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Editor-in-chief
Swami Kedaratmananda

Editor
Malayendu Dinda

Ramakrishna Mission Brahmananda College of Education
(A unit of Ramakrishna Mission Boys' Home)
Rahara, Kolkata - 700 118
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All Correspondence should be addressed to:

The Principal

Ramakrishna Mission Brahmananda College of Education

(A unit of Ramakrishna Mission Boys' Home)

Rahara, Kolkata - 700 118

West Bengal, India

e-mail : rkmbc 2021 @ data one. in

Tel. 033-2568-2021

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FOREWORD

There is no doubt that after independence a large number of people have become highly qualified and successful in their professional life. In the 21st century knowledge-based education has become a commodity. A commodity cannot be a panacea of all round development of the pupils. It is undeniable that in spite of the spectacular progress in various fields of our material life a section of our society is being swept by the storm of western hedonism due to globalization. People of this category are alienated from the rest of the people of our country. Rampant corruption in the society is denying the basic needs to the downtrodden people.

It is very much true that owing to some lacunas in the field of Education these maladies are overflowing our country. To put the society on the right track we are badly in need of, as Swami Vivekananda said, "Man making and character building education".

Educated people can not deny their accountability to the society. The mission of our journal is to sensitize the educated people, specially the in-service and pre-service teachers so that they can cope with the various problems in the field of education without disowning our heritage.

The *Anwesa* has tried to explore different aspects of education in an innovative way. We hope its endeavour will be the fountain of inspiration to the educated people.

26 February 2009

Swami Kedaratmananda

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From the Editor's Desk

We are glad to bring out the fourth volume of *Anwesa : A Journal of Education* in due time this year. This volume contains eleven articles on different topics. Some of the articles are research papers of high quality while others are expository in nature. Among the research articles, the paper by Madhumala Sengupta, Debasri Banerjee and Pintu Kr. Maji is an in-depth study of environmental awareness and action between normally sighted and visually impaired students belonging to upper primary stage of education. After a systematic analysis the investigators find that the relationship between environmental awareness and action in the context of sightedness and gender is insignificant. Tapan Kr. Chand examines the relationship of Self-Concept and Study-Habit of visually impaired students in West Bengal. He concludes that visually impaired students lag far behind in various fields from their sighted peers. Ashis Debnath and S. S. Bairagya have jointly investigated the creativity of students of class IX residing in Kalyani Sub-division of Nadia district in relation to the socio-economic status. Deba Prasad Sahu takes up an important issue of Physical Education in his small article. He deals with the injuries and their preventive measures among soccer players of West Bengal soccer clubs.

This volume of *Anwesa* also contains two articles on women-related issues. S.K. Chatterji and Anwesh Hauli study the impact of education on women's life in general and socio-cultural and socio-medical issues in particular, which influence women empowerment in the long run. Moumita Dutta, on the other hand, discusses the role of vocational guidance and its effect on self-employment of women.

Chandrima Mitra's article is valuable for the teaching of 'how to think'. She rightly says that if the teachers cannot help students develop their power of thinking, students will take recourse to rote learning which is not desirable at all. She then goes on to suggest a few Models for teaching thinking skills that can be applied on the students by teachers of different subjects. Her article will help teachers and teacher-educators alike if they would like to be innovative in their teaching. Surajit Banerjee and Braja Kishore Swain's article is concerned with Sanskrit and Indian culture. They search for the roots of the influences of Sanskrit in different spheres of Indian life. They rue the fact that though several Education Commissions have recommended various suggestions to revive the language of our *sanskriti*, it is still neglected in India.

Lastly, there are two articles in this volume where two comparatively new concepts, now current in the field of education, have been introduced. Mita Banerjee, Jayanti Das and Suchorita Roy Chawdhury discuss the concept of 'Emotional Intelligence', the ways to measure it and its practical implications in the affective aspects of our students. In addition to that, the editor of the present volume thinks it proper to introduce the concept of Pedagogical Content Knowledge (PCK)

as enunciated by Lee Shulman during the 1980s. Since the publication of Shulman's articles in 1986 and 1987, researchers across the globe started testing and verifying the validity of this hypothesis. What is most interesting to the scholars and teacher-educators is that the editor has been able to collect and publish a rare interview of Shulman on PCK in transcribed version. It is hoped that all the articles will be helpful to the scholars and researchers. So, I must thank them who have contributed articles for this journal. I also acknowledge the assistance of the Principal of our college and my colleagues who have extended their helping hands in every possible way to bring out this volume.

26 February 2009

Malayendu Dinda

A Comparative Study of Environmental Awareness and Related Behaviour amongst the Normally Sighted and Visually Impaired Students of the Upper Primary Stages of Education in Kolkata

Dr. Madhumala Sengupta (Roy)
Dr. Debasri Banerjee
Shri Pintu Kumar Maji

The study is a comparative analysis of environmental awareness and action between normally sighted and visually impaired students belonging to upper primary stage of education. Sensorily impaired students are integral part of mainstream society. As such it is necessary that they grow up as environmentally responsible citizens of a county like all other members of the society. A self constructed standardized Likert type questionnaire to measure environmental awareness and action was used for this purpose. The statistical analysis comprising ANOVA and Fisher's-Z revealed that two groups did not differ in respect of environmental awareness and environmental action. The degree of relationship between the environmental awareness and action score in the context of sightedness and gender was also found to be not significant.

Keywords: Environmental awareness; Environmental action; Sightedness.

Introduction:

The protection of environment is of utmost importance as never before in the history of human civilization. The very existence of human race is at stake. The global warming and other environmental degradation pose serious threat to this planet. Under these circumstances every individual has to do something for safeguarding environment. According to the Constitution of India, it is the Fundamental duty of every citizen to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have ecological compassion for the living creatures (Article 51-G).

Dr. Madhumala Sengupta (Roy)

Reader, Dept. of Education, Calcutta University.

Dr. Debasri Banerjee

Reader, Dept. of Education, Calcutta University.

Shri Pintu Kumar Maji

Research Scholar, Department of Education, University of Calcutta.

The objective of environmental education is to develop environmental literacy as part of school education for every child who comes to school including the special children who are integral part of inclusive society. It is difficult to define environmental literacy as no general accepted meaning has emerged (Morrone, et al., 2001). According to the National Environmental Education Advisory Council, to be environmentally literate is to understand how each and every component in an ecosystem interacts with and affects one another. In this formulation, environmental literacy has four aspects:

- Ecological concepts: Provide knowledge to make ecologically sound environmental decisions.
- Conceptual awareness: Develop awareness of how individual and collective behaviours influence the quality of life and quality of environment.
- Issue investigation and evaluation: Develop the knowledge and skills to investigate environmental issues and evaluate solutions for remedying them.
- Environmental action skills: Develop skills for taking positive actions to help resolve environmental issues (Hungerford, et al., 1980).

According to another definition, environmental literacy is where an individual is not only knowledgeable about ecology, but is also able to combine knowledge and values, leading to action (Morrone, et al., 2001).

In addition, Merle O'Neill defines environmental literacy as, "an individual's capacity to perceive and interpret the relative health of an environmental system and to take appropriate action to maintain, restore or improve the health of those systems" (O'Neill, 1996).

For this study, environmental literacy is defined as: "The knowledge of the scientific and ecological principles, concepts, facts, processes and values of environmental science combined with subsequent environmental action."

Thus it is imperative that the students develop environmental literacy through school education and it is simply not acquiring relevant facts and information as environmental literacy is all about ecological values, attitude and adopting pro-environmental behaviour in the face of all difficulties.

In this study the students belonging to the upper primary stage were studied because this phase of development is important as the children at this time are passing through the concrete operational stage of mental development towards the stage of hypothetical deductive reasoning as proposed by Piaget. So they are likely to be impressed by the various environmental issues and the basic foundation of moral character is laid at this time. Moreover, it has been proved that environmental protection or action is positively correlated with social values. Sensorily deprived children may not perceive the environment as normally endowed children do. So the researchers decided to pursue this study.

Statement of the Problem

It has already been mentioned that physically impaired children are integral part of the society. Their education and normal development is the responsibility of the education system. So it is necessary to know about their feelings and attitude towards environment and whether they differ in this respect from the other children without any such impairment. Since visual impairment is more common so “A Comparative Study of Environmental Awareness and Related Behaviour amongst the Normally Sighted and Visually Impaired Students of the Upper Primary Stages of Education in West Bengal” was undertaken.

Importance of the Present Study

The researches on environmental education are considered to be very important because pro-environmental behaviour can only be developed through it. Besides it also requires that special children must come under the influence of environmental education. The study is especially important as it seeks to find out the present knowledge and awareness level of visually impaired children. The study did not include all types of special children, as the number of visual impaired children is highest among the all types of impairment. (World Health Organization, 2002), which is why visually impaired group was compared with the normal group.

The present research is important in the sense that the concept of inclusion is new approach in education and few studies have been done in the context of environmental education of the visually impaired children.

Scope of the Present Study

The study will include only visually impaired children and the level of environmental awareness and action of these children will be compared with that of normally sighted children. The objective is to find out whether the sense of sight in any way influences the process of awareness of the students.

Objectives of the Present Study

The objectives of the present study are to find out

- § Whether there is any difference in the level of environmental awareness and action among the normally sighted children and that of visually impaired children.
- § Whether gender has any effect on the scores of environmental awareness and action of the visually impaired students.
- § To study the degree of relationship between environmental awareness and environmental action of normally sighted students and visually impaired students.

Hypotheses of the Present Study

Hypotheses of the present study are to

- Ø H_0 1: There is no significant difference in environmental awareness between the normally sighted students and visually impaired students.
- Ø H_0 2: There is no significant difference in environmental awareness between the normally sighted and visually impaired boy students.
- Ø H_0 3: There is no significant difference in environmental awareness between the normally sighted and visually impaired girl students.
- Ø H_0 4: There is no significant difference in environmental action between the normally sighted students and visually impaired students.
- Ø H_0 5: There is no significant difference in environmental action between the normally sighted and visually impaired boy students.
- Ø H_0 6: There is no significant difference in environmental action between the normally sighted and visually impaired girl students.
- Ø H_0 7: There is no significant difference between the normally sighted and visually impaired students in the degree of relationship between environmental awareness and action scores.
- Ø H_0 8: There is no significant difference between the normally sighted and visually impaired boy students in the degree of relationship between environmental awareness and action scores.
- Ø H_0 9: There is no significant difference between the normally sighted and visually impaired girl students in the degree of relationship between environmental awareness and action scores.

Research Methodology

Variables

The variables surveyed under present study are as follows

Dependent Variables

Environmental Awareness

It is the sensitivity to the total environment and its allied problems. The development of environmental awareness means to understand the environmental problems and to develop critical thinking and problem solving skill in the people.

Environmental action

By environmental action it is meant the observable and reported behaviour of the individuals, either done or willingness to do in future, regarding the protection of the environment.

Independent Variables

Sightedness

The term partially sighted, low vision, legally blind and totally blind are used in the educational context to describe students with visual impairments and normally sighted children.

Moderator Variable

In this case moderators may be the socio economic background of the students, intelligence, type of school, etc. These variables may affect the environmental behaviour. However, these variables were not controlled in this study.

The Categories

There is one category in the selected problem- Gender.

Design

This is a quasi-experimental research in which case the researcher seeks to understand the relationship between dependent and independent variables. The design used will be termed 2x2 Simple factorial design

Tools Used

For this study, two scales were used:

Environmental Awareness Scale (EAS):

The researchers developed this Likert type (3-point) scale. The reliability (KR-21 value 0.72) and item validity were also tested by Tetra choric correlation.

Environmental Action Scale (EAS)

The researchers developed this Likert type (5-point) scale whose reliability (KR-21 value 0.66) and item validity were also tested by Tetra choric correlation.

Sampling

The sample was drawn from the schools of visually impaired students studying in class VIII, situated in the city of Kolkata. In the present study random sampling was done. It is a probability sampling. In random sampling the researchers select sample units from the population following principle of random selection. The present sample comprises 100 students (50 normally and 50 visually impaired) comprising both girls and boys.

Procedure

The Mean, Standard Deviation, Analysis of Variance (ANOVA), correlation and Fisher's, were done to find out effect of the sightedness and gender.

Data analysis, Result and Discussion

Table No. 1 Comparison of the Environmental Awareness and Environmental Action scores of the Sub-Samples Based on Sightedness and Gender (Mean, S.D. & Std. Error).

Dependent variables	Independent variables and gender	sightedness	Count	Mean	S.D.	Std. Error
Environmental Awareness	sightedness	Nor. Sigh	50	77.02	6.62	0.93
		V.I.	50	73.62	7.69	1.08
	sightedness and Boys	Nor. Sigh	25	77.08	7.57	1.51
		V.I.	25	76.68	7.01	1.40
	sightedness and Girls	Nor. Sigh	25	76.96	5.68	1.14
		V.I.	25	70.56	7.22	1.44
Environmental Action	sightedness	Nor. Sigh	50	109.18	14.75	2.08
		V.I.	50	114.66	9.51	1.34
	sightedness and Boys	Nor. Sigh	25	111.68	18.02	3.60
		V.I.	25	118.72	6.83	1.37
	sightedness and Girls	Nor. Sigh	25	106.68	10.32	2.06
		V.I.	25	110.6	10.2	2.04

Table No. 2 Analysis of variance of the Environmental Awareness and Environmental Action for total sample and sub-sample based on gender.

Dependent Variables	Independent Variables and Gender		Sum of Squares	Df	Mean of Squares	F	Sig
Environmental Awareness	Sightedness	Between Groups	289.000	1	289.000	5.612	.020
		Within Groups	5046.760	98	51.489		
		Total	5335.760	99			
	Sightedness And Boys	Between Groups	2.000	1	2.000	.038	.847
		Within Groups	2553.280	48	53.193		
		Total	2555.280	49			
	Sightedness And girls	Between Groups	512.000	1	512.000	12.136	.001
		Within Groups	2025.120	48	42.190		
		Total	2537.120	49			
Environmental Action	Sightedness	Between Groups	750.760	1	750.760	4.871	.030
		Within Groups	5104.600	98	154.129		
		Total	5855.360	99			
	Sightedness And Boys	Between Groups	619.520	1	619.520	3.335	.074
		Within Groups	8916.520	48	185.760		
		Total	9536.000	49			
	Sightedness And girls	Between Groups	192.080	1	192.080	1.825	.183
		Within Groups	6051.440	48	105.238		
		Total	6243.520	49			

Correlation

Table No. 3 Comparison of the Coefficient of Correlation between Environmental Awareness and Environmental Action for total sample and sub-sample based on gender.

*Significance at 0.1 levels

Groups	Sub Samples	Statistical indices					
		N	R	R correct	Z	t-value	Sig.
Sightedness	Normally sighted	50	.6673	.67	.81	1.3	NS
	Visually Impaired	50	.4877	.49	.54		
Sightedness and gender	Normally sighted Boys	25	.8272	.83	1.19	2.056	Sig
	Visually Impaired Boys	25	.4524	.45	.57	*	
	Normally sighted Girls	25	.3408	.34	.48	00	NS
	Visually Impaired Girls	25	.3445	.34	.48		

The coefficients of correlation (r) between environmental awareness and environmental action for the sub-samples under study were tested for their significance of difference by computing the t-value. The obtained correlations were first corrected to the nearest two decimal figures (**Corrected r**) and the corresponding **Fisher's Z** functions were found out followed by the estimation of t-value. The data and result obtained on comparing the coefficients of correlation between environmental awareness and environmental action for the different sub-samples are presented in Table.3.

Tenability of the Hypotheses

On the basis of the statistical analysis shown in the above mentioned tables the tenability of the hypothesis is shown in the following table.

