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Sd/-

Dr. Sr. Christina Augustine,
Managing Editor & Publisher,
Santhom Journal of EDU RACE

EDITOR'S NOTE

The progress of educational advancement will be made based on quality researches and innovative experiments carried out in the field of education. Surely, so many such researches and innovative practices are going on in our country. But if the findings of those researches are not reached to the beneficiaries and academics, the scope and utility of the findings will become diminished. Educational journals are one of the most effective tools that can be used for the dissemination of innovative findings.

Any educational journal is a scholarly publication of articles or research reports related to education prepared by educational researchers. The basic purpose of an educational journal is to address educational issues and to disseminate the findings of educational researches. This dissemination will lead academics and educational professionals to academic debates on related issues.

Considering the above mentioned facts, with much pleasure, St. Thomas College of Teacher Education, Mylacompu, Idukki, Kerala begins to publish the journal SANTHOM JOURNAL OF EDU RACE (Santhom Journal of Educational Researches and Curriculum Enrichment).

It is expected that the articles/research papers included in this new venture will stimulate useful and wide range of discussion to enrich perspectives in understanding the parameters necessary for quality in school education as well as teacher education at various levels. It is further anticipated that the publishing ones will raise issues for researchers to probe into the field of education and again result in higher thinking and deeper studies.

Seeking support from all well-wishers by joining hands with us in this simple but quality based educational milestone *Santhom Journal of EDU RACE.*

Editor

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Authors are invited to contribute articles on contemporary issues in education in general and Indian education in particular for publication in Santhom Journal of EDU RACE'.

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Chief Editor,
Santhom Journal of EDU RACE

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GENERATIVE LEARNING MODEL: AN EFFECTIVE MODEL FOR DEVELOPING SCIENCE PROCESS SKILLS OF PRIMARY SCHOOL CHILDREN

Dr.Minikutty A *
Dr. Geethu G.Nair **

Abstract

In the present era of science and technology, Science Process Skills occupy a prominent role in the learning of science. These skills can be developed through inquiry based activities. Constructivism is a learner centered approach that fosters scientific inquiry. The present study is an attempt to enhance the Science Process Skills of primary school students using Generative Learning Model, a learning model based on the principles of constructivism. Experimental method with non- equivalent pre test post test control group design was adopted for the collection of data. Sample of the study consisted of 220 primary school students from Kottayam and Ernakulam districts in Kerala. Analysis of data revealed that the Generative Learning Model was very effective in enhancing the Science Process Skills of primary school students. The study highlights the importance of using the Generative Learning Model for enhancing the Science Process Skills of primary school children.

Key Words *: Science and Technology, Science Process Skills, Constructivism, Learner Centred Approach, Scientific Inquiry.*

Introduction

Today is the era of science and technology. Acquisition of skills is necessary for the successful adaptation with the changed world. One of the most important and pervasive goals of schooling is to teach students to think (Padilla,1990). Science Process Skills are a set of skills necessary to carry out scientific enquiry. They enable one to apply science in daily life. Science Process Skills are skills required for effective science leaning that enable children to respond to the changing world in which they live, to reason logically and how to seek and use evidence in all areas of their activity. The present study attempts to find out the effectiveness of Generative Learning model on enhancing the Science Process Skills of primary school children.

Rationale of the Study

Science process skills are broadly transferrable skills and are necessary for conceptual understanding. Process skills are fundamental to science, allowing everyone to conduct investigations and reach conclusions.

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Primary school children by their nature are curious. Therefore, it is crucial to capture their natural interest in science in order to carry out explorations. The present study is an attempt to enhance the science process skills of primary school students using Generative Learning Model, a learning model based on the principles of constructivism. Several studies indicated that constructivist teaching is beneficial to for developing students' perceptions of learning, in terms of independence in learning, coherence of concepts, and cognitive engagement (Chang, 2005; Elby, 2000).

Realizing the importance of Science Process Skills in the learning of science, investigators felt a need to enhance these skills using a specific instructional design suitable to the changed educational context. For this purpose, the Generative Learning Model was selected as it is a model that fosters scientific thinking using the principles of constructivism and the study is entitled as "Generative Learning Model: An Effective Model for Enhancing Science Process Skills of Primary School Students"

The Generative Learning Model

Generative Learning Model (GLM) is a learning model based on generative learning theory. This theory emphasizes that meaningful learning occurs from the learner's creation of understanding about the information. The Generative Learning Theory is based on the idea that learners can actively integrate new ideas into their memory to enhance their educational experience. In essence, it involves linking new ideas with old ideas, in order to gain a better understanding of the instructed concepts. (Wittrock, 1992).

There are four stages in the Generative Learning Model. The steps of GLM proposed by Osbourne and Wittrock (1985) are given below.

1. In the preliminary step, before beginning any formalized instruction, teachers assess students' ideas and conceptual explanations.
2. Next is the focus step, the instructor provides experiences related to the particular concept that motivates students to explore their level of conceptual understanding.
3. It is followed by the challenging stage where the teacher helps students exchange points of view and challenges students to compare and contrast their ideas and support their view points with evidence.
4. In the application stage, students use their newly refined conceptual understandings in familiar contexts.

Objectives of the Study

1. To find out the effectiveness of Generative Learning Model on Science Process Skills of primary school children
2. To compare the effectiveness of Generative Learning Model on Science Process Skills of primary school children with the present method of teaching.

Method

Considering the nature of the study, experimental method with non- equivalent pre test post test control group design was used in the study. The sample of the study consisted of 220 seventh standard students following Kerala state syllabus and belonging to Kottayam and Ernakulum districts. The experimental and control groups consisted 110 students each. The tools used in the study were a Science Process Skills test and lesson transcripts based on Generative Learning Model. A total of 80 items were included in the Science Process Skills test and it was administered to both experimental and control group as a pretest. The

experimental group was taught a lesson in the VIIth standard science text book related to Acids and Bases through Generative Learning Model and control group was taught the same unit through the present mode of instruction. When all the classes were over, the same test was again administered to both experimental and control groups. The pre test and post test scores were tabulated and analyzed statistically by the technique of Analysis of Covariance. Its details are presented in table 1.

Table 1

Summary of ANOVA in comparing pre test and post test scores of Science Process Skills of students in experimental and control groups.

Source of Variation	df	SSx	SSy	MSx	MSy	Fx	Fy
Among means	1	74.47	55968.6	74.47	55968.55		
Within groups	218	27316.24	72771.6	125.30	333.81	0.59	167.66**
Total	219	27390.71	128740.2				

****P<0.01**

Analysis and Discussion

The obtained Fx and Fy ratios were tested for significance. The table value for df 1/218 is 3.89 at 0.05 level. So the obtained Fx is not significant (Fx=0.59,P>0.05). It is clear that pre test means do not differ significantly. The table value of F ratio for df 1/218 is 6.76 at 0.01 level; (Fy=167.66,P<0.01). Since Fy falls beyond the 0.01 level of significance, it can be tentatively interpreted that there was significant difference between the Y means of two groups.

The final Y-scores were adjusted for difference in X scores. For that SSy has been adjusted for any variability in Y and SSy.x and F ratio,Fy.x was calculated. The summary of ANCOVA of pre test and post test scores of pupils in experimental and control groups is given in table 2

Table 2

Summary of Analysis of Covariance of pre test and post test scores of Science Process Skills of students in experimental and control groups.

