Percentage, Mean, SD, r and t-test were applied.

This research provides evidence that there are serious problems in the acquisition of English language. Among the four basic skills, students' acquisition of speaking is worst. They have serious problem in writing. They are also very weak in listening. Only their reading comprehension skill is better in respect of other skills. The students of rural areas face more problems in acquiring the skills of English language. The students' attitude towards learning English is moderately positive but their attitude to learning situation and English teacher is negative. There is very high positive correlation between the students' English language acquisition and students' attitude towards learning English and their motivation towards learning English. Students have instrumental motivation in learning English as a second language than integrative motivation. The curriculum, the teaching method, the evaluation system, the management, the teachers, the whole system- are not conducive for proper acquisition of English language.

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Research Abstracts

Elementary Education: Students' Achievement in Mathematics

Title	Students' Achievement in Mathematics at the end of Elementary Education in Rural Areas of South 24 Parganas
Research Scholar	Minara Yeasmin
Supervisor	Dr. Md Kutubuddin Halder
Joint Supervisor	Dr. Nimai Chand Maiti
Department	Education, University of Calcutta
Degree Awarded	Ph.D. 2017
Availability	Central Library, Calcutta University

In our society academic achievement is considered as key criteria to judge one's total potentialities and capacities. Several initiatives have been undertaken in Sarva Shiksha Abhiyan for improvement of quality in mathematics learning in the schools. Mathematics being a compulsory subject of study, access to quality mathematics education is every child's right. Mathematics education at the elementary stage should help children prepare for the challenges they face further in life. Since, RTE, 2009 guaranteed quality elementary education for all children of age group 6-14 years, so to examine status of the elementary education, it is obligatory to determine the level of achievement in mathematics. Achievement in mathematics plays a crucial role in all round development of a child and is often associated with future economic power and potentiality of a country. In this context, the researcher had tried to find the level of achievement of mathematics at the end of elementary education.

For, this reason, the study aims to (i) construct a standardized achievement test in mathematics of class VIII (ii) to find out the level of students' achievement in mathematics (iii) To compare the students' achievement in mathematics gender wise (iv) To identify the areas of under achievement of the students in different components of mathematics (v) To find out the probable causes of under achievement in mathematics (vi) To

suggest remedial measures for the under achievers in mathematics.

Achievement in mathematics plays a crucial role in all round development of a child and is often associated with future economic power and potentiality of a country. An Achievement test in mathematics for class VIII was made and standardized. The test was comprised of 40 items with full marks 50 and the researcher found the reliability by Split Half method. Value of reliability was 0.91. To construct the achievement test in mathematics, the test was initially administered for pilot study to 77 students of class IX. After standardization of the test being completed, the test was administered to 400 students of class IX after completion of elementary education. The test was taken in a fare and free atmosphere created by the investigator and the respective teachers of the school. The investigator discussed with teachers, Headmaster / Headmistress, students and few parents also for qualitative analysis. For quantitative analysis of data, percentage, mean, standard deviation, t- test were done and qualitative analysis was done on the basis of informal discussion with the subject teachers, headmaster / headmistress, few guardians and students of schools. A standardized achievement test in mathematics was constructed where objectives were defined in behavioural terms focusing on Remembering, Understanding, Application and Skill from the units of Mathematics textbook of classes up to VIII prescribed by W.B.B.S.E. Content were divided into fourteen components from the syllabus of Mathematics textbook of class VIII prescribed by WBBSE as Component 1: Number Component, 2: Ratio and Proportion Component, 3: Unitary method, Percentage Component, 4: Time and distance Component ,5: Perimeter and area of Plane figure Component, 6: Variable, Algebraic Expressions Component, 7: Identities and factorization of algebraic expressions Component, 8: Linear EquationComponent, 9: Fundamental geometrical concept Component, 10: Axioms on straight lines, triangles, polygons etc. Component, 11: Similarity and congruence Component 12: Construction Component, 13: Geometrical transformation Component, 14: Statistical representation. The test items included fill in the blanks, multiple choice questions, short answer and essay type questions. Total number of items framed was 45 from the whole syllabus in the subject of Mathematics of VIII class based on the textbook prescribed by WBBSE, CBSE and ICSE. In order to ensure adequate coverage in the test items to achieve the intended purpose of the test items, information based on Experts' opinion, discussion with teachers and Literature already available were taken in to account. The findings of the study gave an idea about the performances of total students