Table-4

Hypothesis	Variables		F value	Level of Significance	Tenability of null hypotheses
H_0 1	Env. Awareness	N.S. & V.I students	5.6	.02	Rejected
H_0 2	Env. Awareness	N.S. & V.I Boys	.038	.847	Accepted
H_0 3	Env. Awareness	N.S. & V.I girls	12.136	.001	Rejected
H_0 4	Env. Action	N.S. & V.I students	4.871	.030	Rejected
H_0 5	Env. Action	N.S. & V.I Boys	3.335	.074	Accepted
H_0 6	Env. Action	N.S. & V.I Girls	1.825	.183	Accepted
H_0 7	Comparison of correlations	N.S. & V.I.	1.3	NS	Accepted
H_0 8	Comparison of correlations	N.S. & V.I. boys	2.056*	Sig	Rejected
H_0 9	Comparison of correlations	N.S. & V.I. girls	00	NS	Accepted

Conclusion

From the above table it has become evident that the normally sighted and visually impaired students differ in respect of environmental awareness and action scores. The difference, however, is significant at .05 levels. Again among the boy students no significant difference was observed whereas the normally sighted (NS) girls and visually impaired (VI) girls differed significantly in respect of environmental awareness but not in respect of environmental action. Researches on environmental education vis-à-vis visual impairment or any other type of impairment are few and hence it is difficult to compare this result with other findings. The earlier researches have shown that women tend to be more conscious about environment (Stern et.al 1995, Dietz et.al 2002, Laroche 2001). Therefore, girls, specially normally sighted girls, showing more awareness and willingness to do something for environment, as observed in this study, is consistent with the other research work.

The relationship between environmental action and awareness has been found to be tenuous (Bamberg 2003). In this study too, correlation has been found to be positive but moderate to weak. It implies that awareness about environmental problem does not necessarily make an individual environmentally active. There are other factors like motivation, value system, etc. play significant role.

The Fischer- Z values show that the relationship between environmental awareness and action scores is not same for the two sample groups, viz. normally sighted and visually impaired. It implies the relationship is stronger among the NS students than the VI students.

The study is not an elaborate one to generalize the findings. But it may be concluded that VI students are likely to be less aware about environment related problems than their normal sighted counterparts.

Educational Implication

The present study should be considered as a unique area of study as it is based on the basic educational principles like inclusion, equal educational opportunity and humane approach towards education. The Constitution of India also upholds all these views in the context of education. It implies that disadvantaged sections of the society are part of the mainstream society and they too should learn to behave responsibly towards environment. It is a great satisfaction on the part of the researchers that the study has revealed that visually impaired students are not lagging behind their normally sighted counterparts rather sometimes they are more enthusiastic in matters related to protection of environment. But the research findings require that it is necessary to introduce more number of environmental awareness programmes for the visually impaired students so that the constitutional obligations of equal educational opportunity and other related issues can be fulfilled to some extent.

Delimitation

It has already been referred to in the scope of the study that visually impaired students were included in the sample along with the normally sighted students for the purpose of comparison. Samples were not drawn from the other students with different impairments because of lack of research time. India has 21.9 million Disabled; **Visual Impairment is the Highest amongst All Disabilities as per the Census, 2001, India.** So this particular impairment was considered in this study.

Only students of upper primary stage were included in the sample. The other two stages i.e. primary and higher secondary were not taken into consideration because of the paucity of time.

Suggestions

Environmental education should be taken as a continuous and lifelong process in all citizens including different types of disabled students.

- Ø To ensure equal educational opportunity
- Ø To ensure that visually impaired children are able to discharge their responsibility as conscientious citizens of the country
- Ø To suggest environmental education related activities
- Ø The protection of environment depends on the action of every single individual including the visually challenged.
- Ø Hence, school and other authorities must emphasise on environmental education in all schools including schools for challenged children.

The sample of the present study was not adequate to generalize the findings. More over the sample included only the visually impaired students and did not take into account the problems of the students having other types of impairments. This type of study on a larger scale would have yielded important information.

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Emotional Intelligence: its Practical Implication

Dr. Mita Banerjee

Dr. Jayanti Das

Ms. Suchorita Roy Chowdhury

Daniel Goleman and several other researchers have developed the concept of Emotional Intelligence. According to Goleman, it is the ability to monitor one's own and others' emotions, to discriminate among them and to use the information to guide one's thinking and actions. Emotional Intelligence is often measured as an Emotional Intelligence Quotient. Goleman outlines 4 main EI constructs and 2 measurement tools. His work is centered on curriculum and instruction in the affective domain.

Keywords : Emotional competency; Emotional intelligence; Emotional intelligence quotient.

Intelligence (also called intellect) is an umbrella term used to describe a property of the mind that encompasses many related abilities, such as the capacities to reason, to plan, to solve problems, to think abstractly, to comprehend ideas, to use language, and to learn. There are several ways to define intelligence. In some cases, intelligence may include traits such as creativity, personality, character, knowledge, or wisdom.

Emotion is a term for a mental and physiological state associated with a wide variety of feelings, thoughts, and behaviors. Emotions are subjective experiences, or experienced from an individual point of view. Emotion is often associated with mood, temperament, personality, and disposition.

Daniel Goleman and several other researchers have developed the concept of **emotional intelligence** henceforth EI and claim that it is at least as "important" as more traditional sorts of intelligence. These theories grew from observations of human development and of brain injury victims who demonstrate an acute loss of a particular cognitive function. EI or the theory that there

Dr. Mita Banerjee

Reader, Former Head, Dept. of Education, CU.

Dr. Jayanti Das

Senior Lecturer, Dept. of Education, CU.

Ms. Suchorita Roy Chowdhury

Research Student, Dept. of Education, CU.

is a separate type of social intelligence is a relatively new idea in the popular culture. Daniel Goleman defines EI as 'the ability to monitor one's own and others' emotions, to discriminate among them, and to use the information to guide one's thinking and actions'. This relatively new idea is a departure from the traditional attitude, still prevalent in many school settings, that intelligence can be divided into the verbal and non-verbal (performance) types.

Actually, psychologists have been uncovering other intelligences for some time now, and grouping them mainly into three clusters: abstract intelligence, concrete intelligence, and social intelligence. Howard Gardner (1983) has proposed a new view of intelligence that hopefully will be incorporated into school curricula, but this type of integration is always very slow. His theory of multiple intelligences, based on biological as well as cultural research, formulates a list of seven intelligences. These include: logical-mathematical intelligence, linguistic intelligence, spatial intelligence, musical intelligence, bodily-kinesthetic intelligence, and personal intelligence.

EI, as defined by Daniel Goleman is really another name for the personal intelligence observed by Howard Gardner. Recently, our culture (by way of magazine articles and TV shows) has begun to recognize the importance of possessing, or if possible, developing this type of intelligence, perhaps even more than traditional abstract intelligence, in order to successfully interact with others and cope with today's complex world.

EI, often measured as an **Emotional Intelligence Quotient (EQ)**, describes an ability, capacity, skill or (in the case of the trait EI model) a self-perceived ability, to identify, assess, and manage the emotions of one's self, of others, and of groups. It is a relatively new area of psychological research. The definition of EI is constantly changing.

The most distant roots of EI can be traced back to **Darwin's** early work on the importance of emotional expression for survival and second adaptation. In the 1900s, even though traditional definitions of intelligence emphasized cognitive aspects such as memory and problem-solving, several influential researchers in the intelligence field of study had begun to recognize the importance of the non-cognitive aspects. For instance, as early as 1920, **E. L. Thorndike**, used the term social intelligence to describe the skill of understanding and managing other people. Similarly, in 1940 **David Wechsler** described the influence of non-intellective factors on intelligent behavior, and further argued that our models of intelligence would not be complete until we can adequately describe these factors. In 1983, **Howard Gardner's** *Frames of Mind: The Theory of Multiple Intelligences* introduced the idea of Multiple Intelligences which included both Interpersonal intelligence and Intrapersonal intelligence. The first use of the term EI is usually attributed to **Wayne Payne's** doctoral thesis, *A study of emotion: Developing emotional intelligence* (1985). However, prior to this, the term EI had appeared in **Leuner** (1966). **Greenspan** (1989) also put forward an EI model, followed by **Salovey and Mayer** (1990), and **Goleman** (1995).

As a result of the growing acknowledgement of professionals for the importance and relevance of emotions to work outcomes, the research on the topic continued to gain momentum, but it wasn't until the publication of **Daniel Goleman's** best seller *Emotional Intelligence: Why It Can Matter More Than IQ* that the term became widely popularized. **Nancy Gibbs' 1995** Time magazine article highlighted Goleman's book and was the first in a string of mainstream media interest in EI. Thereafter, articles on EI began to appear with increasing frequency across a wide range of academic and popular outlets.

A new definition of EI was given by **Hein** in December 2007. According to this definition, is the innate potential to feel, use, communicate, recognize, remember, describe, identify, learn

from, manage, understand and explain emotions. It is based on the academic work of the Jack Mayer and Peter Salovey. This definition differs from the Mayer Salovey definition in one very important way because it emphasizes that emotional intelligence is an innate potential. In other words, each baby is born with a specific and unique potential for these components of emotional intelligence: 1. Emotional sensitivity 2. Emotional memory 3. Emotional processing ability 4. Emotional learning ability

Goleman's model outlines four main EI constructs: 1. Self-awareness – the ability to read one's emotions and recognize their impact while using just feelings to guide decisions. 2. Self-management - involves controlling one's emotions and impulses and adapting to changing circumstances. 3. Social awareness – the ability to sense, understand, and react to others' emotions while comprehending social networks. 4. Relationship management – the ability to inspire, influence, and develop others while managing conflict. Goleman includes a set of emotional competencies within each construct of EI. Emotional competencies are not innate talents, but rather learned capabilities that must be worked on and developed to achieve outstanding performance. Goleman posits that individuals are born with a general emotional intelligence that determines their potential for learning emotional competencies. Goleman's model of EI has been criticized in the research literature as mere pop-psychology (Mayer, Roberts, and Barsade, 2008).

Measurement of the Emotional Competencies (Goleman) Model

Two measurement tools are based on the Goleman model: 1) The Emotional Competency Inventory (ECI), which was created in 1999, and the Emotional and Social Competency Inventory (ESCI), which was created in 2007. 2) The Emotional Intelligence Appraisal, which was created in 2001 and which can be taken as a self-report or 360-degree assessment (Bradberry and Greaves, 2005).

In the mid-1990s, Goleman (1995) developed his idea of an emotional intelligence. Within his theory, he delineates five distinct domains: 1. self-awareness (self-confidence and self-decisiveness); 2. self-regulation (controlling impulsivity and handling emotions); 3. motivation (hope, initiative in goal setting, zeal); 4. empathy (reading others feelings, caring); and 5. social skill (influence, leadership, team building.)

Putting Theory into Practice

Teachers are architects of the intellect. They design the learning that invites the students. Students are the capable apprentices, using the designs to develop their own constructs of knowledge, skills and concepts. Yet, the designs of these teacher architects are rooted in the works of the masters. Explore the influence of Dewey on experiential learning models; Piaget on the discovery learning; Vygotsky on the role of social interactions in learning; Feuerstein on mediating learning for transfer, Gardner on his theory of multiple intelligences and Diamond on her work on the brain and the impact of enriched environment. Reflect on these images and think about how these architects have given us the tools for a learner-centered and life-centered curriculum

EQ at Work

Bosses and leaders, in particular, need high EQ because they represent the organization to the public, they interact with the highest number of people within and outside the organization and they set the tone for employee morale, says Goleman. Different jobs also call for different types of emotional intelligence, Goleman says.

Teaching Emotional Strength

Patterns of emotional intelligence are not fixed, so men and women can boost their all-round EQ by building their emotional abilities where they lack them, claims Stein. 'IQ is relatively stable throughout life but much of emotional skill is learned. Emotional intelligence affects just about everything you do at work. Even when you work in a solitary setting, how well you work has a lot to do with how well you discipline and motivate yourself.' says Goleman.

Introducing emotions in schools would be a radical change. Yet schools do not change so readily. Those well-meaning people who have tried to introduce innovations in schools have come up against considerable resistance from teachers, students and parents alike. Yet without their active participation, no such far-reaching change is possible. One possible solution, if such essential skills prove too difficult to develop in schools, would be to start by introducing them in the spaces around school. During the breaks for example, Daniel Goleman describes how appointed pupil mediators, once all involved know the rules of the game, resolve conflicts in the playground. Such a "school for emotions" could be a local, community-based activity in conjunction with other activities like scouts, parent-teachers associations, artistic expression groups, clubs etc. Evidence of Goleman's work is often centered on curriculum and instruction in the affective domain. Attention to self-esteem issues, self-knowledge in terms of decision making about drug and alcohol use, and discussion and practice in using social skills in small and large groups are examples of how the theory of emotional intelligence is impacting in the classroom. While the affective domain has always been a part of the curriculum, there are signs that this domain is coming into more intense focus.

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Impact of Women Education on Issues related to Women Empowerment

Dr. Subimal Kumar Chatterjee
Anwesa Hauli

Education is the key that opens the door to life, promotes national development and may be used as an effective tool for individual empowerment of those who have fallen back due to their ignorance and illiteracy. Women, the mother of race and liaison between generations who were once excluded from formal education have now gained their birthright not only in the education sector but also in other socio-cultural areas. This investigation has been designed to study the generation wise impact of education on women life in general and also in certain socio-cultural and socio-medical issues which in the long run influence women empowerment. The findings and observations were analysed and discussed.

Keywords: Formal education; Illiteracy; Women empowerment.

Introduction

It was considered earlier, that women are physically, mentally and intellectually inferior to men. But today the situation has changed. The University Education Commission (1949) had rightly remarked "There cannot be an educated people without educated women. If general education had to be limited to men or to women, that opportunity should be given to women, for them it would be more surely be passed on to the next generation". In the early eighties, a general change in the attitude of women was noticed. Value of education was realized by them. This attitudinal change was firmly supported by the Ministry of Human Resource Development of the Government of India when in its educational document on the National Policy on Education (1986) and Programme of Action (1992), 'Education for Women's equality' was highlighted. From then onwards, consciousness of women about education, academic and professional career, different socio-cultural and socio-economic issues started sprouting out (Chatterjee and Mandal, 2006). Number of girl

Dr. Subimal Kumar Chatterjee

Professor, Institute of Science Education,
The University of Burdwan.

Anwesa Hauli

Research Scholar, Institute of Science Education,
The University of Burdwan.

students increased significantly in diversified areas. Some of such students proved their determination and zeal by selecting such areas of study and joined such professions which were once thought to be impossible for them.

Women are not only entrusted for caretaking within the reproductive area as well as household areas but also play an important role in community development and management. Indian constitution has given equal right and opportunities to both men and women in the economic, political and social spheres. In spite of stringent constitutional prohibition against any sexual discrimination, women mostly from rural areas are still debarred from individual freedom and social benefits. The reasons behind are multidimensional of which illiteracy, poverty, conservativeness, prejudice and a number of socio-cultural factors deserve mention. Though in the 21st century, women are not so badly treated as before and they have come forward from behind the four walls of kitchen and bedroom to consolidate their existence in suitable places, it is still far below the desired level. The present investigation has been designed to make a preliminary study on the impact of education on rural and urban women in respect of development of consciousness towards empowerment and its related socio-cultural, socio-medical and economic parameters.

Objectives

Main objectives of this designed investigation is to study the impact of education on the women subjects studied in rural and urban areas mostly in respect of consciousness towards social and cultural life, health, religion, community feelings, financial upliftment and such other related issues. Generation wise percolation of the educational and other relevant thoughts was also considered.