Source of Variation	df	SSx	SSy	SSx.y	SSy.x	MSy.x	SDy.x	Fy.x
Among means	1	74.47	55968.6	2041.6	50422.79	50422.79		
Within groups	217	27316.24	72771.6	37099.99	22383.65	103.15	10.16	488.83**
Total	218	27390.71	128740.2	39141.59	72806.44			

**P<0.01

The obtained Fy.x ratio was tested for significance and found to be significant at 0.01 level. It is clear from the significant Fy.x ratio that the two final means differ significantly after they have been adjusted for initial difference on X.The data for adjusted Y means of post test scores of pupils in experimental and control groups are given in the table 3

Table 3

Data for adjusted means of post test scores in Science Process Skills of experimental and control groups

Gropups	N	Mx	My	My.x	SEm	t
Experimental	110.0	23.12	64.6	63.77	1.37	22.14**
Control	110.0	21.95	32.7	33.45		

**P<0.01

From table of t values,
For df =217 ,t at 0.05 level=1.66and t at 0.01 level=2.36

Adjusted Y means for pre test scores are tested for significance for df = 217and the obtained t value is found to be significant at 0.01 level. The significant difference between the adjusted Y means indicates that pupils of experimental and control groups differ in their Science Process Skills in post test. The mean scores of post test scores of experimental and control group clearly shows that experimental group is superior to control group in science process skills. It may be therefore interpreted that the Generative Learning Model is effective over present method of teaching for enhancing the Science Process Skills of primary school children.

Conclusion and Implications

Through the study it was found that the instruction using Generative Learning Model is effective than that of present method of instruction for the development of Science Process Skills. Generative learning model is a model of student-centered model of learning. Instruction through The Generative learning model provides students the opportunity to practice Science Process Skills. With the help of the Generative Learning Model, a teacher can facilitate children to apply their Science Process Skills in familiar contexts. Instead of focusing on the structure of knowledge, the generative functional model focuses on learning processes, motivational processes, knowledge creation processes, as well as the process of generation. Thus the Generative Learning Model encourages learners to become fully immersed in learning, so that they can construct knowledge on how to solve problems or scenarios. As the Generative Learning Model is based on the principles of constructivism, it is appropriate for the present educational scenario. More detailed and in-depth investigations have to be carried out on the effectiveness of Generative Learning Model in relation with constructivism.

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COMPARATIVE EFFECTIVENESS OF IDEAL STRATEGY AND 5E MODEL ON THINKING SKILLS

Dr. Shimna Paul *

Abstract

To equip the learners to deal with the challenges of contemporary world, we should develop a progressive and comprehensive educational system. This research was an attempt to compare the effectiveness of two strategies, which may mould the future generation through education, on Thinking Skills. The study was carried out in a sample of ninety six students of standard eleven of higher secondary schools. A 2x2 Factorial Design was selected for the study. Based on the analysis of the data, it was concluded that teaching Physics through IDEAL strategy in Metacognition to higher secondary students is significantly more effective than 5E model in constructivism with respect to thinking skill.

Key Words *: Science Policy, Science and Technology, Thinking Skills, IDEAL Strategy, 5E Model, Creativity.*

Prologue

The powerful tool for liberation from one's personal lethargy and prohibition imposed by traditions and superstitions is Education. It is the duty of the teachers to sensitize the young generation about the various issues that confront through our academic activities. This research, which is entitled as 'A study on the Effectiveness of IDEAL strategy in Metacognition and 5E model in Constructivism on Thinking Skills among the Higher Secondary Students with different Creativity Levels', was an attempt to suggest certain strategies which may mould the future generation through Education, especially Science Education.

Present Status of Research in Science Education in India

The Science policy of the Government of India (1958) clearly states that the country is committed to secure all the benefits that can be acquired from the acquisition and application of scientific knowledge for the benefit of the people. During the last 59 years of independence, the country has developed a number of scientific and educational establishments and has considerable number of trained personnel in science and technology. Despite the remarkable progress the country has made in space technology, nuclear science, information technology and health, it remains backward on many counts.

Rationale and Significance of the Study

It is already accepted that Thinking Skill is an important outcome of science learning. Knowledge in every field of learning demands promotion of autonomous learning skills in students to help them seek information that they need in their career and life and the skills that are required to effectively exploit the available information. Thus the focus must

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now shift from 'what and how much' the students have learnt to 'how the students learn'

The problem of the study and its significance is premised on the following sources: the researcher's feeling and experience in the field as a Physics teacher and through her supervision of student teachers as a demonstrator, as well as through her observation of the traditional methods followed in Higher Secondary schools which were characterized by complete activeness on the part of the teacher and complete passivity on the part of the students.

Research Questions

(i) Whether Instructional Materials in Physics based on IDEAL Strategy and 5E Model would enhance Thinking Skills?

(ii) Is there any significant difference in the effectiveness of IDEAL Strategy and 5E Model in enhancing Thinking Skills with respect to different Levels of Creativity?

Statement of the Problem

A study on the Effectiveness of IDEAL Strategy in Metacognition and 5E Model in Constructivism on Thinking Skills among the Higher Secondary Students with different Creativity Levels.

Objective of the Study

To study the effect of Instructional Methods, Levels of Creativity and their interactions on Thinking Skills by taking Intelligence as covariate

Hypothesis of the Study

There is no significant difference in the effect of Instructional Methods, Levels of Creativity and their interactions on Thinking Skills by taking Intelligence as covariate

Operational Definition of the Terms.

IDEAL Strategy in Metacognition

IDEAL is a popular Metacognitive Strategy with steps Identify, Define, Explore, Act, and Look. In the case of Physics learning, if the pupil make use of these steps, he/she can attain the concept easily.

5E Model in Constructivism

5E Model is an instructional strategy in Constructivism which follows the steps Engage, Explore, Explain, Expand, and Evaluate.

Thinking Skills

The Thinking Skills (operations) which were considered in the present study are Observation, Comparison, Interpretation and Coding. These skills were suggested by Raths, Louis (1967) and are relevant and applicable to Science instructions.

Creativity Levels

Creativity refers to the invention or origination of any new thing that has value. "New" may refer to the individual creator or the society or domain within which novelty occurs.

Variables Involved in the Study

Dependent variable in the present study was Thinking Skills

The independent variables in the present study were Instructional Methods with two levels and Creativity with two Levels. Among the variables, the *Instructional Methods (A)* involved were:

(i) IDEAL Strategy in Metacognition (a_1) and

(ii) 5E Model in Constructivism (a_2)

Similarly *the Levels of Creativity (B)* were decided as:

(i) Above Average (b_1) and

(ii) Below Average (b_2)

Method and Design of the Study

In the present study the researcher wanted to examine the effect of two methods of classroom learning. From the reviews as well as the guidelines from the authority, the researcher felt that Factorial Design was the appropriate design for this study. Since the two independent variables have two levels each, the researcher selected 2x2 Factorial Design.

Sample of the Study

Ninety Six Standard Eleven Students of Science group who were studying Kerala State syllabus in Higher Secondary Schools of Kerala State during the academic year 2010-2011.

Tools Used for the Study

For the present study the researcher selected two standardized tools listed below:

- New Test on Creativity by Dr. Roma Pal;
- Group Test of Intelligence by Dr. G. C Ahuja.

Along with the standardized tools, the researcher prepared and used the following self-made tools:

- Instructional Materials based on IDEAL Strategy and 5E Model;
- Test on Thinking Skills

Analysis of the Data

To study the effects of Instructional Methods and Levels of Creativity and their interaction on Thinking Skills by taking Intelligence as Covariate, the following three null hypotheses were framed.

- There is no significant difference in the effect of Instructional Methods (IDEAL Strategy in Metacognition and 5E Model in Constructivism) on Thinking Skills.
- There is no significant difference in the effect of Levels of Creativity (Above Average and Below Average) on Thinking Skills.
- Interaction of Instructional Methods and Levels of Creativity has no significant effect on Thinking Skills.