in the achievement test. It was found that 48.39 % students gave correct response, 11.60 % students didn't respond, 1 % students had given partially correct response and 39 % students had given wrong answer. If component wise achievement of the students is considered then it could be observed that in the component Construction and Statistical Representation, students were at excellent level of achievement. In the components - Geometrical Transformation, Similarity and Congruence and Perimeter, area of Plain figures, the achievement of the students were at very good level of grade. In the component Unitary Method, Weighted Mean, Percentage, performance of the students were not well, actually they were at disqualified level of grading i.e. their performances were below 25% level of achievements. It was found that almost 45% students had given wrong answer by guessing or somehow in the components - Ratio and Proportion, Time and Distance, Perimeter, area of Plain figures and Linear Equations and its application. Surprisingly, 30.42% students could not give any answer in the component - Unitary Method, Weighted Mean, Percentage. Among different groups of mathematics it was found that the students had done better in statistics and geometric construction, performance was not good in arithmetic, menstruation groups. They faced problems in application based questions in algebra and geometry also. It was found that boy's students performed little better than girls students in almost all components. The mean value of the test was found 25.67 for boy's students and that of girl's students was 22.03. It can be said that there stands significant difference between the achievements of boys and girls signifying that boys have better achievements than girls in mathematics. The total area under study was divided into two parts namely active delta area and matured delta area. The reason behind separating the region is demographic as well as geographic. Achievements of the students of these two regions differ in a great extent. The mean value of the test in mathematics found for active delta area was 31.16 and that of matured delta area was 19.13, full marks of the test were 50. The students faced difficulties in the problems of number system and arithmetic. The students have difficulties with computation with decimal fraction application based problem. Errors done were divided into four types namely (i) Lack of Knowledge to identify the problem (ii) Lack of Understanding the method (iii) Lack of Power to apply (iv) Lack of Power of Skill to compute/evaluate the answer to the problem. The causes behind these errors were identified as (i) students' previous knowledge is not clear (ii) students do not have appropriate acquaintance with the method of the problem, students do not have adequate

comprehension to identify mathematical logic behind the method (iii) students may be short of sufficient realization for conversion verbal statement to mathematical statement(iv) students may be deficient in an adequate amount of practices to crack accurate answer, students do not have ample proficiency recognize geometrical figure and associated properties. In this context, the researcher draws attention to four problems which the society believes to be the core areas of concern: A sense of fear and failure regarding mathematics among a majority of children, A curriculum that disappoints both a talented minority as well as the non-participating majority at the same time, Crude methods of assessment that encourage perception of mathematics as mechanical computation, and Lack of teacher preparation and support in the teaching of mathematics. Promotion of Information and Communication Technology Systems, new knowledge, pedagogies and approaches for teaching of mathematics to improve learning outcomes of students should be highlighted. Individual care to every weak student and academic support to them should be provided by the school authority. In sum, additional collaborative efforts – institutional, financial and analytical – are needed in order to supplement the lessons learned from this study and add a new dynamic to on-going national efforts to improve the quality of learning for all elementary school-age children in mathematics.

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Research Abstracts

Human Rights Education: Transformative Impact of Human Rights Education on Students of Undergraduate Program of Study.

Title	Uniting the Students through Human Rights Education : A Strategy for Development in India
Research Scholar	Debalina Guha
Supervisor	Dr. Madhumala Sengupta
Department	Education, University of Calcutta
Degree Awarded	Ph.D.
Availability	Central Library, Calcutta University

The Human Rights Education Framework (HRE) can provide the environment in which people can lead lives they value and enhance their capabilities through participation in decisions that affect their lives. The study is anchored to this dimension of development strategy.

Objectives of the Study

Objectives of the study are to assess the perception of human rights principles and human rights related activism of the students enrolled in Bachelor's Degree with Human Rights in curriculum and those enrolled in Bachelor's Degree without Human Rights in their curriculum .The study seeks to find out whether gender has any effect on the awareness and activism regarding human rights .The study also seeks to find out whether socioeconomic status has any effect on awareness and activism regarding human rights . On the basis of the objectives 9 hypotheses was framed Sample the sample was drawn randomly from seven recognized institutions of Kolkata offering Bachelors Degree. Total number of students selected for the final study was 700 .Stratification of sample into categories lead to a factorial design with two levels of gender (male vs female) and two levels of curriculum (undergraduate course with Human Rights and without Human Rights). For the qualitative study 20 students participated in a face to face semi structured open ended interview.

Tools used in the study are –

(1) A scale to assess level of awareness of human rights principles
(2) A scale to assess level of activism in the sphere of human rights
(3) Kuppuswamy Scale modified and updated to measure socioeconomicstatus (SES)
(4) Data was also gathered from face to face semi structured open endedinterview.

The scales were developed by the researcher and her Supervisor with the help of subject expert's.The scales were standardized before being administered for the final study.

Analysis

In quantitative analysis apart from descriptive analysis for all sample groups and total sample groups .ANOVA and ' t ' tests were done to find the relationship among variables and regression analysis was done to find out the predictability of the scores in independent variables. Coefficients of correlation were computed to find the relation between different variables.Findings from quantitative data were reconciled with findings from qualitative data.

Findings

The study revealed that students enrolled in the Bachelors Degree with Human Rights in their curriculum differed significantly in respect of awareness and activism from students enrolled in Bachelors Degree without Human Rights in their curriculum .Male and female students differed significantly in respect of awareness and activism .Student from different socioeconomic status also differed significantly in respect of their awareness and activism. Results from qualitative analysis are also presented and analyzed.