Method of Study

The study was organized in the residential campus of Burdwan University at Tarabag where from 100 girl students were picked up as urban subjects after verification of the fact that their actual places of residence are also urban in nature. Rural subjects were selected from rural (Panchayet administered) areas adjoining Burdwan town. The selected one hundred rural women were members of Self Help Group (SHG). The subjects were interviewed by the investigators with the help of a pre-printed multiple choice type questionnaire prepared by the investigators. The questions were based on diversified areas seeking information about their families, guardians, financial position, educational status, consciousness about children education, thoughts about casteism, religion, marriage and family structure, superstitions, social involvement and such others. Responses of the subjects and also issues arising out of the discussion at the time of interview were analysed in a manner so that generation wise (at least for earlier two consecutive generations) impact of education can be ascertained.

Findings and Discussion

Some of the significant findings are presented in tables 1, 2 and 3. Our rural subjects are from three economic classes viz. 54% from middle class, 6% from more or less upper middle class and 40% from poor class. The situation appears better when compared to UNDP report (1997) where rural and urban poverty was mentioned as 39% and 30% respectively. This has been reflected in the findings presented in table 2: the rural people (75 - 76%), both male and female mostly engaged in cultivation earn Rs. 2000.00 only on an average for each family. In the urban group the financial position is slightly better, belongs to upper middle class and earn Rs. 8500.00 per month.

Even with the above mentioned financial limitations of the present generation subjects which was likely to be worse in earlier generations for obvious reasons, the grandparents of the present subjects were conscious about the values of education. This consciousness has been reflected in the generation wise collected data as presented in table 1 for both rural and urban people. A steady improvement in the literacy / education level from the grandparents of the present generation subjects to their parental generations and then to their successive generation (present subjects). The picture and trend is true in rural as well as urban groups. Two salient features are : no illiterate exist in 2nd and subsequent generation and graduates / post-graduates exist in the 2nd and present generation. The gradual increment in the level of education is due to percolation of the consciousness through generations which also influenced development of socio-cultural and other positive thoughts essential for the members of present day society (Table 3). In spite of poverty and other social obstacles, the present subjects from both rural and urban areas are fully conscious about the values of education and confident to open scope of education for their successors of either sex. Of those who have been forced to discontinue their study after reaching a particular level (72%) due to financial and other obstacles, 12% people have shown their eagerness to renew their studentship, 22% of rural students do not go to schools after obtaining primary education because of scarcity of secondary / Higher Secondary schools in their villages.

That educational enrichment influences development of different socio-cultural and psycho-social features of human character is known. Some of such features which are presented in table 2 and 3, after proper analysis of the information collected from the subjects are as under :

- 1) Reproductive health : Reproductive health can be studied by investigating a number of parameters like age of marriage, nutritional status, fertility rate, child mortality, pre-, peri- and anti-natal status, etc. It is true that common people from rural or urban sector will by no means have expertise in these areas. But their educational level can help them to understand the importance and / or significance of these issues in a better way. Only three of the indicators amongst the above mentioned parameters have been considered during the present study. The results indicate that :

- a) In the first generation, illiteracy prevailed and marriage age was below 18 years in 99% (Rural) and 84% (Urban) subjects. Fertility and child mortality rates were 4.68 and 32% in rural and 3.5 and 26% in urban sector respectively.
- b) In the second generation, education level was raised and marriage age below 18 years

came down to 30% (Rural) and 21% (Urban) subjects. Fertility and child mortality rate also came down to 1.86 and 25% in rural and 1.5 and 20% in urban sector respectively.

A direct relation with improved education level and health consciousness can be established. Subjects of the present education level and health consciousness can be established. Subjects of the present generation, a good number of whom are still bachelor and achieved higher learning than their parents and grandparents are confident to follow health rules in future for maintenance of healthy family life.

- 2) Education level may not influence faith of people in religion, fortune or superstitions. A similar picture is reflected from the table 3.
- 3) An evil social system like 'dowry system' has been opposed by 90% of the respondents. It is true that a certain percentage of the respondents opposed this system from their genuine hatred which may be influenced by their educational level. But others simply opposed because of their inability to face the situation if it comes.
- 4) Participation in political or social activities depends on individual thinking of the respondents and may not have any relation with educational status.
- 5) 59% respondents supported nuclear family structure. It is the average picture of rural and urban communities and a reflection of the present social view. Sector wise picture is a bit different : 70% of urban and 48% of rural respondents opted for nuclear family set up. Effect of urbanization is reflected clearly.
- 6) Rural people, mostly from Below Poverty Line (BPL) group agreed to join SHG for better living for obvious reasons. 70% of the rural SHG members also availed the opportunities to reopen their educational avenues after obtaining benefits of socio-economic upliftment through their participation in Self Help Group activities.

Conclusion

From the findings of the present investigation, the most important point that emerged out that education can change the mindset of illiterates to make them able to handle their personal problems and help them to take proper decisions in time for smooth running of family life. Education can bring them up to participate in social activities for benefit of society at large and nation as a whole. Women education rate in India is still below the desired level for a number of reasons. A significant obstacle is gender discrimination for prevailing prejudices. Poverty is also a controlling factor mostly in the rural sector. Academicians and social scientists are talking about women's empowerment and its implications in relation to national development since a considerable length of time. Projects like 'Women's Empowerment through Literacy and Livelihood Development' were implemented in some states of India. But unless the results of these efforts are critically analysed in the backdrop of ground realities and suitable steps are taken to fill up the lacunae, the final outcome will never be satisfactory and the target will remain untouched.

**Table 1 : Generation wise literacy / education level of rural and urban women
(in terms of percentage)**

Literacy Education Level	Rural			Urban		
	1 st Gen.	2 nd Gen	Present Gen.	1 st Gen.	2 nd Gen	Present Gen.
Illiterate	58	-	-	40	-	-
Primary	28	13	15	48	10	-
Secondary	14	68	60	12	56	-
Higher Secondary	-	07	10	-	10	-
Graduation	-	12	15	-	20	40
Post Graduation	-	-	-	-	02	60

Table 2 : Showing analysed responses of subjects regarding their reproductive health, financial and professional status

	Parameters	Categories		Analysed values
1.	Financial Status	Rural		Rs. 2000.00 / month (Av.)
		Urban		Rs. 8500.00 / month (Av.)
2.	Professional	Rural :	Business	24%
			Cultication	76%
			Service	-
		Urban :	Business	22%
			Cultication	20%
			Service	58%
3.	Status of Earning Member	Rural :	Only Male	25%
			Both Male and Female	75%
		Urban :	Only Male	76%
			Both Male and Female	33%
4.	Reproductive Health			
	a) Age of Marriage 18 years (-) 18 years (+)	Rural :	1 st Gen.	99%
			2 nd Gen.	30%
			1 st Gen.	1%
			2 nd Gen.	70%
		Urban :	1 st Gen.	84%
			2 nd Gen.	21%
			1 st Gen.	16%
			2 nd Gen.	79%
	b) Fertility Rate (Av. / Head)	Rural :	1 st Gen.	4.68
			2 nd Gen.	1.86
		Urban :	1 st Gen.	3.5
			2 nd Gen.	1.5
	c) Child Mortality	Rural :	1 st Gen.	32%
			2 nd Gen.	25%
		Urban :	1 st Gen.	26%
			2 nd Gen.	20%

Table 3 : Showing analysed responses of subjects (rural and urban taken together) regarding different socio-cultural issues (opinions expressed in terms of percentage)

	Issues	Opinions expressed	
1.	Influence of Religion on human life and attitude	Can influence	74%
		Can not influence	26%
2.	Belief in Fortune	Depend on fortune	68%
		No dependence	32%
3.	Belief in Superstitions	Believe	75%
		Do not believe	25%
4.	Dowry System	Against	90%
		Support	10%
5.	Political Activity	Willing to join	54%
		Unwilling to join	30%
		No specific response	16%
6.	Family Structure	Nuclear type	59%
		Joint type	41%
7.	Social Activities	Willing to join	58%
		Unwilling to join	42%
8.	Joining SHG for better living	Agreed	88%
		Do not agree	12%

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Teaching Thinking Skills

Chandrima Mitra

Students of this century cannot and will not survive with rote learning. They need to think both critically and creativity. But in schools and colleges they are not properly taught how to think. There are two approaches to thinking -- (a) passive approach, and (b) active approach. Whichever approach is followed, thinking must be viewed as an individual act. Hence prime importance should be given to learning strategies if we are to develop the power of thinking in our students. Teachers can employ different models of teaching like Concept Attainment Model, Inquiry Training Model, Advance Organiser Model, etc. to help the students think effectively.

Keywords: Metacognition; Organizational strategy; Teaching thinking.

[This report is based on the interactive discussion, which the present writer had with the school teachers of Holy Child Institute, Kolkata, in an orientation workshop conducted by the writer in the school premises on 24.11.08]

Effective thinking is a non-negotiable item in the 21st century. Several researches have been conducted in this area and it is necessary to incorporate the growing researches on thinking and teaching skills in the classroom situation.

As teachers we have a basic problem to tackle: Our students are not becoming effective thinkers. They are performing rote tasks but are unable to move to the abstract level. To suggest ways and means to tackle this problem it is necessary to ponder upon the secondary school teachers' point of view regarding 'Thinking' and 'Teaching thinking'.

Chandrima Mitra

Head of the Dept. of B. Ed.,

Selection grade lecturer, Scottish Church College, Calcutta, W. B.

E - mail : cmitra 13@gmail.com

How Teachers View Thinking and Teaching Thinking

Though it is difficult to give a precise definition of thinking, teachers agree that there are two approaches to conceptualize 'thinking'. One is the **passive approach** which includes 'reflection' 'meditation' and 'cogitation' and the other is the **active approach** which involves 'conceptualization' and 'problem solving'.

Thus it is worthwhile to accept both the passive reception and the active participation with the sensory input as 'thinking'. The characteristics of 'thinking' that has emerged after analyzing the teachers' conception about thinking are as follows:

1. Thinking is a natural process
2. Thinking is an active process
3. Thinking takes place in a context
4. Thinking is a recursive process

Teaching Thinking

Regarding this issue there were three different attitudes or stances adopted by teachers.

Stance 1: Teaching thinking skills is not possible

Stance 2: Thinking skills should not be taught

Stance 3: Thinking skills are always taught

The first stance was the most difficult to handle because these teachers thought that the learners' abilities are fixed before they enter the classroom. These teachers were reminded that there is no disposition of personality that cannot be changed through education. In the second stance teachers believed that thinking skill is an issue outside the curriculum. These teachers were advised to follow a covert approach (instead of an overt approach) in which teaching thinking skills were embedded in the curriculum and curriculum transaction.

The third stance reflected a somewhat positive attitude towards 'teaching- thinking', but the problem arose elsewhere. When questioned whether the teachers emphasized 'memorization, recall and iteration' or 'comparison, analysis and synthesis' in their students' performance, most of the teachers pointed out that the second category (Viz. comparison, analysis and synthesis) seldom featured in the examination questions though they did have a place in classroom instruction. The first category or set is called the passive, reactive and respondent skill and the second set is called operant skills. Research says that much of the classroom time is overwhelmingly spent on respondent skills and students are reluctant to use operant skills. Teachers need to be jotted out from their passive skill bias and they are to realize that the operant skills are the mind's premier tool.

Learning Strategies

Successful learning strategies for developing the learners' operant skills can be grouped under four heads- viz. (a) Organizational Strategy (b) Active Study Strategy (c) Support Strategy and (d) Metacognitive strategy.

(a) Organizational Strategy

Students can be taught to use graphic organizers, which are meaningful displays that compress, focus or make interpretations of the thought process. They act like mind maps and bring out the relationship and meaning of ideas and concepts. Some popular graphic organizers are 'stars', 'spider-webs', 'fishbone', 'tree', 'cloud', 'cycle', and 'clocks', 'flow-chart'. (For details consult www.graphic.org.enchantedlearning.com)

(b) Active Study Strategy

Learning when done actively through self-questioning and summarizing help to develop the operant skills. A graphic organizer called KWLH helps greatly in this respect, 'k' stands for 'What I Know'; 'W' for 'What I Want to find out', 'H' for 'How I can learn more' and 'L' for 'What I have learned'. Similarly, PMI (Plus, Minus, Implications) when written in a grid form helps the learner in decision-making. Thus active study strategy compliments the organizational strategy.

(c) Support Strategy

Support strategy is the affective environment of the classroom or the teaching-learning situation. An effective environment, which focuses on attention, minimizes anxiety and maintains motivation is conducive for teaching thinking skills.

(d) Metacognitive Strategy

Metacognitive strategy enables the learner to monitor and control these learning strategies. Metacognition is the knowledge and awareness of one's cognitive process and metacognitive skills include taking conscious control of learning, planning and selecting strategies, monitoring the progress of learning, correcting errors, analyzing the effectiveness of learning strategies and changing learning behaviour and strategies whenever necessary. Students can be motivated to identify what they know and what they do not know, they may be encouraged to keep a journal, they may debrief their thinking process, they may be asked to engage themselves in self-regulation and self-evaluation. Once they master these metacognitive skills they become formidable thinkers.

Teaching Strategies

Thinking is an individual act. Hence prime importance must be given to learning strategies if we are to develop the power of thinking in our students. But as teachers we have to endorse certain teaching strategies, which foster the above learning strategies. Certain well-researched models of teaching like Bruner's Concept Attainment Model, Suchman's Inquiry Training Model, Hilda Taba's Inductive Reasoning or Ausubel's Advance Organizer Model may be tried out in the classroom exactly in the way Joyce and Weil advise us in their Models of Teaching. The emphasis in all these models is on developing higher order thinking or what Presseisen calls, essential skills,—(a) causation (b) transformation (c) relationships (d) classifications, and (e) qualifications. In the Indian context a chalkboard with a meaningful display (through a graphic organizer) can be a strategy for teaching 'organization of thought'. As a prelude to self-questioning the teacher might engage the learners in peer-questioning. The teacher may monitor those questions at the outset. The teacher's probe can make learning a challenge. As the teacher elicits new information, solicits clarification, explores the students' mind and generates critical awareness through the probing questions the students know how to study actively. The students of this century cannot survive with rote learning. They need to think both critically and creatively in order to exist as a human being.

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A Study on Creativity of Students of Class-IX in Relation to Their Socio-economic Status in Kalyani Sub-division of Nadia District

Ashis Kumar Debnath
Dr. Shyam Sundar Bairagya

With regard to the development of creativity, there is a common belief that the child will become creative of his own accord, if only he can be placed in a stimulating environment. No doubt, an environment which is stimulating plays an important role in establishing the conditions necessary for creative output but this is only part of the story. Again, socio-economic condition of the family may create this type of stimulating environment. A few studies have conducted on gender difference in creativity. But, in this local area, culture, is there any difference in creativity with the gender difference? Hence, the present researchers considered this matter and wished to categorize the whole sample into two groups – 'Boys' and 'Girls'. At the same time, relationship between creativity (with its different components like fluency, flexibility, originality) and socio-economic status along with gender difference has been studied in this article.

Keywords : Creativity; Gender; Culture; Originality.

In order to develop a society as well as a country, the importance of knowledge and skills can not be denied, but knowledge alone is not enough in this fast changing world. Creativity takes important roles in this case. Creativity provides the fundamental intellectual materials – ideas, concepts, insights and discovery that in course of time results in development of new theories, approaches, tools, products and a kind of mutual sharing that underline innovation. Innovation is the adoption and social transmission of creative discovery. The highly creative persons may bring about revolutionary changes in the society in the dimension of advancement. Now the question is that, who are

Ashis Kumar Debnath

Research Scholar, Deptt. Of Education, University of Kalyani, Nadia.