Since it was a 2x2 Factorial Design the researcher used two way ANOVA with Covariate to analyse the data and test these hypotheses.

Analysis of Thinking Skills Scores with two way ANOVA with Covariate

In order to analyse the Thinking Skills scores, the adjusted means of the independent variables were calculated. Table 1 presents the details of the adjusted means with respect to the independent variables in terms of the levels. Table 2 represents the adjusted sum of squares with respect to Methods, Levels of Creativity and their Interaction.

Table 1

Adjusted means of Instructional Methods and Levels of Creativity with respect to Thinking Skills

I.Vbs	Levels	Adj Mean
Instructional Methods	IDEAL Strategy	9.899
	5E Model	7.1631
Levels of Creativity	Above Average	9.625
	Below Average	7.44

Table 2

Summary of 2X2 Factorial Design ANCOVA for Thinking Skills by Taking Intelligence as Covariate

Source of Variation	df	SS	MSS	'F' ratio	Signif-icance
Instructional Methods A	1	169.5	169.5	7.995	Sig. at 0.01 level
Levels of Creativity B	1	22.193	22.193	1.047	Not Sig. at 0.05 level
A x B	1	3.49	3.49	0.165	Not Sig. at 0.05 level
Error	91	1929.43	21.2		

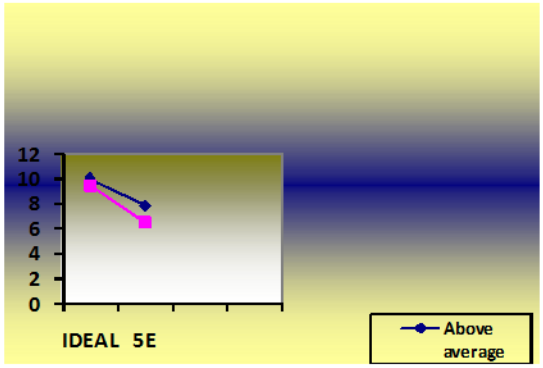

Fig. 1
Interaction of Levels of Creativity and Methods of Instruction on Thinking Skills

From the Table 2, it is observed that 'F' ratio (7.995) for Instructional Methods, for degrees of freedom 1 and 91 was statistically significant. Hence the null hypothesis, is rejected and the alternative hypothesis is accepted. Hence it can be concluded that Instructional Methods had differential effect on Thinking Skills after partialling out the effect of Intelligence.

Table 1 reveals that adjusted means of IDEAL Strategy (9.899) is greater than that of 5E Model (7.1631). So it can be concluded that IDEAL Strategy in Metacognition was more effective than 5E Model in Constructivism in teaching Physics with respect to Thinking Skills.

From Table 2, it is observed that 'F' ratio (1.047) for Levels of Creativity, for degrees of freedom 1 and 91 was not statistically significant. . Hence the null hypothesis, 'There is no significant difference in the effect of Levels of Creativity(Above Average and Below Average) on Thinking Skills' is retained. Hence it can be concluded that because of the difference in Levels of Creativity, there was no significant difference in student's performance in Thinking Skills.

From Table 2, it is observed that 'F' ratio (0.165) for Interaction between Instructional Methods and Levels of Creativity for degrees of freedom 1 and 91 was statistically not significant. Hence the null hypothesis, 'Interaction of Instructional Methods and Levels of Creativity has no significant effect on Thinking Skills' is retained

Figure 1 also reveals that there is no Interaction between Methods of Instruction in Physics and Levels of Creativity with respect to the criterion variable Thinking Skills

Conclusions of the Study

- Teaching Physics through IDEAL Strategy in Metacognition to Higher Secondary students is significantly more effective than 5E Model in Constructivism with respect to Thinking Skills. Hence teaching Physics through IDEAL Strategy will enhance the Thinking Skills of the Higher Secondary students

- Higher Secondary students with different Creativity Levels do not differ on their Thinking Skills, irrespective of the Methods of Instruction.
- Combination of Instructional Methods and Creativity Levels has no significant effect on the criterion of Thinking Skills.

Implications of the Study

Based on the outcomes of the experiment the following recommendations are made by the researcher which may assist in improving the existing practice of teaching Physics in the Higher Secondary Classes as well as the content-cum-methodology of teaching Physical Science in Colleges of Teacher Education.

- ***Implications to Higher Secondary Education***

  The study has revealed that with respect to Standard Eleven Students, Thinking Skills taught through IDEAL Strategy has become more effective than 5E Model

This result implies that teachers could make use of the IDEAL Strategy of Teaching Physics to students of Higher Secondary to promote Thinking Skills. The above finding also implies that the IDEAL Strategy of Teaching needs to become an integral part of the Methodology of Teaching Physics at Higher Secondary Level.

Teacher Education

- Seminars, workshops should be organized for the Teacher Educators on different strategies in Metacognition in general and IDEAL Strategy in particular. The workshop should provide training in the preparation of IDEAL lessons in different subjects and practice of the same in the real classroom settings

¨ Detailed theory on Metacognition should be included in the B.Ed Programme and IDEAL Strategy of Instruction should be incorporated in the Pedagogic Analysis of Education. The B.Ed students should be trained through IDEAL Strategy lesson transcripts and also provided training for preparing IDEAL lessons. During their practice teaching, opportunities should be provided to every Science Teacher to implement IDEAL lessons in the classroom to acquire specific teaching competencies of IDEAL Strategy.

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METACOGNITION OF ENGLISH LANGUAGE STUDENTS AT DEGREE LEVEL IN RELATION TO THEIR LANGUAGE CREATIVITY

Dr. Jayasree P.G.*
Nishana K. Mohammed**

Abstract

Cognitive Psychology studies man's thinking, memory, language development, perception, imagery and other mental process in order to peep into the higher human mental functions like insight, creativity and problem solving. The metacognitive abilities actually enhance cognitive performance and its acquisition has far reaching educational implications. Meta cognitive strategies are used while reading narrative and informational texts. This study was conducted with the objective of finding the relationship between metacognition and language creativity of students at degree level. Normative survey method was used for the study. The sample of the study consisted of 350 English language students at degree level of Ernakulam district. Analysis of data revealed that there is positive and significant relation between metacognition and language creativity of students. The study also revealed that language creativity of students having high metacognition is high compared to that of students having low and average metacognition. The study highlights the need for developing meta cognitive skills in fostering language creativity among students.

Key Words *: Metacognition, Problem Solvers, Cognitive Skills, Personal Variables, Language Creativity.*

Introduction

National Policy on Education states that education needs to be managed in an atmosphere of utmost intellectual rigour, seriousness of purpose and at the same time freedom essential for innovation and creativity while far reaching changes will have to be incorporated in the quality and range of education. Decades of research has helped the educationists to conclude that creativity does not exist as general creativity alone, rather it concerns specifically to specific fields. The scientists, technicians, businessmen etc, all have creative talents that pertains to their specific field. Similarly poets, novelists, and writers display a peculiar type of creativity in their writings that can be called as language creativity. Language creativity is the capacity or ability of an individual to create, discover, or produce a new or novel idea or object in language including the rearrangement or reshaping of what is already

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known to him which proves to be a unique personal experience. It is a higher order ability which produces great developments in the field of language.

The children can monitor their progress when they try to understand and learn something in all subjects like language, mathematics etc by making use of their cognitive skills. Language and cognition are closely related. Cognition is concerned with how we develop our fund of knowledge and how we eventually arrive at notions of ourselves as learners and problem solvers. Children's gradual development of an awareness of themselves as knower, their growing awareness of the strategies they can use to acquire and process information and their ability to direct their efforts and to evaluate their cognitive activities are aspects of metacognition. The term meta cognition is associated with John Flavel (1979) who viewed meta cognition as learner's knowledge of their own cognition, defining it as "knowledge and cognition about cognitive phenomena." He divided metacognitive knowledge into knowledge of personal variables, task variables and strategy variables. Most individuals of normal intelligence engage in metacognitive regulation when confronted with an effortful cognitive task but some are more meta cognitive than others.

Metacognitive knowledge tells us that there are ways to organize material to make it easier to learn and remember that some rehearsal and review strategies are more effective for one kind of material than another and that some forms of learning require the deliberate application of specific strategies whereas others do not.

Metacognition plays an important role in teaching and learning of a language. Training in metacognitive language learning strategies help to develop learners' listening and reading skills and raise their language proficiency levels. It is necessary to differentiate among creative abilities in several fields, each of which has common elements with others and each has its own special requirements as well as elements.

Objectives

1. To find out the level of language creativity among English language students at degree level.
2. To compare the language creativity among English language students at degree level based on different levels of metacognition.
3. To assess the relation between metacognition and language creativity among English language students at degree level.

Hypotheses

1. There is significant difference in the language creativity of English language students at degree level based on different levels of metacognition.
2. There is significant relation between metacognition and language creativity of English language students at degree level.

Methodology

Normative survey method was used for the study. The sample of the study consisted of 350 English language students at degree level from Ernakulam District. Stratified random sampling technique was used for the study. Metacognition inventory constructed by Dr. Punitha Govil and Language Creativity Test

developed by Dr. S.P. Malhotra were used for the study. Data was collected, tabulated and statistically analysed using mean, standard deviation, critical ratio, ANOVA, Scheffe's Test and Karl Pearson's product moment coefficient of correlation.

Analysis

Table 1

Level of Language creativity among English Language students at degree level

Language Creativity	Count	Percentage
Low	118	33.70
Average	138	39.40
High	94	26.90
Total	**350**	**100.00**

From Table 1, it is inferred that, out of 350 students included in the sample, 33.7 percent had low level, 39.4 percent had average level and 26.9 percent had high level of language creativity. The percentage of average language creativity among the sample students is high when compared to those with low and high language creativity.

Table 2

Distribution of metacognition according to language creativity

Meta Cognition	Language Creativity					
	Low		Average		High	
	Count	Percent	Count	Percent	Count	Percent
Low	54	45.8	32	23.2	3	3.2
Average	35	29.7	85	61.6	32	34.0
High	29	24.6	21	15.2	59	62.8

Table 3

Data and Result of Test of significant difference in language creativity based on different levels of metacognition

Meta cognition	Mean	S.D.	N	F	Sig. (p)	Scheffe Multiple Comparisons		
						Pair	F'	p
Low(A)	289.3	70.0	89			A&B	17.4**	0.00
Average (B)	371.2	102.4	152	42.94**	0.00	A&C	42.7**	0.00
High (C)	426.5	126.4	109			B&C	9.0**	0.00

***Significant at .01 level.*

Table 3 indicates that among the three levels of metacognition compared, significant difference exists in all cases at .01 level. The mean difference is high in the case of low- high group. The language creativity is significantly higher in students having high metacognition than that among students having average metacognition. The language creativity of students having high metacognition is high compared to the language creativity of students having low and average metacognition.

Table 4

Relation between metacognition and language creativity among English language students for the whole sample and sub samples based on gender, locale and type of management

Meta cognition and language creativity		r
Whole sample		0.487**
Gender	Male	0.565**
	Female	0.358**
Locale	Urban	0.339**
	Rural	0.515**
Type of Management	Government	0.301*
	Private	0.473**

** Significant at .0l level

* Significant at .05 level

The values of 'r' in Table 4 in respect of whole sample and subsamples based on gender, locale and type of management shows that there is positive and significant relationship between metacognition and language creativity. The correlation is substantial or marked.

Tenability of Hypotheses

The first hypothesis is fully substantiated since the comparison of language creativity based on different levels of meta cognition is significant at .01 level.

The value of 'r' for the whole sample between the variables metacognition and language creativity is 0.487. It is significant at .01 level. Hence the second hypothesis for the whole sample is fully substantiated. Similarly tenability of hypothesis with regard to gender, locale and type of management is fully substantiated.

Discussion of Results

The study found that the language creativity is significantly higher in students having high meta cognition than that among students having average metacognition. The language creativity of students having high metacognition is high compared to the language creativity of students having low and average metacognition. Also the study found that there is positive and substantial relationship between metacognition and language creativity for the whole sample and subsamples based on gender, locale and type of management.

The findings of this study are in consonance with the findings of many earlier researchers such as Abdelhafez (2006), Glazer (2005), Anderson (2004), Mc Tavish (2008), Fotovatin & Shokrpour (2007), Geimer, Krzystofezyk, Luczak & Talach (1998), and Linn (187).

Abdelhafe (2006) came to the conclusion that training in metacognitive strategies helped to develop English as first language learner's listening and reading skills and raise their languages proficiency levels. Glazer (2005) described ways to make language learning more interesting and he said that it helped students to develop meta cognitive thinking. Anderson (2004) published a digest which highlighted the role of metacognition in the teaching and learning of a second language. Geimer, Krzystofezyk, Luczak & Talach (1998) designed a programme of peer tutoring using specific learning and metacognitive strategies to increase reading comprehension. Fotovatian & Shokrpour (2007) mentioned that meta cognitive strategies have positive effects on reading comprehension. Mc Tavish (2008)

pointed out that for students to meet the challenges of reading narrative and informational texts they must be taught specific metacognitive strategies.

The findings of the present study supports the findings of above mentioned researchers. It shows the need and importance of developing metacognition among students.

Conclusion and Suggestions

It can be concluded that there is positive and significant relationship between metacognition and language creativity for the whole sample and subsamples based on gender, locale and type of management. The results also showed that language creativity of students having high metacognition is high compared to that of students having low and average metacognition.

The results act as a guide for the teachers as well as parents to understand the need and importance of developing metacognitive skills. They have to create congenial atmosphere to enhance meta cognitive and language creativity skills among the students. It will produce highly talented future generation who are capable of giving their own contributions in various fields which is helpful for the advancement of our country.

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INCULCATING VALUES THROUGH GAD STRATEGY

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Abstract

Values are guidelines which tell us what should and should not be done in life. But the present education system does not seem to give due weightage to values and inculcation of values. One of the reasons behind it is the deficiency of suitable strategies for the inculcation of values in children. Considering this fact an attempt was made to develop an effective strategy viz., GAD strategy which can be used for inculcating values among children. The present experimental study titled 'Inculcating Values through GAD Strategy' was conducted in a sample of sixty six B. Ed. trainees. The major objective of the study was the capacity building of B Ed trainees for the inculcation of values in children. For this, experimental and control groups were formulated. In the experimental group, while transacting the unit 'Value Education' included in the B Ed. curriculum certain GAD activities too were carried out. At the end of the experiment, a post-test was conducted both in the experimental and the control groups for assessing the capacity of the B. Ed trainees for inculcating values in Children. Results showed that GAD strategy is effective for equipping B.Ed. trainees for value education.

Key Words *: Game and Discussion Strategy, Value System, Moral Values, Erosion of Values, Quality Education, Child Centred Method, Bank of Games, Play-way Method.*

Introduction

Values are ethical principles of behaviour and human conduct. They are guidelines which tell us what should and should not be done in life. Values give meaning, quality and strength to our character, and are essentially desirable for the wellbeing of individuals, societies and nations. Without this quality neither nations nor individuals can sustain effectively.