Dr. Shyam Sundar Bairagya

Senior Lecturer, Deptt. Of Education, University of Kalyani, Nadia.

creative ? Many research findings have established the truth that every child has creative potential more or less (Murphy, 1947; Fliegler, 1961). But the levels of creativity and the styles of creativity are different in different children.

A few studies are concerned with gender difference in creativity. But the results were not equivocal. For example, Prakash (1966), Strauss and Strauss (1968), Raina (1969) reported that boys were more creative than girls. However, Pareek (1966), Hussain (1974), Hargreaves (1977) found no difference between the creativity of boys and girls. Singh (1978), on the other hand, found that girls were better than boys on tests with semantic content. But, in this local area, culture, is there any difference in creativity with the gender difference? Hence, the present researchers considered this matter and wished to categorize the whole sample into two groups – ‘Boys’ and ‘Girls’. According to one of the theories, creativity is not only the result of one’s heredity or inborn capacity, but it is acquired and nurtured like other human traits. A stimulating environment or situation that is open, democratic and free may contribute positively to release and develop creative potential. Torrance (1970) and Arieti (1976) emphasized the influence of culture and environment on the development of creativity.

Among three different types of environment, namely ; family, social and school environment, the family environment has important roles in nurturing and fostering creativity of the children. As it is said that family is the smallest unit of the society and is the first school to the children. Moreover, the society of the developing countries can not provide suitable environment for developing creativity and the present school system sets the students to gather some information and knowledge for obtaining better marks in the examination, which is against the process of nurturing creativity .

A child is born and brought up in the socio-emotional climate of the family. With the natural growth and development of the child, the innate creative potential obtained by heredity is gradually being unfolded and developed if the emotional climate is favourable to it. Again, this climate depends on the economic condition of the family.

A healthy family environment provides various scopes for practicing and nurturing creativity in the children. But when the parents suffer from various mental stresses and tension due to need of money their attention and care to the children must be minimized.

Halpin, Payne and Ellett (1973) found that socio-economic status is positively related to the creativity of boys not girls. Also, in Indian family culture, unfortunately, boys and girls are not treated in the same way in various aspects. So, children’s creativity may be varied with their socio-economic status as well as gender difference. To verify the statement, the investigators have decided to take socio-economic status as one of the variables for this study.

Creativity can not be created, but it can be cultivated. That is, creativity which is latent in the child, is capable of being developed. Normally distributed creativity among the children should not be allowed to be suppressed. A suitable stimulating environment should be created at least for retention of creativity in the children. Again, socio-economic condition of the family may create this type of stimulating environment.

Objectives

Objectives of the present study were framed as follows:

- i) To assess the creativity of all the students in terms of fluency, flexibility and originality.
- ii) To identify high creative school going children.
- iii) To study the gender difference in Creativity of IX grade students.
- iv) To study the nature of relationship between Socio-economic Status and Creativity and in its different components.
- v) To study the difference of high and low Socio-economic Status group boys in Creativity and in its different components (Fluency, Flexibility and Originality).
- vi) To study the difference of high and low Socio-economic Status group girls in Creativity and in its different components (Fluency, Flexibility and Originality).
- vii) To study the relationship between Creativity and SES for boys group.
- viii) To study the relationship between Creativity and SES for girls group.

Hypotheses

Criterion of creativity is an independent measure of fluency, flexibility and originality under both verbal test and non-verbal test.

Keeping in mind the objectives of the present study, the researcher formulated the following hypotheses :

- H₁ : There would be no significant differences between boys and girls in creativity scores.
- H₂ : There would be no significant difference between high and low groups boys of Socio-economic Status in fluency scores.
- H₃ : There would be no significant difference between high and low groups boys of Socio-economic Status in flexibility scores.
- H₄ : There would be no significant difference between high and low groups boys of Socio-economic Status in originality scores.
- H₅ : There would be no significant difference between high and low groups boys of Socio-economic Status in total creativity scores.
- H₆ : There would be no significant difference between high and low groups girls of Socio-economic Status in fluency scores.
- H₇ : There would be no significant difference between high and low groups girls of Socio-economic Status in flexibility scores.
- H₈ : There would be no significant difference between high and low groups girls of Socio-economic Status in originality scores.
- H₉ : There would be no significant difference between high and low groups girls of Socio-

economic Status in total creativity scores.

- H_{10} : There would be no significant correlation between Total Creativity scores and Socio-economic status for all boys.
- H_{11} : There would be no significant correlation between Total Creativity scores and Socio-economic status for all girls.
- H_{12} : There would be no significant correlation between Total Creativity scores and Socio-economic status for all students.

Sample

The sample contained 100 school going students of Class IX from six schools situated at Kalyani sub-division. All the selected schools were of Bengali medium under West Bengal Board of Secondary Education. There were 50 boys and 50 girls in the sample. Different types of schools were selected randomly from both Chakdaha Block and Haringhata Block as well as from three municipalities – Kalyani, Gayeshpur and Chakdaha.

Variables

The main objectives of the study were: to identify the creative individuals, gender difference in creativity, relationship between socio-economic status and creativity of Class-IX students. Thus the variables for the study were:

a) Dependent variables

Dependent variables in the study were students' performance scores, on only three components of creativity, obtained from verbal and non-verbal creativity test.

- i) Fluency (verbal fluency, non-verbal fluency).
- ii) Flexibility (verbal flexibility, non-verbal flexibility).
- iii) Originality (Verbal originality, non-verbal originality).

b) Independent variables

There were two independent variables in the study.

- i) Socio-economic Status (High and Low).
- ii) Gender (Boys and Girls).

Tools and Techniques

1. Sarker's Creative Thinking Tests

Sarker's Creative Thinking Tests were developed by Sarker, A. K. (1981), and could be administered to individuals at all educational levels above six years of age. The tests consisted of several batteries of test activities – verbal and non-verbal form. Both the non-verbal and verbal tests of creativity should be applied to measure creative thinking ability of an individual. Administration of tests and scoring procedure would be as the test manuals. These tests were standardized tests and

its reliability and validity scores were in the test manuals. It included the followings:

a) Verbal Test of Creativity

- Game – 1 : Unusual Uses
- Game – 2 : Similarity Task

b) Non-verbal Test of Creativity

- Game – 1 : Circle Test
- Game – 2 : Incomplete Figures
- Game – 3(A) : Asking Questions
- Game – 3(B) : Asking Questions

2. Sarker's Socio-economic Status Test

Socio-economic Status Test was developed by Prof. Sarker, A. K. (1985). In this tool, parents' education, occupation, monthly income had been included. At the same time, for family conditions, infrastructure and standard of living, several questions had been put in this tool. Besides these, material possession in the family had also been considered in this tool. No doubt, it was a standardized test and its reliability and validity scores were kept in the test manual.

Results

The results on the basis of interpretation and calculation of derived data through hypotheses have been given in the following sections.

Before describing the results by hypotheses it would be worthwhile to recall the outline of the research design, variable involved and statistical technique used to analyze the data. The present study involved **t-test** and **correlation** techniques with independent variables Socio-economic Status and gender and four dependent variables (viz., Fluency, Flexibility, Originality and Total Creativity).

The sample was divided into two groups in accordance with gender – Boys and Girls. The whole analysis was done with respect to this stratum. Data of both boy and girl groups were arranged according to their ascending Socio-economic Status. After that each group again was divided into three sub-groups viz., High SES, Middle SES and Low SES on the basis of 27% statistical rule. For that, out of 50 students of each group, the High SES contained 14 students, the Middle contained 22 students and the Low SES contained 14 students. So, the ultimate four groups were taken for statistical analysis, such as –

Boys High SES group	:	14 students
Boys Low SES group	:	14 students
Girls High SES group	:	14 students
Girls Low SES group	:	14 students

Findings

Some hypotheses were fixed up in this study and a few of them have been accepted and rest of them have been rejected on the bases of calculation of respective scores. Though the investigators considered independent variables socio-economic Status and gender only, he had total 12 hypotheses due to comparing to different points of view. Not only creativity but also its components were considered for finding out relationship or comparison.

The findings of this study are as follows :

- i) This study shows that there is no difference between boys and girls in creativity. Gender has no impact on total creativity.
- ii) This study indicates that the boys of high socio-economic group must have superior fluency than that of low socio-economic group.
- iii) It is clear in this study that the boys of high group of Socio-economic Status have much flexibility in thinking with respect to those of low group of Socio-economic Status.
- iv) This study also indicates that in originality of thinking, the high group boys of Socio-economic Status is more advanced than the low group (SES) boys.
- v) In case of total creativity, the high Socio-economic Status group boys are more advanced than the low Socio-economic Status boys. That is, for boys, total creativity increases with the increase of Socio-economic Status.
- vi) This study shows that for girl students, Socio-economic Status has no impact on their ability of fluency.
- vii) At the time, it also indicates that the high group of Socio-economic Status girls is not superior to the low group of Socio-economic Status girls in their flexibility.
- viii) This study says that there is no difference between high socio-economic girls and low Socio-economic Status girls in originality component.
- ix) Also, for total creativity, high group girls are not superior to low group girls.
- x) This, study shows through statistical calculations that there is a significant correlation between Total Creativity and Socio-economic Status for all boys.
- xi) This study again shows that for girls, no significant relation exists between Total Creativity and Socio-economic Status.
- xii) After all, for the whole sample, it shows that a significant relation exists between Total Creativity and Socio-economic Status. It implies that the development of Socio-economic Status of the family where the students are brought up, increases the total creative ability in the students.

Conclusion

Interpretation of data, results of testing hypotheses of the study help the researchers to draw the following conclusions:

1. Creativity is a special ability of human being and every man is more or less creative. This statement is supported by Murphy (1947) and Fliegler (1961).
2. The present study has revealed that gender is not a contributing factor to creativity. Boys and

girls have no difference in creative thinking. But the interaction between gender and Socio-economic Status on creativity have different results.

3. For boy-students, Socio-economic Status of their family is a significant factor to creativity and its components – Fluency, Flexibility and Originality. In this field area of study, boys of high Socio-economic Status family enjoy more freedom to play and share with others and involve themselves to make something from their childhood. On the contrary, the low Socio-economic Status students have to involve themselves to some sort of job, enjoy less freedom in their family environment. So, the finding is justified for this sample.
4. For girl-students, Socio-economic Status of their family is not a contributing factor to creativity. Because, all the girls of various types of socio-economic families go in the same tunnel due to the impact of some social culture and pressure. Both high status girls suffer from social and cultural rules, and have some limited freedom in their families.
5. Obviously, creativity is correlated with Socio-economic Status but only for boys, not for girls.

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Action Research: What it is and how you can Get Some

Kane Gilmour

'Action research' refers to thinking about what one does, identifying and isolating problems, trying out solutions for those problems and then incorporating the newly learnt experiences in his future activities. Action research is not meant for English teachers or educators only. It can be used fruitfully by anyone for any kind of social research.

Keywords : Action research; Professional development; Performance.

Action Research

"Action Research." The phrase gets thrown around a lot in the field of education lately. Unfortunately there seems to be some confusion amongst English Teachers in Asia as to what the phrase means and whether the concept involves them in any way. The answer is surprisingly accommodating. Action Research is simply a name for thinking about what you do, identifying and isolating problems, trying out solutions for those problems, and then adjusting what you do in the future to incorporate what you have learned from the whole experience. The process isn't only for English language teachers or even educators in general. It can be used by anyone for any kind of social research but for our purposes we will look at what makes the process useful for language teachers in particular.

Essentially, Action Research is a process involving teachers (and sometimes administrators or people from the community) reflecting on their practices using the same techniques which are used

Kane Gilmour is the recipient of a U.S. Department of State *English Language Fellowship* in Sri Lanka. He conducts teacher training workshops and acts as a consultant for the Post Graduate Institute of English at the Open University in Nawala.

in more traditional research. The obvious question here is if traditional research techniques are used, then why not find traditional researchers to do the work instead of asking the already overburdened teachers to get involved. The answer is that teachers have an investment in fixing the problems in their own classes. They can identify those problems more readily than anyone else can. Also teachers often become more effective when encouraged to examine their own work and consider ways of improving that work (Watts, 1985).

Why do it?

A lot of teachers have heard of Action Research but are afraid of the time it will take and suspect that the changes either won't be long-lasting or won't be able to be implemented at all for some reason (i.e.: lack of administrative support, etc.). Action Research can be used for a variety of purposes like curriculum revisions and design, school restructuring, evaluation, and for personal professional development (Gilmour, 2007). Action Research isn't only a chance to do some study for teachers or an exercise only in finding out what is wrong in the classroom. It's also not about finding the perfect solution to the problem you identify. Action Research is about training yourself as a teacher to think critically about what you do in the classroom and it's about continually striving to be a better teacher. None of us choose being a "mediocre teacher" as our goal. We all want to be the best teacher we can be. That requires that periodically we examine what we do as teachers with a critical eye – looking for areas which could be better. Action Research then, is the process of experimentally addressing those areas to see if we can improve. So ultimately the answer to "Why do it?" is to become a better teacher.

How does it work?

The first thing we need to do is something that all teachers are naturally experts at – deciding what the problem is. Unfortunately, many teachers also choose to focus on problems that can only be solved by other people like administrators or the government. While it is possible to engage in multilevel Action Research projects which involve those groups, for the purpose of this article we'll focus on what teachers can do to improve their own instruction in the classroom. So while teachers are great at identifying problems with other people or areas, they need now to turn that critical eye upon their own actions and speech. A simple exercise to get in that habit of this process is to ask yourself for every "big" problem that would need administrators or government assistance, "What small thing could I do to minimize this problem slightly by myself?" Once we've answered that question (and decided that there may actually be something we can do to alter the problem after all) we are ready to begin.

Steps to Action Research

The first step is to carefully isolate the problem. It needs to be something we can do and that will be worth our time doing. The next step is to gather as much information about the problem as we can. Multiple sources of data will be more informative from a scope and breadth perspective but the question we are seeking an answer to needs to be narrow enough that we can find one answer.

The next step (and sometimes the most challenging one) is to narrow the focus on the problem down to one simple area. For example, many students in a teacher's class might not volunteer to answer a question when it is posed by the teacher. While there could be a wide variety of reasons for this, the easiest to test in an Action Research project would be the way that the teacher poses the question. It's something simple that the teacher can actually influence.

Then the teacher would need to enlist the aid of an observer. This person could be a fellow teacher. It is best if the observer is as non-partial as possible – so not a superior or a close friend. The observer should be given the task of noting what kind of questions the teacher asks in a given lesson, how often, and how they are phrased. This would be the data gathering phase. The observer shouldn't be commenting on any other aspects of the teacher's performance.

The teacher must then analyze the data and interpret what it means. Is the teacher only asking questions to students on one side of the classroom? Are all the questions yes/no type? Are they about the material from the upcoming lesson which has yet to be taught (students are less likely to know the answers)? And so forth.

Once the data illustrates what might be influencing the problem (on the teacher's end anyway) then the teacher can try strategies of changing the way they ask questions in the classroom.

After some time, the teacher will want to have the same observer evaluate them again, on the same questioning techniques. Hopefully the new data will show that students are now engaging more when questioned. If not, then the process begins again as the teacher utilizes this new data to experiment with other tactics. It is this "back to the drawing board" mentality which results in the cyclical nature of Action Research. Each attempt brings us closer to better teaching.

For a more detailed description of the history of Action Research and its uses in education see Ferrance (2000) at the website below.

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Vocational Guidance and Self-Employment of Women

Moumita Dutta (Sarkar)

Vocational guidance is the process by which an individual enters into the world of work with the help of guidance counsellors. It is again a process of knowing the abilities, interests and needs before suggesting a profession. Rehabilitation is the ultimate goal of such programmes. Due to increasing unemployment in the country, self-employment, particularly for women, was suggested during the sixth Five Year Plan. West Bengal Government is aware of the present situation and several project for training for self-employment have been undertaken with a view to reduce women unemployment and help women, particularly in rural and urban slum and give opportunities for their development.