But today it is seen that people, especially the young are confused about values and value system which are to be followed by them. This causes for a crisis of values and this crisis is felt almost in every field and in every walk of life. Such an erosion of values has created unprecedented sufferings and sorrows in human life in spite of all the material prosperity. The NCF(2005) remarks that we live in an age of unprecedented levels of violence, with constant threats posed by intolerance, fanaticism, dispute and discordance. Ethical action, peace and welfare are facing new challenges. In such a situation if one wishes to make certain

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desirable changes the most suitable way for it is providing quality education to our children.

The Present Study

An educational system, if it really aims at making human life peaceful and happy, should give an equal importance to the inculcation of values in the learner as that is given to the indoctrination of knowledge and skills. But at present, the education system is not giving due weightage to this aspect. According to Dr. S. Radhakrishnan, the troubles of the whole world including India are because of the fact that education has been becoming a mere intellectual exercise and not the acquisition of moral and spiritual values.

At the same time there is a question before us regarding the 'how' aspect of the inculcation of values to children. There is a deficiency of suitable strategy for the inculcation of values in children. From the experience it is understood that though many of our teachers sincerely wish to inculcate certain values in their students they are not aware of suitable methods for it. So they too are unable to put it into practice. In such a context we the faculty of St. Thomas College of Teacher Education thought, it would be worthwhile to think about certain innovative and interesting methods for the inculcation of values. Consequently we discussed different models for this purpose and some of them were identified as suitable ones. Again, further discussion regarding the suitability of the selected models was made with the practising teachers of different secondary schools.

In the opinion of those teachers, since at present child centred, activity oriented and play way methods are used in our school curriculum transaction; strategies for inculcation of values should also cope with those methods, as far as possible. Taking their suggestions also into account the final form of our innovative experiment titled *Inculcating Values through Game And Discussion (GAD) Strategy* was designed.

Operational Definition of Key Terms

Values:

The Penguin dictionary of Psychology defines 'values' as "..... the quality or property of a thing that makes it useful, desired or esteemed....."

Three values viz., truth, empathy and co-operation were taken into account for this study.

Game :

In the present study, game means any activity in which students engage with interest.

GAD Strategy

GAD Strategy means Game And Discussion Strategy. In this strategy students are led to engage in certain games first, and is followed by a discussion on it in the class. Such game will be having relevance to a specific value included in the study.

Objectives of the Study

The objectives of the study were:

1. To develop an effective strategy for the inculcation of values
2. To enable the B.Ed trainees for inculcating values in students while teaching.
3. To prepare a bank of games suitable for the inculcation of values.

Preparatory Works of the Study

As part of the preparatory works, preparation of Bank of Games/Activities, construction of tools and formation of Experimental and Control Groups were carried out.

Preparation of Bank of Games / Activities

The study was to be carried out through different games/activities. Therefore as a preliminary work, a collection of suitable games / activities was prepared. In this collection some items were new games/ activities developed by the research team, and the others were developed by the research team based on certain moral stories or incidents from the life history of great people, news from media, anecdotals etc.. In all such cases an attempt was made to convert or modify those basic materials into the form of games/ activities which might be liked by the students. All these games were prepared in the mother tongue (Malayalam).

On the completion of the preparation of Bank of Games two types tools were constructed by the research team.

Preparation of Pre-test and Post-test Tools

In order to assess

1. The status of values imbibed by the B.Ed trainees and
2. Competency of the trainees to inculcate values in students while teaching

a five point scale was prepared. It was used for Pre-test and Post-test. Twenty two items were included in it.

Of these 22 items 11 were for assessing the status of values imbibed by the B.Ed trainees. The remaining items were for assessing the competency of trainees to inculcate values in students.

The maximum score for the whole tool was 110 and minimum 22. Whereas the maximum and minimum scores for each area was 55 and 11 respectively.

Formation of Experimental and Control Group

There were five optional subjects for the B.Ed programme in the college, and the total number of trainees undergoing the programme was 66. Students of each of these five optional groups were divided into two equal halves by using random number method. Of these two halves of each optional group, one was selected as experimental group by tossing a coin and the other was taken as the control group. Thus 33 students each were selected both in the experimental and the control groups.

Execution of the Project

In order to achieve the objectives various activities were carried out under 3 phases viz., (a) Pre- test (b) Implementation of activities and (c) Post- test

a. Pre- test

- Before the beginning of the experiment a pre- test was administered in the experimental group and control group, using the same tool.

b. Implementation of activities

- As per the syllabus of the B.Ed programme (1st Semester) there was a unit *Value Education* in the Common paper (Common course) *Philosophical and Sociological Bases of Education.*
- The time allotted for this unit was 12 hours. The experimental study was carried out while this unit was taught.

- The topic "Value Education" (targeted topic) was taught by separating the Experimental Group and Control Group students.
- The unit *Value Education* was transacted in the Experimental Group making use of the GAD Strategy and the control group it was done through traditional method.

Description of the GAD Strategy Implemented in the Experimental Group

Various games (activities) were conducted in the Experimental Group until the end of the study. Presentation of such games/ activities carried out on each day is made here.

Ist Day of the Experiment

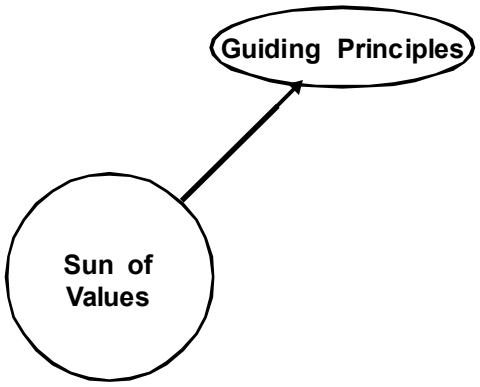
GAD Activity (Brainstorming and Ray drawing from the *Sun of Values)*

In order to get the students a clear idea about the concept of values, a brainstorming session was done in the class for about 15 minutes. For this, after giving certain hints regarding values, the teacher divided the class into 5 groups with the following instructions.

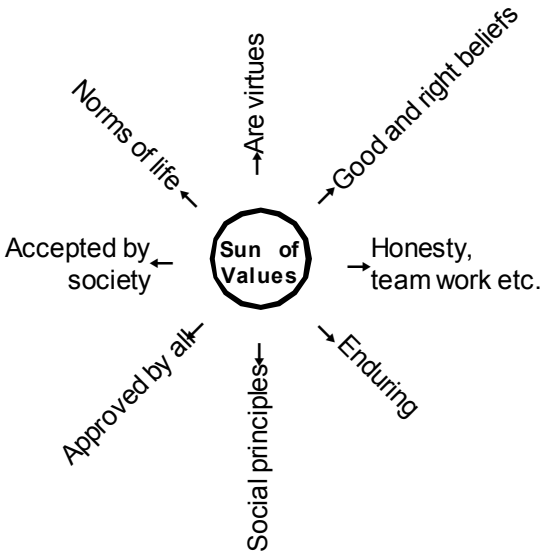
1. Each member of every group should say as many points regarding values as they can.
2. Do not bother about the right and wrong of what one has mentioned.
3. In each group one member should be selected for recording the responses.
4. All the points mentioned by every member of the group should be taken down by the 'recorder' of the group.
5. A within group discussion should be done based on the points introduced by the members.
6. Based on the discussion the points mentioned by the members should be modified and then prioritized

Drawing Rays for the *Sun of Values*

When the brain storming session was completed the teacher drew a big circle at the middle of the black board and labelled it as the Sun of Values. Then as an example, he drew a ray from the Sun and wrote a point regarding values as given below.



Then members of each group were called by the teacher to come and complete the figure by drawing a ray by each member. Thus a completed picture of the sun of values was obtained as given below.



On completion of the Sun of Values as the teacher suggested the students developed a definition for the term 'values' considering the points mentioned on all the rays. Then the teacher presented certain definitions regarding 'values'. Again the students were asked to modify their definition by comparing it with the teacher's definition and thus a final definition of the concept 'values' was formulated.

At the end of the period certain assignments such as preparation of brief note on values, different types of values etc. were given to the students. In addition to these, a question: 'Can teachers play a significant role in inculcating values in students?' was asked.

A large majority (27 out of 33) remarked that teachers can't play important role in the inculcation of values in students. Various reasons for it were also mentioned by them.

On completion of the GAD activities of the day the unit '*Value Education'* was subdivided into small units, and allotted to different students for seminar presentation in the ensuing classes.

IInd Day of the Experiment

On the second day onwards the subunits allotted were presented by each student every day. As scheduled earlier consolidation of seminar point was done by the teacher. Based on the sub units taken in the class certain assignments were also given to the students. All these modes of transaction were just like that of the control group.

Besides these activities the class of everyday in the experimental group was started with a GAD activity related to the targeted values truth/ empathy/co-operation. Its time was limitted to 20 minuts every day.

GAD activity of the Second Day (Wax and Pearl Game)

Objectives of the Game:

- To provide the B.Ed trainees an opportunity for thinking the possibilities of value inculcation.
- To lead the trainees to an attitudinal change regarding inculcation of values in students.

Materials : A piece of thick wax candle, tripod stand, spirit lamp and small vessel for heating the wax, test tube, glass and water.

Activity :

Showing the students a piece of a thick wax candle in one hand and a small pearl in the other hand the teacher asked the students:

"Can I insert this pearl into this candle?"

The students gave different responses such as:

Not possible, difficult, can do by pushing the pearl etc.

Receiving all the responses, the teacher with the co- operation of the students demonstrated melting the candle wax in a vessel using a spirit lamp. The students observed it. Within a few minutes (2/3 minutes) the solid wax candle fully transformed into liquid form. Then as told by the teacher, a student poured a portion of the liquid wax into a transparent test tube shaped vessel. The liquid wax in it was allowed to cool down by dipping its bottom in cold water in a glass.

Very soon the melted wax began to transform to solid stage. Meanwhile it reached in a flexible stage, a student put the pearl

into the tube as directed by the teacher. After a few minutes the remaining portion of the melted wax was poured into the tube above the pearl, keeping the bottom of the tube dipped in cold water.

Soon the whole wax in the tube changed to solid form. All the students observed that the pearl was then within the new candle.

Then the teacher told the students the following with the help of PPT:

- The candle can be compared to the mind of a child.
- When heated it melted.
- In the melted stage anything can be easily inserted into it.
- Melting is needed for changing the shape.
- Re- shape of the wax after melting is determined by the shape of the container.

Followed by this activity a discussion was held in the class. The following discussion points were given by the teacher.

- How can value be inculcated in the mind of children?
- How can the mind of a child be melted?
- Think of Emperor Asokha and the Kalinga war.

A discussion based on the above points was held for 10 minutes.

At the end of the discussion the teacher repeated the previous question.

Can teachers play an important role in the inculcation of values in children?

All the students (100%) responded to this question positively

After this GAD strategy the class continued as per schedule- i.e. presentation of the seminar paper by the trainee concerned.

IIIrd Day of the experiment (Stealing and Atonement)

Objectives:

- To help the B.Ed trainees to understand the importance of repentance if a wrong action is done.
- To familiarize the B.Ed trainees with incidents from the life of great people that can be effectively utilized by teachers in schools for the inculcation the value 'truth' (honesty) in their students.

Materials: DTP copy of the incident – 'Stealing and Atonement'

Activity:

An incident from Mahathma Gandhis's life 'Stealing and Atonement' was read in the class with clarity, voice modulation and facial expression.

After the reading, a discussion was made in the class based on the following discussion points:

- Faults may happen in the life of any one.
- If known about the fault of self what should then be done?
- Greatness of Mahatma Gandhi.

After discussion the teacher led the students to an introspection for searching in mind for a while whether they have committed any such action in their life.

After a few minutes two students who were interested shared their experience.

An assignment to collect such incidents from the life history of Gandhiji or any such great men was also given to students.

IVth Day of the Experiment (Story Making - The Truthful Wood Cutter)

Before starting the seminar presentation a story making session was held as GAD activity.

Objectives:

- To provide the B.Ed trainees to think about the importance and benefits of deeds of values
- To enable the B.Ed trainees for developing stories of values

Materials: Copies of out-line story of The Truthful Wood Cutter.

Activity:

The class was divided into 7 groups. Copy of out-line story of The Truthful Wood Cutter was distributed to each group. All groups were instructed to develop each story according to their imagination, but based on the outline given to them. The students were also asked to describe honestly what would have happened if they were in the place of the wood cutter.

On the completion of the activity one group at random was invited by the teacher to present their story focusing on the last part

Vth Day of the Experiment (Picture Card)

The fifth day class started with an activity using picture card of 'The Shepherd Boy and the Tiger'.

Objectives

- To provide an opportunity to the students to think about consequences of telling lies
- To familiarise the trainees with a strategy to utilize moral stories effectively in the class for value inculcation.

Materials: picture cards of the moral story 'The shepherd boy and the Tiger'**.**

Activity :

The class was divided into 7 groups. To each group a set of picture cards of the moral story was given. All the groups were told to develop a story based on the picture card and to write the moral of the story.

One group at random was called to present their story and the moral.

A discussion based on the moral written by students was held.

A chance was given to one student to narrate this kind of an activity done by him and its consequences he has suffered.

VIth Day of the Experiment (Minikutty the Great)

On the 6th day, the class started with the narration of an incident: 'Minikutty the Great'.

Objectives:

- To develop the quality 'empathy' in B.Ed trainees.
- To familiarize the trainees with an incident that could be used for inculcation of the value 'empathy' in students.

Material:

DTP copy of the incident related to 'Minikutty the Great'.

Activity :

With good clarity, facial expression and voice modulation the incident of Minikutty was read in the class. All the students listened it calmly.

On completing the reading a discussion was held. For that the following discussion points were given by the teacher:

- The greatness of the deed of Minikutty.
- Difference between sympathy and empathy. Which is desirable?
- If you were in the place of Minikutty.....?

The teacher concluded the discussion and then gave the students one special assignment of preparing a script for the dramatization on the incident of Minikutty. It was a group activity and each of the 7 groups was told to prepare it and be ready for the presentation in the next class.

VIIth Day of the Experiment (Skit Presentation)

The class started with the presentation of the skit. The chance for presentation was given only to one group that was much interested in it.

VIIIth Day of the Experiment (A Melted Heart in the Uniform)

The GAD activity carried out on the day was based on 'A Melted Heart in the Uniform', an incident appeared in all Malayalam Newspapers.

Objectives:

- To provide the trainees to think more about the value-empathy.
- To enable the teacher trainees to effectively use certain day to day incident and relevant news from medias for inculcating values in students.

Activity:

Newspaper reading of 'A Melted Heart in the Uniform'.

The teacher read a news from the newspaper which appeared two years back. It was regarding an act of empathy done by a lady police constable.

After reading the news paper report a discussion on the greatness of the incident was held in the class.

IXth Day of the Experiment (Indomitable Spirit)

Objective:

To equip the trainees with suitable incident for the inculcation of values.

Materials: DTP copy of the incident 'A Great Deed of Little Angels' from the book 'Indomitable Spirit' written by A.P.J Addul Kalam.