Kyewords : Rehabilitation; Self-employment; Vocational guidance.

Vocational guidance is the process of helping a person to develop and accept an integrated and adequate picture of the person himself and of his role in the world of work. It refers to the services that assist individuals of any age and at any point of time throughout their life. Vocational guidance is a continuous process of assisting the individual and therefore forms a part of guidance services of educational institutions. Vocational guidance has a specific goal as it assists an individual to find satisfying, interesting and realistic roles in the society. Vocational guidance is a process of helping a person to know himself, his interest, values abilities of work and its needs so that a person can reach a mature career decision.

Vocational guidance includes activities within schools to help students:

1. Clarify goals, understand the world of work and develop career management skills.
2. Give individual and group guidance to assist with decisions about initial courses of vocational

training, further education and training, initial job choices and job change.

3. The organised and systematic use of community members such as employers to provide educational and occupational advice and information.
4. Print based, computer based or online services to produce and disseminate information about jobs, careers and vocational training to help individuals make career decisions.
5. Well organised vocational guidance services are important both to education systems and the labour markets.

The main objective of the vocational guidance and employment programme is to render continuous assistance to individuals in preparing to choose, change and adjust occupational life, generate awareness and appreciation of the realities of the employment market, to collaborate and to cooperate with other agencies in the field to stimulate and promote joint efforts to enhance their employability.

Vocational training centre should be updated and at par with the demand for the technical requirements from a worker. While undergoing vocational or industrial training the trainees must be provided with the opportunity for visiting actual industries to understand the industrial environment.

Rehabilitation is the ultimate goal of every training, education and guidance programme. In general it signifies that every training programme or educational curriculum should be 'rehab-oriented'. It should also be vocational oriented. There should be arrangements of co-curricular activities which should include training in arts and crafts, industrial arts, learn and earn, mock-shopping, etc. along with the school curriculum. In the context of rapid growth and development of industry, traditional training is not sufficient. So, there is need for vocational guidance because firstly, the world of work is in a state of continuous change. Secondly, the disappearance of some careers and the emergence of new alternative careers. Thirdly, employers need to recruit individuals who are capable of showing their skills and abilities. Fourthly, to assess the needs of the labour market and match them with the needs of the individuals. Fifthly, to avoid unemployment.

In view of the increasing unemployment in the country the promotion of self-employment and decentralized manpower planning have been adopted during the sixth Five Year Plan period to tackle the unemployment problem in the coming years by putting special emphasis on promotion of **self-employment**. To substantiate the needs of the job seekers under a centrally sponsored scheme District Employment Exchanges were strengthened by establishing self-employment promotion cells with certain objectives. They are as follows:

1. To create awareness among job-seekers about the employment market situation and job opportunities
2. To motivate the job seekers to take up self employment ventures
3. To assist them in obtaining necessary inputs required for self-employment ventures from different sources.
4. To maintain co-ordination with various agencies for promotion of self-employment
5. To provide necessary follow-up assistance to the self-employed youth for sustaining them in the market.

The responsibilities for the implementation of the scheme rest with the respective State Governments for Union territories.

There are certain Group Guidance Programmes which perform some special functions like organizing career conferences, exhibitions, and seminars for career campaigns to disseminate occupational information. Coaching classes are organized to develop desired levels of skills, speed and knowledge to increase their employability by preparing the students for competitive examinations or interviews conducted by various recruiting agencies.

Various personal characteristics seem to steer people into self-employment, such as being the oldest child or having parents who were self-employed. Some personality requirements for success as a self-employed workers are confidence, a positive outlook, friendliness and the determination to succeed. Furthermore, education can also play a key role in whether or not a worker is self-employed, although it depends to some extent on how being self-employed is defined.

self-employment of women is one of the most important avenues in establishing oneself in society with all dignity. This field was so long most overlooked. Specialized training should be provided through certain training centres. Women should be given the scope to encounter with various market experiences. For this every training programme should be geared up with appropriate practical programmes with a view to effecting the client-market interaction. Self-employment includes income from a trade or business, hobby, commercial boarding house, rental property or other such income generating sources.

Women who constitute quite a large percentage of the population have been denied opportunities and options for their development. Unemployment and under employment rates are quite high. Empowerment of women is making headway in the field of education, vocational guidance and employment. West Bengal Government has visualized the development of women in difficult circumstances by instilling in them self-confidence, self-esteem and self-reliance by way of opening opportunities of skill upgradation and development to build up their capacity as entrepreneurs and to do away with dependency on others. Uneducated, untrained women constitute a large majority of village population. Alive with this perception of the development of special category of women in rural areas and urban slums, West Bengal Government has been pursuing vocational training in a variety of trades.

For this purpose at present there are several self-employment projects running for women of which mention may be made of the 'Swabalamban Project' and 'Chalaman Bahini' Project. These training programmes should be related with actual practical experiences to make the programme a success. Success of the programme would definitely reduce women unemployment and thus the concept of self-employment will become meaningful.

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A Study on the Relationship of Self-Concept and Study-Habits of Visually Impaired Students in West Bengal

Tapan Kumar Chand

Vision is the most used sense by an individual and individual's cognition depends upon his visual experiences. Impairment imposes three basic limitations on the individual. Visually impaired children are experimentally deprived in terms of range of variety of experiences. Their ability to get along is also limited because of restricted mobility. They are unable to control their own environment and themselves in relation to it. Rationally, it is clear that, impairment in vision affects the all-round development of the visually impaired students in that, the student become aware of the world around him through the sense of hearing, touch and smell. Thus, it affects development patterns in the areas of academic learning, mobility, motor coordination and social maturity; as a consequence the visually impaired students are lagging behind in various fields including academic performances from the sighted peers.

Keywords: Self-concept; Visually impaired; Study-habit.

Keeping this view, the researcher studied the self-concept and study-habits with a broad objective to find out the relationship between the self-concept and study-habits of visually impaired students providing some suggestions to improve the self-concept and study-habits of visually impaired students on the basis of findings.

For achieving the objectives two tests, one for self concept and other for study habit had been administered on 210 visually impaired students (both boys and girls) studied in different classes (VII-X), from different schools for blind in West Bengal. Parametric tests had been employed to test the hypotheses in the study. Finally, on the basis of the statistical results, the researcher tried to make some suggestions useful for further study.

Vision is the most used sense by individual and individual's cognition very much depends upon his visual experiences. Impairment in vision imposes various limitations on the individual. Visually impaired are experimentally deprived in terms of range of variety of experiences. Their ability to get along is also limited because of restricted mobility. They are unable to control their own environment and themselves in relation to it. Rationally it is clear that impairment in vision affects the all-round development of the visually impaired persons, and in the case of visually impaired students it was found that they become aware of the world around them through the senses of hearing, touch and smell. Thus impairment in vision affects development patterns in the areas of academic learning, mobility, motor coordination and social maturity; as a consequence the visually impaired students are lagging behind in various fields including academic performances from the sighted peers.

It was assumed and experimentally proved by various studies that academic achievement is a form of behaviour which is influenced by cognitive factors (intelligence) and besides this, academic motivation, study-habits and self-concept etc. are also the important determiners of this behaviour. Characteristically the visually impaired students are deficient in all cognitive, affective and psychomotor abilities compared to the normal children. According to Mussen, et al. (1979) children with overall high self-concept are confident about their abilities to accomplish their goals, academic competence and relationship with peers. In his study Sahoo, J. (1991) reported the blind children exhibited low self-concept as compared to the normal ones. Another important factor determining the school achievement of a student apart from his ability and motive is study habits. One can recognize the study habits in two ways. It symbolizes general habits for reading, preparing home assignment, cautious about time schedule which are related to personal zeal or motive. On the other hand, it is a systematic habit of the study such as planning of study, study strategy, style of learning, organizing materials, etc.

Where the questions of visually impaired students are concerned it was obvious that they have to formulate certain kind of different habits in order to adjust in the classroom. Gamur (1961) and Jain (1967) reported that study habit is significantly correlated with Achievement. Verma (1996) reported that study habits had significant effect on academic performance in language and social studies, etc.

In the present paper the investigator designed his study to find out the relationship between the two correlates of academic achievement of visually impaired students i.e. self-concept and study-habits.

Objectives of the Study

- (i) To adopt suitable tools for measuring the Self-Concept and Study-habits of visually impaired students.

- (ii) To find out the relationship between the self-concept and study-habits of visually impaired students and
- (iii) To assess the difference between visually impaired boys and girls in respect to their self-concept and study habits.
- (iv) To make some suggestions to improve the self-concept and study-habits of visually impaired students.

Hypotheses

- H₀₁ - Visually impaired Boys and girls do not differ in respect to their self concept.
- H₀₂ - Visually impaired Boys and Girls do not differ in respect to their study-habits.
- H₀₃ - Visually impaired Boys do not differ in respect to their self-concept and study-habit.
- H₀₄ - Visually impaired Girls do not differ in respect to their self-concept and study-habit.
- H₀₅ - Visually impaired Boys and Girls do not differ in respect to their self-concept and study-habits.
- H₀₆ - There is no significant relationship exists between self-concept and study-habits of visually impaired students.

Methodology

(I) sample

The sample of this study consists of 100 visually impaired students (50 Boys and 50 Girls) studied in different classes (vii-x) selected from different schools for Blind in west Bengal.

(II) Tools

In order to assess the self-concept of visually impaired students, the present researcher adopted Mukhopadhyay and Basantia self-concept Questionnaire (MBSCQ, 2005). The said questionnaire comprised of 63 items under six-dimensions named (i) physiological aspects (ii) conceptual aspects (iii) attitudinal aspects (iv) social aspects (v) moral aspects, and (vi) academic aspects. The reliability of this questionnaire was 0.814 (Cronbach Alpha) and test-retest reliability of 0.881, and the validity was content validity on the basis of expert rating. For the purpose of measuring study-habits of the visually impaired students, the researcher adopted Mukhopadhyay Study-Habit Inventory (MSHI 2005), The said inventory comprised of 53 items under seven dimensions namely- (i) concentration for study, (ii) study planning, (iii) learning style, (iv) interaction with educational factors (v) study guidance, (vi) comprehension, and (vii) preparation for evaluation. The reliability of this inventory was 0.847 (Cronbach Alpha) and 0.907 (Test-retest method), and the inventory had face validity, and also intrinsic validity was calculated 0.952.

Procedure

After adopting the tools, the present researcher administered the said tools on visually impaired students. Taking into consideration the inability of reading the printed tools by the visually impaired students under study, the researcher with the help of a tape recorder recorded the said questionnaire and inventory in a tape cassette, and at the time of administration the recorded cassette was played. The sample was tested individually and the responses given by the sample against each item were recorded on answer sheets manually by the researcher.

Analysis

Descriptive analysis (Mean, Median, Standard Deviation, and Skew-ness) were calculated separately for visually impaired Boys and Girls and also for total sample for two tests.

To see whether the mean difference is significant or not, 't-test' was applied for two tests.

To find out the relationship between two variables namely self-concept and study-habits, product moment coefficient of correlation was calculated.

Table 1. Shows the value of descriptive analysis.

	Gender	N	Mean	Median	Standard Deviation	Skew ness
MBSCQ	Boys	50	151.34	152.00	12.64	
	Girls	50	154.24	155.00	13.68	
	Total	100	152.79	153.00	13.28	- 0.105
MSHI	Boys	50	117.40	118.00	16.02	
	Girls	50	123.40	123.5	12.68	
	Total	100	120.22	122.00	14.65	0.113

Table-1

From the result of descriptive analysis (Table-1) it is seen that visually impaired Girls perceived better self-concept than visually impaired Boys, and their distribution of scores for self-concept is slightly negatively skewed. For study-habits, the visually impaired Girls perceived better study-habits than the visually impaired Boys of their group, and their distribution of the score for study habits is slightly positively skewed.

To see whether the mean difference is significant or not t-test is applied, and the result is given in the following Table-2.

Variables	Gender	N	t-value	df	Level of Significance
MBSCQ	Boys	50	1.094	98	Not significant at 0.05 level
	Girls	50			
MSHI	Boys	50	1.958	98	Not significant at 0.05 level
	Girls	50			
MBSCQ & MSHI	Boys	50	11.74*	98	*Significant at 0.01 level
	Boys	50			
MBSCQ & MSHI	Girls	50	11.77*	98	*Significant at 0.01 level
	Girls	50			
MBSCQ	(B & G)	100	16.53*	198	*Significant at 0.01 Level
MSHI	(B & G)	100			

Table-2.

From the t-test for the self-concept of visually impaired Boys and Girls it is seen that the t-value is not significant at the 0.05 level. Thus, the H_{01} -i.e. "Visually impaired Boys and Girls do not differ in respect to their self-concept" is retained. From the t-test for study-habits of visually impaired Boys & Girls it is found that the t-value is not significant at the 0.05 level. So, the H_{02} -i.e. "Visually impaired Boys and Girls do not differ in respect to their study-habits" is retained. From the t-test for self-concept and study habits of visually impaired Boys, it is seen that the t-value is significant at 0.01 level. Thus, the H_{03} -i.e. "Visually impaired Boys do not differ in respect to their self-concept and study-habits" is retained. From the t-test for self-concept and study-habits of visually impaired Girls, it is found that the t-value is significant at 0.01 level. Thus the H_{04} -i.e. "Visually impaired Girls do not differ in respect to their self-concept and study-habits" is retained. From the t-test for Self-Concept and Study-Habits of visually impaired students (Boys and Girls) it is found that the t-value is significant at the 0.01 level. So, the H_{05} -i.e. "Visually impaired Boys and Girls do not differ in respect to their self-concept and study habits", is rejected.

To see whether any relationship exists between the self-concept and study-habits of visually impaired students, the product moment coefficient of correlation is calculated, and the result is given in the Table 3.

Table 3. Shows the correlation between Self-concept and Study-habits of visually impaired students

	Pearson's Correlation	MSHI
MBSCQ		0.472**
N		100

Table-3

* Correlation significant at the .01 level (two-tailed)

From Table - 3, it is seen that the coefficient of correlation is 0.472, which is significant at the 0.01 level. Thus, the H_{0c} -i.e. "There is no significant relationship exists between self-concept and study-habits of visually impaired students", is rejected.

Statistics reveals that :

1. Visually impaired Boys and Girls do not differ significantly in respect to their self-concept.
2. Visually impaired Boys and Girls do not differ significantly in respect to their study-habits.
3. Visually impaired Boys significantly differ in respect to their self-concept and study-habit.
4. Visually impaired Girls significantly differ in respect to their self-concept and study-habit.
5. Visually impaired students (Boys and Girls) differ significantly in respect to their self-concept and study-habits.
6. Significant relationship exist between the self-concept and study-habits of visually impaired students.

Conclusion

The significant relationship between the self-concept and study-habits assures that the self-concept of visually impaired students affects their study-habits or vice-versa which ultimately might affect the academic achievement of the students. Thus, development of higher

self-concept among the visually impaired students will be helpful for developing better study-habits and accordingly their academic achievement might be improved. So, teachers, parents, academic planners and social workers should take proper care to develop self-confidence, positive attitude towards himself or herself, healthy attitude towards others and favourable attitude to academic learning of visually impaired students to develop their self-concept and to lessen their inferiority feelings due to their impairment, which will ultimately result in the better self-concept development of the said students. This will also be helpful for making the path easier for inclusion.