The class started with the reading of the incident 'A Great Deed of Little Angels'. After the reading a discussion was done based on the incident focusing the discussion point given below:

- Your feelings on the incident.
- Compare the deed of these disabled children with that of normal children.

Xth Day of the Experiment (Net and Ball Game)

Objectives:

- To enable the trainees to understand the importance of co-operation for the successful fulfilment of any activity.
- To familiarize the trainees with a game suitable for the inculcation of the value co-operation.

Materials: Twine, Ball

Procedure of the Game:

- Select all the trainees as participants
- Arrange them in circle, keeping equal distance.
- Leader brings a bundle of thread.
- Weave thread in the shape of a star tying at the tip of the thump of each one.
- Each one should tighten the thread with fingers.
- Observe the circle formed at the centre.
- Put the ball at the centre of the net.
- Ensure ball can be kept at the circle if all participants think and act together.

After the game a discussion was made based on the following points:

- The ball is the symbol of the objective to be achieved by the group.
- The twine represents co-operation among the group members.
- The ball remains at the centre when all the group members act together wholeheartedly.
- When was the ball fallen down?

XIth Day of the Experiment (Value Ladder Game)

Objectives :

- To familiarize the trainees with a suitable game for the inculcation of values in students.
- To enable the trainees to recognize how good values and vices will affect the life of a person.

Materials: Value ladder board, coins, dice.

Description of Value Ladder Game

It is just like the snake and ladder game. In the board of this game certain values too are mentioned at the bottom of some of the ladders. In a similar way certain vices too are mentioned in the mouth of some of the snakes.

In the play when one reaches at the columns where the values are mentioned gets promotion to a higher column. When the player reaches at the vices' columns he will go down.

Procedure of the Game

- It was a group game. In every group there were four members.
- Ladder board and coins were distributed to each group.
- Each group plays the game and completes as in the case of snake and ladder game.

After the game a discussion was held in the class.

Discussion Points

- Reaching at the bottom of all ladders does not imply going to higher position.
- When does one become successful in life?

XIIth Day of the Experiment

Post-test

In the last day a post-test was administered in the experimental and the control groups using the same tool for both the groups.

In addition to the post-test scores' assessment, analysis of the data collected through unofficial observation, conversation with the students, opinion of teachers, etc. were also taken into consideration for evaluating the merits of experiment.

Results

- There is significant difference in the status of values imbibed by the trainees of Experimental Group and Control Group. This difference is caused through the experiment. It means that the GAD strategy is an effective method for the inculcation of values in students.
- GAD strategy is an effective method for equipping the B.Ed. trainees for the inculcation of values in students.
- A number of games suitable for the inculcation of values were developed and familiarized to B.Ed. students.
- The game thus familiarized to the trainees will enhance their competency for the inculcation of values in students. The Post-test results reveal this fact.
- An interest among trainees for searching and developing suitable games/ activities for the inculcation of values was created. This was made clear from the number of games/activities collected by trainees in response to an assignment given to them. That is, when an assignment to collect or develop suitable games/ activities for the inculcation of values was given to the trainees a number of games/ activities were collected/ developed by them. Many of such activities were very

attractive and relevant. It includes incidents from the life history of great people, moral stories, self developed stories, dialogues, cartoons, slogans etc.

- As a result of involvement in GAD activities the interpersonal relationship between pupil-pupil and pupil-teacher improved substantially. The responses of different teachers of the college have revealed this fact.

Educational Implications of GAD Strategy

As it is proved that GAD strategy is an effective method for the inculcation of values in children, this strategy may be practiced in schools for value education. For this, teachers can be familiarized with this method through teacher training programmes.

The competency of B.Ed trainees who have involved in this project has improved substantially. Considering this fact GAD strategy may be included in the curriculum transaction strategies of B.Ed Programme to equip the future teachers for the inculcation of values in their students.

Conclusion

With a view to develop an effective method for inculcating values in students an experimental study was carried out. For this innovative study various games (activities) suited for the inculcation of values in students were developed or collected. Through the present study, the effectiveness of GAD strategy was tested and it is found that GAD Strategy is an effective method for the inculcation of values in students.

Also the results obtained from the analysis of Post–test data reveal that if B.Ed trainees are provided enough opportunities to involve in GAD activities their competency for value education will be enhanced.

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INTEGRATED PROCESS SKILLS AMONG SECONDARY SCHOOL STUDENTS

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Abstract

The National Curriculum frame work (NCF, 2000& 2005) outlined by NCERT strongly supports the constructivist and learner-centered approach in school education. But the extent to which the teaching of science and the learning of the subject is effective in imparting training of skills and acquisition of science process is in question. As the emphasis in teaching is shifted to the active process of investigation, the assessment of process skills should be integrated into classroom teaching and assessment. The researcher feels that the present study will help to assess the Basic Science Process Skills developed by secondary school students through science learning. The main process skills selected for the present study are basic process skill such as observation, classification and inferring. The Basic Science Process Skills provide a foundation for learning complex skills. The main objectives of the study are, to find out the level of process skill development among Students of Standard Nine and to find out the significance difference if any between the Means of the scores on Basic Science process skills among Students of Standard Nine with respect to gender and Medium of instruction. Survey method is selected for the study and the Process Skill Assessment Test was the tool administered to collect data. Major findings of the study are (a) Most of the students have moderate Basic Science Process Skills.(b) There is no significant difference in process skills among Boys and Girls.(c) There is significant difference in process skills among English medium and Malayalam medium students.(c) Most of the students are better in Observational skill among the Basic Science Process Skills.

Key words *: Process Skills, Basic Science Process Skills, Observation Skill, Classification Skill, Skill of Inference.*

Introduction

According to science manpower project, "science is a cumulative and endless series of empirical observations which result in the formulation of concept and theories, with both concepts and theories being subjected to modification in the light of further empirical observations. Science is both a body of knowledge and a process of acquiring and refining knowledge"(Sharma, 1996). Therefore, it can be inferred that science is a body of knowledge and a continuous self-evaluative process of enquiry.

Science as a Process

The view of science as a process implies that science is the drawing out of

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inferences from interaction with experiences. The ways and means adopted by scientist in their pursuit of investigation is the process of science. Science is not a finished enterprise and there remains much to be discovered about the universe. In this aspect, the way of exploring truth is given more emphasis. The method adopted in science in the exploration of truth is unique and distinct from methods adopted by other subjects.

Process Approach in Science Teaching

The process aspect of science is emphasized in teaching of science which is supported by psychological theories proposed by Piaget (cognitive constructivism), Vygotsky (social constructivism), Gardner (theory of multiple intelligence), etc. The process approach focuses on the learning theory of inquiry skills more than specific content (Gagne, 1967&Harlen, 1978). This approach encourages the students to generate meaning and knowledge from experience. It considers learners as active participants in the learning process.

Several projects were designed in the teaching of science taking in to account the objectives of process approach and anticipating integration of knowledge. Projects such as Nuffield Junior Science in Britain (Harlen,1978) and courses in chemistry such as Chemical Education Material Study (CHEM-Study),Chemical Bond Approach (CBA), and Science A Process Approach (SAPA) of the American Association for the Advancement of Science (AAAS) in the United States are a few along this direction (Pode,1966& SAPA,1966). These projects emphasized processes of science such as observing, classifying, inferring rather than the content of science (Rajan, 2004).

It is a matter of debate among science educators that science process skills are acquired through science education as a byproduct or as a result of special training. Some research studies show that, constructivist approach is effective in developing science process skills at different levels. The required skills for conducting a scientific inquiry or formulating a generalized idea in science are known as science process skills.