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A Survey of Injuries and their Preventive Measures among Soccer Players of West Bengal Soccer Clubs

Dr. Deba Prasad Sahu

Soccer is characterised by a high intensity intermittent, ball and contact sport. It causes players to be injury-prone. The purpose of the present study was to investigate about common injuries among players of West Bengal soccer clubs and their preventive measures taken thereof. Two hundred and ten soccer players, coaches and officials of ten clubs served as subjects of the study. Selected sports injuries were sprain, strain, contusion, abrasion, dislocation and fracture. For collection of data questionnaire method was adopted. The percentage analysis was employed for the analysis of data.

The study revealed numerous facts:

(i) Soccer players were affected in a highest percentage by dislocation (55%), followed by sprain and abrasion of knees; lower back strain; sprain of ankles; abrasion of thighs and head injury by contusion.

(ii) 54.4% players had awareness of mechanical principles that might help to prevent injuries; a high percentage of players avoided injuries followed the regulations of the game whereas 39.4% players realized that they did not use common sense to prevent injuries while playing.

(iii) 53.3% coaches and doctors emphasised on conditioning and strengthening of muscles. 30% put stress on preventive gadgets and 16.7% laid emphasis on proper warming up.

Keywords : Contusion of head; Sprain in knees; Physiotherapy; Warm up.

Introduction

Soccer is characterised as high intensity, intermittent, ball and contact sport. Its fast and vigorous nature requires accelerating sprint, rough tackling, and power of kicking and endurance to sustain

Dr. Deba Prasad Sahu

Lecturer in Physical Education,

Ramakrishna Mission Brahmananda College of Education, Rahara, W.B.

skillful play for ninety minutes causing the players injury prone. Medical treatment of injuries is of prime importance in this era. Not only to optimise regaining performance of soccer, should adequate care of injury players be insured to avoid future fatal conditions for the welfare of player. Keeping in view the increased popularity of soccer in India and its prevailing status in our country, it was deemed responsible to investigate on soccer injuries and their preventive measures among soccer players of West Bengal Soccer Club.

Purpose of the Study

The purpose of the study was to survey of selected sports injuries and their preventive measures among soccer players of West Bengal soccer clubs.

Delimitations

1. The study was delimited to ten soccer clubs of West Bengal.
2. The study was again delimited to eighteen players of each ten soccer clubs, their coaches, assistant coaches and doctors.
3. The study was delimited to the survey of selected sports injuries like sprain, strain, contusion, abrasion, dislocation and fracture of the following areas: ankle, knee, hip, wrist, shoulder, back, thigh, calf, head and neck.
4. The study was conducted through questionnaire method.

Limitations

1. The study was undertaken using questionnaire method, so it could be considered as a limitation of the study.
2. The unreported injuries and any appropriate response of the player(s) without furnishing exact details of the injuries may be considered as limitation of the study.

Methodology

Two hundred ten soccer players, coaches, assistant coaches and doctors of ten West Bengal Soccer Clubs served as subjects of the study. The variables selected for this study were sprain, strain, contusion, abrasion, dislocation and fracture. A set of thirty five questions for soccer players and fifteen questions for coaches and doctors was constructed for collection of data. The percentage analysis was employed for analysis of data.

Findings

The questionnaire on survey of soccer injury comprising 50 questions was employed on soccer players, coaches and doctors of West Bengal soccer clubs and categorized into 4 dimensions:

- (i) Occurrence of Injury and Anatomical Area.
- (ii) Management of Injury and Treatment.

- (iii) Preventive Measures
- (iv) Awareness and Education

Occurrence of Injury and Anatomical Area

- 43.3% West Bengal soccer players were injured during competition while 56.7% during training period.
- Injury of soccer players mostly took place out of collision (47.8%) and partly for the lack of physical fitness (32.8%). Out of 180 soccer players 44.4% suffered from bone injury and 37.8% from muscle injury while joint injury was reported comparatively less i.e, of 17.8%.
- Out of selected injuries, strain affected the lower back of soccer players at the highest rate (45.6%) followed by calf injury of 33.9%. Strain in neck and thigh region were considerably low.
- Highest rate of sprain was observed in knees of soccer players (51.1%), the ankle had moderate rate of sprain (31.1%), while the hip and wrist found least prone towards sprain.
- 46.1% West Bengal soccer players injured their knees by abrasion followed by 37.2% soccer players injured their thigh by abrasion, whereas elbow and shoulder were found least prone towards abrasion.
- Among the selected soccer players the maximum of 52.8% players injured their head by contusion followed by 31.1% players injured their legs whereas minimum of 16.1% injured their face by contusion.
- Maximum of 55% soccer players dislocated their knees while playing football, 29.4% players dislocated their ankle, whereas only 15.6% players suffer shoulder dislocation while playing football.
- Among the selected injuries fracture affected the ankle of soccer players at the highest rate (55.6%) followed by fracture of shin bone 25% players.
- A high percentage of players (62.2%) of leading soccer clubs had complicated injury.

Management of Injury and Treatment

- 65% of players found unable to manage general injuries of their own.
- 100 % of the selected coaches and doctors provide first aid to their players after any type of injury. Assessing nature of injury 43.30% of players were advised to consult physiotherapists, by club doctors while 36.70% advised their players to consult orthopedics and 13.30% were advised to meet medical expert and only 6.70% were advised to consult general physicians.
- 62.2% players had to face economic problem to access to treating injuries as referred case.

Preventive Measures

- 54.4% players had awareness of mechanical principles that helped them in prevention of injuries during training session and competition however 45.6% players did not have such awareness.
- 100% soccer players were aware of proper warming up and limbering down exercises, use of proper kits to prevent injuries.
- While playing 64.4% players always followed the rules of the game to avoid injuries, whereas 39.4% players did not use common sense while playing to prevent injuries.
- 62.2% players agreed that their fellow players used to follow proper safety measures in the training session and in the friendly matches to prevent injuries.
- For the prevention of injury 63.30% doctors were satisfied that their club's coach gave specific warm up exercises in training and 53.30% doctors used to advise their coaches about various preventive exercises/measures and rest 46.70% doctors did not interfere in the coaches training.
- 70% of the coaches and doctors were very active and they periodically tested the fitness level of their players during training session and 66.70% coaches and doctors even gave preventive conditioning exercises.
- To avoid injury among the players 53.30% coaches and doctors emphasized on conditioning and strengthening of muscles, 30% put stress on preventive gadgets and rest 16.70% on proper warming up.

Awareness and Education

- A relatively high percentage of 66.7% soccer players of leading Indian soccer clubs had injury awareness so far as reasons for injury were concerned.
- 67.2% of players had knowledge to understand the effect of injury to end their playing carrier.
- It was observed that 72.8% players tested their injured part before re-entering the training or competition.

Discussion

Soccer players of West Bengal mostly suffered from bone injury followed by muscle injury and joint injury. This might have the reason for aggressive tackling by players or foul play. The ground surface could also be responsible for that.

To prevent occurrence of soccer injuries good measures were taken by the players themselves, the coaches, the doctors and management itself. However, the study revealed that 100% effort and supervision to avoid players' injuries were not provided. As a result a gross percentage of more than 40% of players were left without adequate prevention so far as knowledge and practice are concerned. This might be due to the lack of emphasis on precautionary measures and continuous supervision by the concerned person as well as the education of the players themselves. So far as awareness and education of soccer players about injuries are concerned, it was revealed that inspite of being the member of elite clubs of India 100% of their players were not aware of sports injuries.

Conclusions

Within the limitations of the study the conclusions may be drawn following:

1. Out of selected injuries the highest rate of injuries of soccer players was fracture in ankle followed by dislocation of knees, contusion of heads and sprain in knees.
2. Management of injuries by the player themselves was in poor rate.
3. A high percentage of players of West Bengal clubs with complicated injury were treated by the physician of the club. However the players were referred to specialist doctors as and when necessary.
4. A certain percentage of players had awareness of mechanical principles that helped in prevention of injuries while relatively a high percentage of players had lack of such knowledge.
5. 100% selected players had knowledge of proper warming up limbering down exercises and use of proper kit to prevent injuries.
6. Half of the selected team coaches and doctors demanded more facilities in their respective clubs for treating their injured soccer players.
7. A high percentage of doctors and coaches aspired for more physiotherapy facilities in their clubs for the better treatment of their players.

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An Introduction to Pedagogical Content Knowledge (PCK): Lee Shulman's View

Malayendu Dinda

This article deals with an overview of Lee Shulman's concept of Pedagogical Content Knowledge (PCK). It is a new critical paradigm in the field of teacher education. PCK is an amalgam of general pedagogy and subject matter knowledge (SMK) or content knowledge and it involves a smooth transformation of other types of knowledge (e.g. pedagogical knowledge, knowledge of context, knowledge of students misconception, etc.) into viable instruction. In other words, PCK refers to the ways of representing and formulating the subject that makes it comprehensible to others. For the last twenty years researchers are working on this theory but many aspects of PCK still remain unexplored. In near future it will be possible to say how effective PCK is in explaining various aspects of teacher knowledge.

Keywords: General pedagogy; Content knowledge; Pedagogical content knowledge; Teacher knowledge.

The hallowed goal of any teacher education programme is to produce good teachers who are professionally skilled and efficient. In order to be a good teacher, beside other things like one's idea of students' psychology, students' style of learning, classroom management, assessment, etc., one needs to have a strong knowledge base of teaching. A good teacher, when he enters a classroom, considers the following well before teaching his lesson:

- * What to teach (Content)?
- * Why to teach (Objectives)?

Malayendu Dinda

Senior Lecturer (English)

Ramakrishna Mission Brahmananda College of Education, Rahara, Kolkata - 118.

E-mail : malayendu_dinda @ yahoo.co.in or dinda.malayendu@gmail.com

- * How to teach (Strategy)?
- * How to evaluate the students (Assessment)?

Infact, these four concerns form the foundation of Teacher Knowledge (TK).

Now, TK is categorised into three parts:

1. **Pedagogical Knowledge (PK):** (i.e. how best to present a subject, managing the classroom, instructional techniques, etc.)
2. **Content Knowledge (CK) or Subject Matter Knowledge (SMK):** (i.e. basic content to be taught, facts, structures, beliefs, etc.)
3. **Pedagogical Content Knowledge (PCK):** (i.e. how you can make a subject/topic understandable to others, principles and strategies applicable to a particular subject/topic)

Let us now discuss these three basic concepts of Teacher Knowledge one by one:

1. Pedagogical Knowledge (PK)

Pedagogical Knowledge generally refers to three aspects of general pedagogy.

They are:

- (a) general principles of teaching
- (b) knowledge about instructional strategies
- (c) knowledge about learners and learning

(a) General Principles of Teaching

It considers how the basic principles and strategies of a subject are best acquired and retained.

The following questions relate to the pedagogical knowledge:

- * Is a teacher sufficiently prepared in a subject to introduce it nicely?
- * Is he aware of the sub-skills of teaching like explaining, questioning, using blackboard, reinforcing, closing a chapter, etc.?
- * What is the best way to teach the core elements of the topic?
- * What is the role of the personality of teacher in a class?
- * How does he adapt himself to the motto or the philosophy of the school?
- * How does he manage the classroom?
- * How does he assess his students?

(b) Instructional Strategy

It denotes how a teacher structures his activities in his classroom. A teacher must have a number of strategies for teaching as he has to cater to the different demands of the students of different calibre or level. He should know how to switch from one strategy to another with the change of the subject / topic or the level of the students if he wants to facilitate meaningful learning for his students.

(c) **Knowledge about Learners and Learning**

It relates to the teacher's knowledge of the background of the students (their family, parentage, socio-economic condition, home environment, etc.) their cognitive abilities, their style of thinking and learning, etc. Depending on his attitude towards the learners and learning, a teacher may follow either a teacher-centric approach or a student-mediated approach towards teaching. If the teacher believes in a student-mediated process he will create proper situation where under the teacher's guidance students will solve problems by using their own interpretations based on their personality, choice, cognitive ability and personal experiences of the world.

2. **Content Knowledge (CK)**

It refers to a teacher's understanding of a subject / topic when compared with that of an expert on that subject. In other words, it will not suffice a teacher to know the core content with the basic facts and information. Rather he will try to know how the content is organised, developed and 'put together'. Further, he will acquire familiarity with the dominant ideas that are emerging in the allied subjects and keep himself up-to-date with the current researches in his own subject.

Then, an obvious question crops up: Does the knowledge of content influence one's teaching? The answer is an emphatic 'yes'. If a teacher's knowledge is lacking in content he himself has to study more or if he feels that he has the required depth of knowledge he may try to give more than what the students require. A teacher, on the other hand, who feels shaky may overlook the critical concepts and complex ideas and as a result the students will not comprehend the whole of the lesson. All said and done, one question still remains: How much and what should a teacher know of what he teaches? Ideally, the answer is that a teacher should acquire knowledge as much as he can but he should impart it according to the demand, requirement, and level of the students. In this context we must not forget the common definition of a good teacher which says: "A good teacher is he who can raise or lower his standard while teaching according to the ability of the students". Nevertheless he should prepare himself in such a way that he will face any challenging question boldly and answer it satisfactorily. Finally, recent researches show that more knowledgeable teachers can detect the problem areas of the students better and find out appropriate techniques to make their students' learning 'meaningful'.

3. **Pedagogical Content Knowledge (PCK)**

This is a new concept in the field of teacher education. The concept is first enunciated by Lee Shulman (1986, '87) and his associates. Shulman has popularised the idea of 'Pedagogical Content Knowledge' or PCK (henceforth it will be referred to as PCK). PCK refers to the most appealing manner in which a teacher organises and presents his content—using stories,

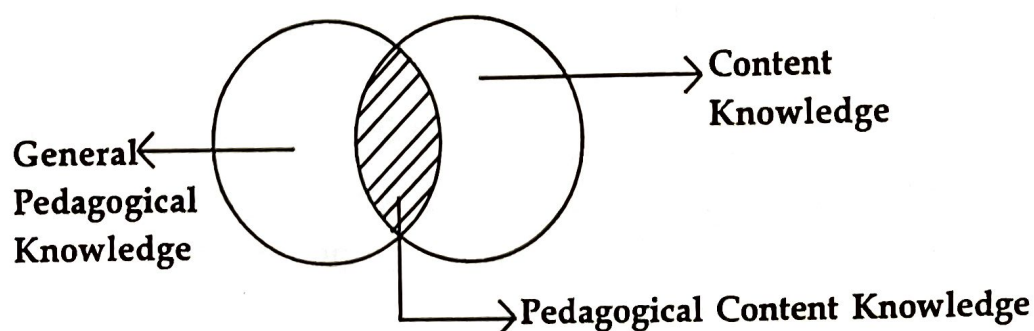
exploiting text book material and extra-textual material, employing teaching aids, workbooks, computer, multimedia, etc.

Now let us turn towards PCK and discuss it in detail.

Shulman (1986, 1987) conceptualised PCK as including 'the most powerful analogies, illustrations, examples, explanations, and demonstrations –in a word, the ways of representing and formulating the subject that makes it comprehensible for others' (1986, p.g). It was 'the category [of teacher knowledge] most likely to distinguish the understanding of the content specialist from that of the pedagogue' (1987, p.8). Shulman claimed that teachers need strong PCK to be the best possible teachers. He strongly believes that teachers have a unique way of looking at practice and Shulman asserts that an examination of teachers' pedagogical thinking will reveal what teachers must know to best teach their content to their students (Berry, 1272).

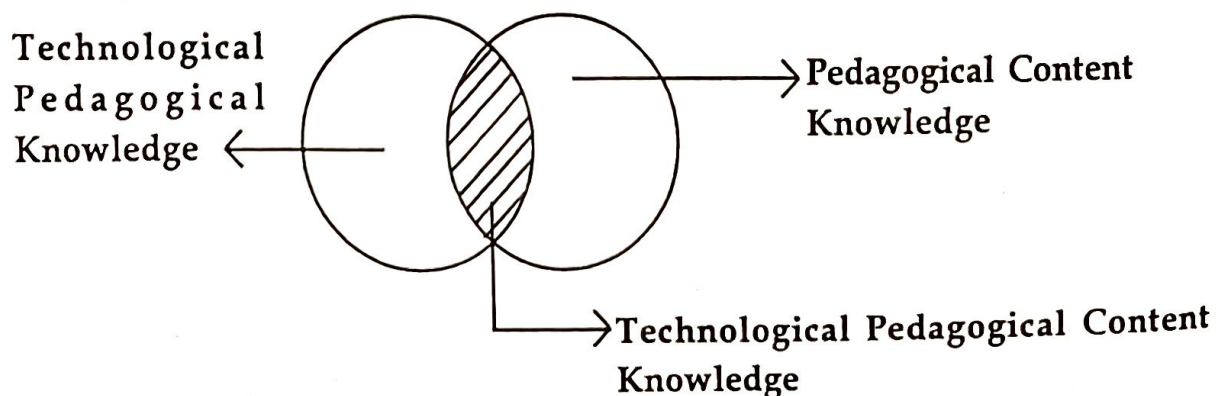
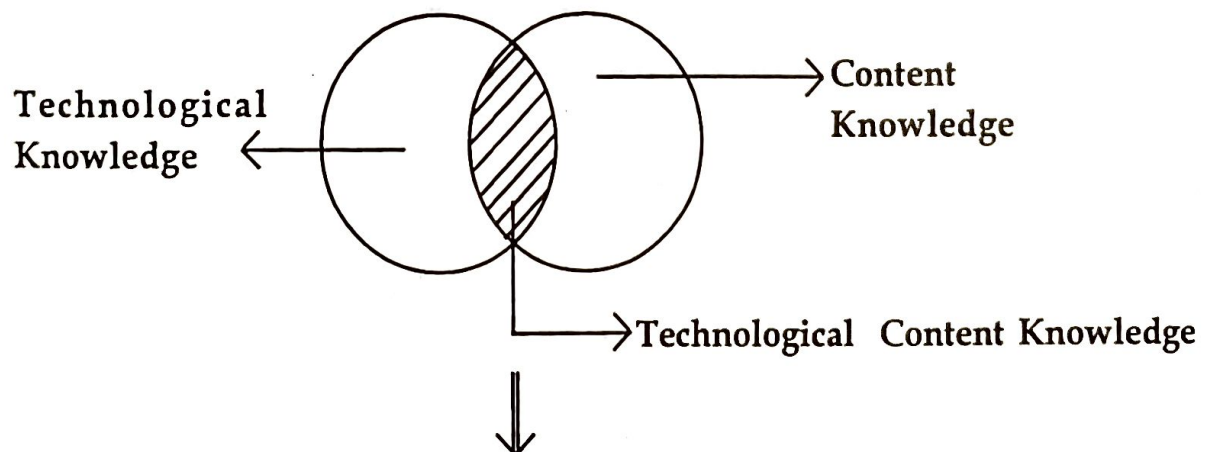
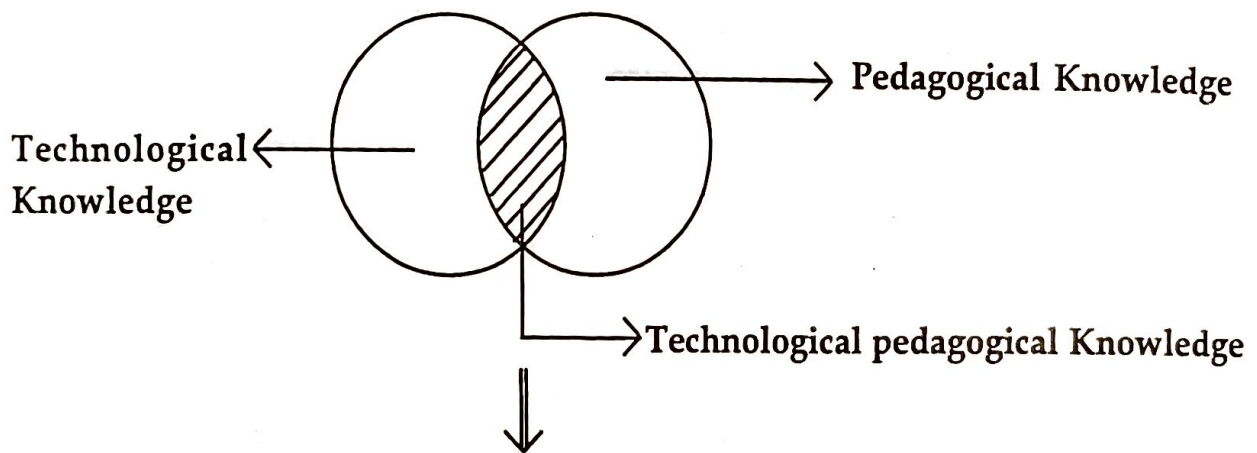
Shulman regrets that teachers subject knowledge and general pedagogy are being treated as mutually exclusive domains in the research of teacher education. The consequence of such segregation is the arrangement of teacher education programme in which there is dominant focus either on subject matter (content) or on pedagogy. In order to amalgamate the two, i.e. 'content' and 'pedagogy' Shulman puts forward his theory of PCK to consider their mutual relationship.

In short, PCK implies knowing which approach of teaching suits the content and how the elements of the content can be ordered and reordered for better teaching. This knowledge is different from the knowledge of the expert in the field as well as from the general pedagogical knowledge shared by teachers of all other disciplines. PCK as Shulman says is not an 'amalgam of content and pedagogy that is uniquely the providence of teachers' (1987, p.8). According to him and his followers, PCK involves the transformation of other types of knowledge (Subject matter knowledge, pedagogical knowledge, knowledge of the context, knowledge



of the students' prior knowledge, misconceptions they bring into the class, etc.) into viable instruction.

From the above description it is understood that PCK exists at the intersection of content and pedagogy. This is shown in the following diagrams:



Thus, the instruction between GPK and CK represents the PCK which is a kind of interplay between pedagogy and content. In Shulman's words: This instruction contains within it, "the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations – in a word, the ways of representing and formulating the subject that make it comprehensible to others (1986, p.9).

Shulman's theory has been later expanded later by others. For example, Shulman did not include 'technology' and its relationship to content and pedagogy, though technology occupies a central position in his theory. Thus, by applying 'technology' in regulation to 'pedagogy' we have the concept of Technological Pedagogical Knowledge (TKP), to 'content' as Technological Content Knowledge (TCK), and jointly as Technological Pedagogical Content Knowledge (TPCK).

Features of PCK

Shulman and his associates consider PCK as a theoretical framework. According to Shulman's original ideas (Shulman himself proposes multiple characteristics in different publications in different times), PCK has four important characteristics:

- (a) PCK includes discrete categories of knowledge that are applied synergistically to problems of practice.
- (b) PCK is dynamic, not static.
- (c) Content (subject matter knowledge) is central to PCK.
- (d) PCK involves the transformation of other types of knowledge.

Shulman on PCK : an Interview

I have come across an interview with Shulman where the theorist of PCK himself has talked about the various issues of PCK. The said interview was conducted by the editors at the Annual Meeting of the American Educational Research Association, Chicago, in April 2007. The transcript has been edited to highlight the basic features of PCK, its origin and development. Now the transcribed version of the interview follows:

Introducing the Notion of PCK

My intention was to call attention to a gap in the field, to a missing place, and to orient people to start to look for what was missing and try to fill it in. I wasn't claiming that I was ready to fill it in by any means and so I think if you ask what the motivations were and what the sources were, here's where you almost have to distinguish between conscious and unconscious minds ... In the seventies, I had done a lot of empirical work on medical diagnosis and one of our most striking findings ... was that there was no such thing as general diagnostic ability. It was a myth. Physicians were good at diagnosing things that they were good at diagnosing

and that had a lot to do with those areas of medicine that they both knew the best, and had the most experience with, and had the best supervision in and for which they knew the literature. So someone who was an absolute cracker jack diagnostician, when presented with cases of cardio-vascular disease might look like an utter stumble-bum presented with a case of rheumatology or neurology of skeletal disease; and this was a major finding in our model of medical problem solving.

When I got to Stanford in 1982 I wasn't concretely thinking about our experience in medicine but I did have this sense and I'm trying to remember why ... I can't, there's no moment or epiphany ... but at some point I got really unhappy with the fact that I couldn't find any real literature on the research on the teaching field that placed the content at all in the picture; it just wasn't there ... so that Clark and Yinger (1979) were ... about planning, [but] not about how planning for mathematics and planning for history might in fact be different and why.

I was writing the opening chapter of the Third Handbook of Research on Teaching, Paradigms and Research Programs in the Study of Teaching and so I was having to read all this literature and you know when you read lots and lots of words ... you at least have an opportunity to get a sense that there is something missing there. So I remember so vividly, I was giving a talk at the University of Texas and I called the talk 'The Missing Paradigm of Research on Teaching'.

The Missing Paradigm

What I meant was content. And so I began to talk. There were probably a hundred people there and I said, 'What do you think I have in mind; what's the "missing paradigm"? A hundred people generated a host of ideas; not one mentioned content. Not a single person in 1983. And so even in the Handbook chapter, at the end, I started referring to the 'missing paradigm', and then when it came time to develop my AERA presidential address, again I started thinking real, real hard about that.

By then I had received funding from the Spencer Foundation to do what we called the 'Teacher Knowledge Project'. Because of this growing concern about content, the way we phrased the animating question for that project was: 'How does somebody that really knows something, teach it to somebody who doesn't?' Simple as you can get. So, somebody who really knows Macbeth, how do they teach it to somebody that doesn't? Or somebody who really knows evolutionary theory, what do they do if they have to teach it to somebody that not only that doesn't know, but if he or she did, wouldn't believe it ... Thinking like that meant that we had to do these studies subject by subject and it just happened that at Stanford

we prepare teachers, all secondary, in Science, Math, English and Social Studies and I just happened to have wonderful doctoral students in each of those areas ... There was Pam Grossman, Sam Wineburg, Bill Carlsen, Maher Hashweh, Suzanne Wilson, Anna Richert, Rick Marks and the late Sigrun Gudmundsdottir, all of whom did very important work on PCK, some really great folks.

We rapidly came to reformulate the core idea away from the bare 'how does one's understanding of something connect to how well they understand it for teaching?' to a much more nuanced 'how do the variety of ways in which teachers understand, interpret and make sense of their subject affect their teaching, planning, etc?' Thus, Pam Grossman and Bill Carlsen's work, each dealt with how the variations of understanding WITHIN a subject affected teachers' teaching. Bill looked in science at the ways in which teachers' variations of understanding within the same Biology course (between, say, genetics and plant physiology) affected the differences in how they taught those topics within the same course. Pam looked at English teachers when they taught literature and when they taught grammar. Hashweh looked at middle school science teachers teaching lessons in Biology and on levers and simple machines when some were trained in physics and others in biology.

Through these studies it became really clear how powerful the influence of the way teachers understood the subject was on how they taught. But it wasn't a simple additive relationship. In the research group we began talking about the interaction. I don't recall whether I even used the phrase Pedagogical Content Knowledge in the first piece (Shulman, 1986b) but the one we did the next year which was Knowledge and Teaching (Shulman, 1987) does, I think, explicitly use the term. So the idea sort of grew slowly but the emphasis definitely was on this growing sense that emerged from our research that just knowing the content well was really important, just knowing general pedagogy was really important and yet when you added the two together, you didn't get the teacher.

We were also doing studies of very accomplished teachers [at that time] and they had something different going on as well, so in positing Pedagogical Content Knowledge, I have sometimes compared it to astronomers who look at perturbations in some planetary orbits and then hypothesised Pluto or Neptune or whatever, that was that kind of the format. It turned out to be highly generative; people were able to take the idea and it helped them generate new questions. They started looking at supervision differently, they started looking at assessment differently ... I mean the test of an idea isn't whether it's true, it's whether it's generative.

But then the next thing that happened ... is when Gray Sykes and I were asked to write a policy paper on whether something called a National Board would make sense in teaching, and the formulation again that underlies our work that led to

the National Board was: 'What is it that a teacher knows and is able to do that a specialist in the subject matter that that teacher is teaching, no matter how smart they are, doesn't understand and can't do?' Then we realised the other end that we could ask: 'What is it that a mathematics teacher can do and understand that a history teacher can't? So that's sort of the cognitive or intellectual representation of the question.

The Political Act

But creating a National Board for teaching was also a political act and I remember quite vividly reading a front page story in the Washington Post one morning ... There was a feature story written by a woman journalist who went in and without any preparation at all, took the National Teachers' Examination - which was then published by Educational Testing Service. Two months later she learnt she had passed. She never studied education, she never intended to and the title [of the article] was 'If I can pass this Test' ... and her challenge was, if I can pass this test and this is what measures whether or not someone can teach, is there anything to this field? I mean why do we have teacher training programs; why do we have licensure if anyone can pass this? And so the political version of the question became: 'What are the sorts of things that only teachers know? That only teachers can do?' Even if you've got a Ph.D. in a field, or if you're an ordained clergy or a social worker or psychotherapist or whatever, there is something about what the really accomplished teacher of writing or reading ... knows and is able to do that is a singular professional accomplishment of our profession? So that became in a sense the political weapon and it's why when we started in 1985 doing the Teacher Assessment Project, that became the National Board, why there wasn't [just] one National Board exam.

We laid out over thirty of them because we began with the notion of a grid that crossed subject matter domains with maturation level of the students and of course you could have had a third dimension of context for teaching, but the fact is there's just no limit ... and in fact the context got incorporated. One of the reasons in the Board work, why in 1987 we moved to much more of a portfolio based assessment was that the way to get the context in which you couldn't do if you did it all with everybody taking a common kind of exam even though in was pedagogical content ... but the reason you've got so many Board assessments and certificates - at least from our perspective - was triggered by the notion that the pedagogy of high school mathematics is not the pedagogy of ... primary mathematics much less, of middle school literature and thing like that. So that was the political piece; that we would not be able to establish the political integrity of teaching if we could not make

the supportable claim that teachers knew how to do things that other people couldn't do.

Bringing Subject Matter Teaching Together

I've now been out of teacher education for ten years, so it's not like the old days when I was deeply immersed in doing it and in preparing graduate students to do it, so I'm a little distant from it now. However, my general sense is that, first of all there is the observation about elementary teacher preparation which remains very, very important, but that American elementary school teacher trainees (and this claim is limited to elementary school trainees only) are sinfully under-prepared for the content they teach, with mathematics heading the list. They enter teacher preparation phobic about mathematics and they leave phobic about mathematics ... Science, very similar ... tragically there's two field whose beauty and power is so fundamental ... and nothing is done in most teacher education programs to confront that. It's treated as a given, and if there is anything you can absolutely count on, and I'll say this dogmatically, *a teacher who does not both understand and have a real affection for a subject will never be able to teach it well* ... so many elementary teachers model a kind of math anxiety and one of the things we saw too, if you look at some early Pam Grossman for example and also early Bill Carlsen, *one of the consequences of weak subject matter preparation and a sense that one is weak in it, is that it leads to rigid pedagogy...* Pedagogy that is highly didactic that leaves students very little opportunity to break out of the path because you're afraid that ... if you leave the well trodden path... you'll get eaten by a bear. And so this really has lots of consequences. So my sense is we have not made a lot of progress at the elementary level and, as I say, it's worst in science and math. It is best where it always was best which is in reading and writing. That is where elementary teachers are most comfortable and the pedagogy of reading and of writing, is a perfect example of PCK...

As I thought, and now think about PCK, I thought a lot about biology. One of the reasons I thought a lot about biology was because I spent a number of years writing with Pinchas Tamir. We did the second Handbook (Shulman & Tamir, 1973) and so I wrote about natural science. I often had really smart doctoral students who were doing science. I was a student of Joe Schwab who was a biologist, and so I have just kind of thought in those terms. And I was particularly interested in evolutionary theory because my mentors... all persuaded me that evolutionary theory is the absolute centrepiece, the pivot point of modern biology. If you don't understand these conceptions of mutation of organisms and interactions and all that stuff you...

can't understand biology... And that it doesn't have anything to do with Genesis or not ... But at the same time, as a cognitive psychologist, I understood how complex it was to teach and learn that set of ideas and again, it has very little to do with whether your students are fundamentalists or not, and much more with the enormous complexity of overcoming a predisposition to thinking about design, how enormously difficult it is when you think about chance as part of a model and all this stuff. Well that's why the pedagogy of biology is an example of PCK. because you've got to deeply understand what it is that makes evolutionary theory and evolutionary analysis of the world, whether you think ecologically or cellularly, what makes it difficult, and then what the variety of misunderstandings students might have, with the resilience of their misunderstandings... They'll pass your test and then three weeks later you give them a little questionnaire that asks them to: 'Explain the idea of bacteria that develop a resistance to antibiotics' and they'll give you a classic Lamarckian interpretation ... That's an example. There's a big idea that's sitting in the middle of the field. I would spend three or four weeks of a methods course just on that and talk about analogies, metaphors, examples, how you challenge students' faith in design and then begin to work out from that into the structure of biology and say: 'Why is this important in understanding principles of ecology?' And students are very interested in: 'What's this to do with toxic waste disposal or global warming? That's a separate topic right?'. Wrong ... So that would be an example of a PCK driven course.

PCK and the Teacher Role

One of the things that Judy [Shulman] pointed out to me about the National Board Standards which I never appreciated at the time, is that teachers who become candidates and actually read these standards, and some of the examples associated with the standards will often say: 'Ah this is so helpful. I just never imagined that this is something I as a teacher really ought to be responsible for doing, it never occurred to me.' And as they prepare for Board certification they now get intentional and selfconscious about it and then they report that once they're certified, it isn't something they then give up, but what's changed is their conception of the teacher role and the teacher responsibilities...

From Shulman's interview, we find that he has made a strong claim of the generative nature of PCK. In this regard Shulman has reiterated:

People were able to take the idea and it helped them generate new questions. They started looking at supervision differently, they started looking at assessment differently.

(quoted in Berry, 1277).

Thus, PCK was one way of opening up new possibilities for looking into, and better understanding the skills, knowledge and ability of expert teachers, it offered a way of examining the sorts of things that only teachers know, [that] only teachers can do' (Berry, 1277).

Conclusion

PCK is chiefly considered as a theoretical framework to investigate the teacher knowledge in the field of educational research especially in teacher education. It has been known to us only for the last twenty years. Though many researches have been conducted on several aspects of PCK, many questions still remain unanswered or unexplored. We do not know what PCK science or literature teachers have, or how do they come to have it. We still do not know enough how the content knowledge is transformed smoothly that makes difficult concept easy to the learners. Till date PCK researches are mainly descriptive but we can expect that in near future, PCK will be a useful predictor for teacher educations. Further researches on "PCK will lend us to better understand the kinds of knowledge that experienced teachers use when they plan and carry out instructions, which in turn informs us as we define goals for programs and courses in ... teacher preparation or professional development" (Abell, 1413).

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Sanskrit and Indian Culture

Sri Surajit Banerjee
Dr. Braja Kishore Swain

Sam̐skṛta and *saṁskṛti* are the two sides of a coin. The very notion of India is hardly conceivable without Sanskrit, which has symbolized and cemented unity of Indian culture and history throughout several millenniums. Only this language is the root of almost all the Indian languages. It is also the treasure house of our historic past. It is a pity that though several commissions like Radhakrishnan Commission, Bhabatosh Dutta Commission and Sanskrit Commission have recommended for this language, Sanskrit is utterly neglected in our country. Besides being used as a mine and store house of Indian cultural tradition and a most scientifically oriented classical language, Sanskrit can be used and considered as a bridge to gulf between technical and spiritual education. As long as there is India and its culture so long will Sanskrit there be. We cannot think of India without thinking of this great language.

Keywords: Culture; Heritage; Sanskrit; *saṁskṛti*.

The oldest literary documents of Indo-Aryan are the *Veda*-s. The Vedic literature is very vast and of the extent, four branches, viz. *R̥g*, *Yajus*, *Sāma* and *Atharva*, are held important and represent the four offices of the priests in the sacrificial rites. Each Veda has to its credit the *Brāhmaṇa*-s which are the earliest commentaries on the *Veda*-s and on problems of God and origin of humanity, and lastly the *Upaniṣad*-s, the early philosophical treatises that are the sources of later philosophical systems.

Sri Surajit Banerjee
Research Scholar, Lecturer (Part Time),
Ramakrishna Mission Sikshanamandira, Belur Math, Howrah - 711 202.
E-Mail : rkmsm@rediffmail.com
Prof. Dr. Braja Kishore Swain
Professor of Dharmaśāstra,
Sri Jagannath Sanskrit University.

The desire to preserve intact the Vedic tradition gave rise to the science of phonetics : *Śikṣā*, the science of etymology : *Nirukta*, the science of grammar : *Vyākaraṇa*, and the science of prosody : *Chandas*. The ritualistic aspect of the Veda-s helped developing the science of astronomy : *Jyotiṣa*, and the science of ritual : *Kalpa* which in turn gave rise to the later socio-religious literature called the *Śrauta*, *Gr̥hya*, and the *Dharmasūtra*-s.

From the early attempts at analyzing Sanskrit, one branch of old Indo-Aryan, the other being Vedic, in the *Prātisakhyā*-s 'Phonetic texts belonging to each Veda' and the *Nirukta* there evolved a school of grammarians of whom Pāṇini may be specially mentioned. The Indian grammatical tradition has made great contribution to modern linguistic theory and method. In recent years, Pāṇini was rediscovered and it generated a series of studies clarifying several issues in syntactic analysis. Leonard Bloomfield, the pioneer of American Structural Linguistics, termed Pāṇini's grammar of Sanskrit as 'one of the greatest monuments of human intelligence'. Not only in the science of grammar, but in other areas as well, Sanskrit is the repository of all that is best in Indian tradition. This may be seen in the scientific treatment of such topics as economics : *Arthaśāstra*, art of love : *Kāmaśāstra*, and medicine : *Āyurveda*.

The *Rāmāyaṇa* and the *Mahābhārata* are the two great epics and have served as treasure house of stories for themes in the later *Kāvya*s. Poets like *Kālidasa* and *Māgha* and prose writers like *Bāṇa* and *Subandhu* may easily be counted among the literary giants of the world. The Hindu writers tried their hand at all types of literary compositions and excelled in every one of them. The Sanskrit Commission has rightly noted that the total output of this literature easily transcends everything in extent, which any other ancient or medieval literature can show.

Sanskrit was a spoken language and the vast literature in this language is a solid testimony to this fact. It was not limited to any particular area, but was spoken throughout the length and breadth of the country. Regional peculiarities observed by Pāṇini and others confirm this thesis. It was spoken not only by the Brahmins but was equally used and understood by other social classes. If the word *saṃskṛta* is taken in the meaning 'polished', 'purified', 'correct speech', it may then be thought of as the speech of the educated class of the Aryan society. Others must have spoken substandard form and may have even mastered it as to use it on occasion. The fact that Sanskrit and *Prākṛt*-s were used side by side suggests that they were mutually intelligible and the people were bilinguals. Within their class, the members may have used their own speech as mark of identity and whenever it involved members of the upper class.

India has always been a nation of many languages. This multilingual situation did not, however, come in the way of unity and oneness of Indian culture. Language has never been an

issue and Sanskrit, of course, was taken as the binding force. People of this vast country have always been bilinguals and even multilinguals. The role of these languages in the life of an Indian was clearly defined and there was never a conflict between their functions. Sanskrit was used in more formal situations like religious ceremonies, discussions on philosophical and scientific matters, and the vernaculars were employed in informal occasions such as routine conversations among friends and relatives. Thus, we may say that Sanskrit and the spoken dialects were in complementation in that Sanskrit had its role to play in the religious as well as cultural life and the spoken forms in the social life.

The pre-Aryan population, which had to learn Sanskrit and the *Prākṛt*-s, were the real bilinguals. As Sanskrit developed into literary standard, we see that at a later date it is a variety of *Prākṛt*, which was employed in literary compositions. Thus, we note that Mahāvira preached his sermons in a *Prākṛt* dialect called *Ardhamāgadhi* and his sayings are preserved to us only in this dialect. Similarly, Buddha too delivered his sermons in a spoken dialect, which is identified as *Māgadhi*.

Coming to the Middle Ages, we find Sanskrit regaining its importance again. It became a sort of common link language among the speakers of different mother tongues. Thus, in his *Naiṣadhiyacarita*, Sriharsa describes the suitors of Damayanti from all parts of Indian as speaking to each other in Sanskrit to avoid mutual unintelligibility. Another poet, Bilhana in the 11th century, mentions in his *Vikramāṅkadevacarita* that in Kashmir even women in every home spoke Sanskrit and *Prākṛt* like their mother tongue. Conditions may have been probably more or less the same in other parts of India, particularly among the cultured classes.

Sanskrit has always been the most potent force that has welded the whole of Indian subcontinent into unity. It was the bridge language between the Aryans of the north and the Dravidians of the south. Many a southerner has nourished this language. He did not consider Sanskrit as a foreign language thrust upon him. The great *Ācarya*-s--Śāṅkara, Rāmānuja and Madhva -- wrote *Bhāṣya* 'commentary' on the *Bhāgavadgītā*, which is read by every one alike in the country. The great Sāyaṇa who wrote commentary on the Veda-s was in the Vijayanagara Empire. The other two Vedic commentators, Veṅkaṭamādhava and Bharataswāmī were under the Chola-s and the Hoysala-s. Mallinathasuri who commented on the works of Kālidāsa. Kumārila Bhatta, Mandana Misra, Appayya Diksita were all great scholars who enriched this language by their writings. Śāṅkara born in the state of Kerala travelled all over the country and established *maṭh*-s in all the four corners of this land. This he could achieve only through Sanskrit, was understood in all parts of the country. Even today, religious discourses are given in Sanskrit and people from different regions participate in this with equal facility. This glorious tradition of the

past must be continued to maintain the unity of the nation and it is possible only through this great language.

The literary activity in Sanskrit is not something of the past; it is going on continuously even to this day and many *kāvya*-s, prose works, dramas and essays are being produced in this language as in the olden days. New trends like patriotism and political consciousness may be witnessed in these compositions. Evils of society and of religion have been utilized for plots of the dramas. This is a great proof for Sanskrit not to be qualified as a dead language as far as literary activity is concerned.

There are a number of journals and magazines in Sanskrit. They include dailies, weeklies, fortnightlies and monthlies. There are also quarterly journals, half-yearly relayed and journals issued once a year. As in other languages, news in Sanskrit is relayed on the radio and television. It is tried out, as language of day-to-day communication in a village called Mattur in Shimoga District of Karnataka and it has turned out 100% successful. Not only those belonging to the upper caste, everyone including persons like postman speaks here in Sanskrit.

The impact of this great language is still very much with us. The Sanskrit name for India, *Bhārata*, has been officially recognized. The national motto is an expression in Sanskrit *Satyameva jayate* 'truth alone triumphs'. The national anthem is 90% Sanskrit and 10% Sanskritic. The motto of the LokSabhā is *Dharmacakrapravartanāya* 'for the promulgation of the wheel of law'. The all India Radio has the guiding principle *bahujanahitāya bahujanasukhāya* 'for the good of the many and for the happiness of the many'. Life Insurance Corporation's motto again is expressed in Sanskrit, *yogakṣeman vahāmyaham* 'I take the responsibility for access and security'. The daily prayer of an Indian's *sarve bhabantu sukhino* 'may all beings be happy' is expressed in Sanskrit. He sees the country's unity in every act of his and expression to this effect is always given in Sanskrit. At daily bath he recalls the great names of the rivers, holding equal respect to them whether they belong to his region or not--*Gange ca yamune caiva godāvari sarasvatī, narmade sindhu kāverijale* 'smin sannidhim kuru. Sanskrit is thus our great cultural heritage and presents a national outlook, which is one of unity.

The relation of Sanskrit to other Indian languages has never been one of conflict. From the time they came in contact they appear to be ever moving towards each others system and have been going through a process of convergence. This is evident at all the levels of the language, viz, phonology, grammar and lexicon, etc.

Sanskrit is the source of knowledge and the key to understand the history and culture of this country. It is not a classical language in the way in which Greek and Latin are; it has been alive in an extraordinary way, its character and connection with the living present being unique. The modern terminology in science and technology is being built with its resources; its concept

and ideologies have endowed the nation with its characteristic values. Indian languages favour Sanskrit as source for adoption and for coining new terms. Among the various constituents, viz. Sanskrit, Perso-Arabic and English in the modernizing process of Indian languages, we find more of Sanskritised renderings of culturally infused concepts. The reason for this, it is thought, lay in the linguistic structure of Sanskrit language, which possesses high potentiality in affixation and word compounding and richness in abstract concepts and discursive terms, besides being a rich store house of knowledge. This antiquity of Sanskrit, the richness of its literature and above all the ability of its grammatical structures to face up to any age and any development of thoughts and tackle them adequately are accepted widely. Sanskrit literature is classic in the sense that it actually played the role of model for the old Indian literature as they developed in dialects related to Sanskrit and in such unrelated languages as Tamil. The growth of all middle and modern Indo-Aryan languages and their literature has been largely the result of the impact of Sanskrit and its literature. The earlier works in the Indian languages have been versions of Sanskrit epics and the *Purāṇa*-s. The foremost work in all languages, not exempting those of the Dravidian family, has been the *Rāmāyaṇa*.

What is necessary for modern India is a common medium for interprovincial education transcending the mother tongue stage, a common medium through which principles of government could be laid down, i.e. government acts could be enacted, for all the provinces, a common medium that could secure an uniform and identical judicial procedure and administration of law possible all over the country. Such a common medium can only be Sanskrit. One of our own leaders, in modern times, pundit Jawaharlal Nehru, expresses eloquently the unique heritage preserved in this language. He said, "If I was asked what is the great treasure which India possesses and what is her finest heritage, I would answer unhesitatingly it is the Sanskrit language and literature, and all that it contains. This is a magnificent inheritance, and so long as it endures and influences the life of our people, so long the basic genius of India will continue".

Such is the importance of Sanskrit. It may be neglected at our own peril. It is too well-known to emphasize that Sanskrit has contributed to the national solidarity in the past and is the one language, which can still bind people from all parts of this vast land and does not interfere in the growth of any particular region or regional language. It has, on the other hand, proved to be an inexhaustible treasure house of vocabulary from which all Indian languages have drawn through the centuries. It is not a dead language; it continues to enrich our language and literature and everything that India stands for. It is so intertwined with every aspect of our life that we cannot think of India without at the same time thinking of this great language. It will remain with us as long as there is India, as long as there is Vindhya or the Himālaya and so long as there is Gaṅgā or Godāvari.

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Emblem of the Ramakrishna Mission

The wavy waters in the picture are symbolic of Karma; and lotus, of Bhakti; and the rising-sun, of Jnana. The encircling serpent is indicative of Yoga and the awakened Kundalini Shakti, while the swan in the picture stands for the Paramatman (Supreme Self). Therefore the idea of the picture is that by the union of Karma, Jnana, Bhakti and Yoga, the vision of the Paramatman is obtained.

-Swami Vivekananda