Science: A Process Aapproach (SAPA)

Science: A process approach (SAPA) is an experimental programme sponsored by the American Association for the Advancement of science (AAAS). The programme was developed by teams consisting of scientists and educators.

The basic assumptions underlying SAPA programme are:

1. Science can be taught to young children in a way that is faithfull to science as an intellectual approach to the world. For the SAPA programme, the primary implication is that children should learn, not to much the facts which are the outcome of scientific investigation, as the process used by scientists. There are eight basic process and five integrated process contained in the programme.
2. Science is best learned by dong science. Hands-on learning is the way to go.
3. Lessons must take into account the empirical findings of developmental psychology. In SAPA, this assumption is treated in a pragmatic way. If a particular lesson cannot meet the 90-90 standard of mastery learning, analysis of the lesson may indicate that the cause may

lie in a developmental problem. Revision and rewriting and retesting will fill up the deficiency. The SAPA programme uses the insights of the behavior psychologist, Robert Gagne, as a functionary model in the programme design.

SAPA grouped process skills in to two types – basic and integrated. The basic (simpler) process skills provide a foundation for learning the integrated (more complex) skills. These skills are listed below.

Basic Science Process Skills

Process	Meaning
Observing	Using the five senses to gather information
Using space/ time relationships	Describing spatial relation-ships and their change with time
Classifying	Imposing order on collection of objects or events
Using numbers	Identifying the quantitative relationship in nature
Measuring	Measuring length, area, volume, weight, temperature, force and speed
Communicating	Expressing ideas with oral and written words, diagrams, graphs, mathematical equations and various kind of visual demonstrations.
Predicting	Making specific forecast of what a future observation will be
Inferring	An explanation of an observation

Integrated Process Skills

Process	Meaning
Controlling variable	Studying the influence of schanging variables, the factors which influence one another
Interpreting data -interpretations and the study of probability	Using data to make infer-ences, predictions and hypotheses; the statistical treatments given to such
Formulating hypothesis	Making generalized statements of explanation
Defining operationally	Defining terms in the context of experience
Experimenting	Larger process of using basic and integrated process

The process of investigations under SAPA begins in highly specific and concrete form and gradually generalizes by well planned exercises. The processes are used as guidelines for constructing sequence of instruction. There is progressive development in each process category. As this development proceeds, the process turns to be increasingly interrelated, with corresponding development of other process. Thus we can summarize that the process are carefully analyzed in eight basic and five integrated processes.

Need and Significance of the Study

Science teaching in class room should be capable of inculcating science process skills among students. Science class should be busy with observation, classification, arranging apparatus and materials, measuring, organizing data, drawing inference, hypothesizing, designing simple experiments, testing hypothesis, identifying and controlling variables. Those activities which include, as much as possible process skills should be there in each lesson according to the nature of the topic.

As teachers, we are greatly interest to know how well our students are doing

science or how much they are skilled in science processes. The new curriculum which is followed in our country is based on constructivism as a major theoretical backing. Constructivism is based on the belief that learners actively create, interpret and organize knowledge in their own way. Learner should participate in experience that accommodate inquiry activities, discovery, problem solving, collecting and interpreting information from different sources , expressing their understanding in diverse ways and applying and validating their understanding in new ways. It is constructivism that initiated learner centered approach in education. The national Curriculum frame work (NCF, 2000 & 2005) outlined by NCERT strongly support the constructivist and learner-centered approach in school education. But the extent to which the teaching of science and the learning of the subject is effective in imparting training of skills and acquisition of science process is in question. As the emphasis in teaching is shifted to the active process of investigation, the assessment of process skills should be integrated in to classroom teaching and assessment. The researcher feels that the present study will help to assess the Basic Science Process Skills developed by secondary school students through science learning. The main process skills selected for present study are Basic Science Process Skills such as observation, classification and inferring. The Basic Science Process Skills provide a foundation for learning complex skills. So the student should acquire Basic Science Process Skills. Through the present study the investigator tries to find out the basic process skill development of secondary school students. A detailed description of basic science process skill selected for the present study is given below.

1. The Observation Skill

This is the most fundamental Basic Process Skill of all the process. Observation may be defined as the gathering of information through the use of any one, or combination of the five basic senses: sight, hearing, touch, taste and smell. The term observation may be used to express the result of observing. In other words one might observe and, as a result, gather observations. These observations can also be called data or facts. Observation should suggest objectivity as opposed to the expression of opinion. Skilled observers seem to proceeds from general perception of a system to more specific ones so the nature of skilled observing can be thought of as analytical. In summery observation is an objective process of gathering data through the use of one's senses applied in an analytical way.

2**. The Classification Skill**

Classification one of the main basic process skill is the process of grouping objects on the basis of observable traits. Objects that share a given characteristic can be said to belong to the same set. The process is somewhat arbitrary depending upon the identifying trait is selected. Skill of classification means ability to organize observation. Classify builds up on everyday efforts to organize but follows particular 'rules'. The only properties for classifying come from observations, not inferences. Standard practice is to divide groups in to two opposite categories. There is several method of classification. Perhaps the simplest method is a serial ordering. Objects are placed in to rank order based on some property. Two other methods of classifications are binary classification and multistage classification. In

a binary classification a set of objects is simply dived in to two subsets. This is usually done on the basis of whether each object has or does not have a particular property. A multistage classification is constructed by performing consecutive binary classifications on a set of objects and then on each of the ensuing subsets.

3. The Inference Skill

Unlike observations, which are direct evidence gathered about an object, inferences are explanations that follow from observations. When we are able to make inferences and explain events around us, we have a better appreciation of the environment around us. Often many different inferences can be made based on the same observations. Our inferences also may change as we make additional observations. We are generally more confident about our inferences when our observations fit well with our past experiences. We are also more confident about our inferences as we gather more and more supporting evidences. When students are trying to make inferences, they will often need to go back and make additional observations in order to become more confident in their inferences. The skill of inference comes from creative thinking. In science, inferences about how things work are continually constructed, modified, and even rejected based on new observations.

Grouping objects or events is a way of imposing order based on similarities, differences, and interrelationships. This is an important step towards a better understanding of the different objects and events in the world.

Process skill has many sided significance. It stimulates autonomous recognition of relationship, broadens background knowledge for current and future use, reinforces the skill and motivates the pupil towards self education.

As the educational process has now shifted to a process approach, it is essential to find acquisition of the Basic Science Process Skills which are the necessary attribute for the development of an individual in the scientific path of investigating things. The present study seems to be significant in this respect.

Objectives

1. To study the distribution of the scores on Basic science process skills among the Students of Standard Nine.
2. To find out the level of process skill development among Students of Standard Nine.
3. To find out the significance difference if any between the Means of the scores on Basic Science process skills among,
   A. Boys and Girls of Standard Nine of Kottayam district.
   B. English medium and Malayalam Students of Standard Nine of Kottayam district.
4. To find out the mean scores of components of Basic Science Process Skills.

Hypotheses

1. The distribution of Basic Science Process Skill development of Students of Standard Nine is approximately equal.
2. There is no significant difference in the Means of the scores on Basic Science

process skills among Boys and Girls of Standard Nine of Kottayam district and English medium and Malayalam medium students.

Methodology

Normative survey method was adopted for the present study. The present study consists of sample of 109 Students of Standard Nine, randomly selected out of the total population in Kottayam District. Selection of sample is according to gender and medium of instruction. Observation, classification, inferring, are the main Basic Science Process Skills selected for the present study. The investigator used Science Process Skill Assessment Test. The assessment of each skill was done separately. Test I having 20 multiple choice questions were used to find out the classification skill, Test II having 20 multiple choice questions were used to find out the inference skill and Test III having 20 multiple choice questions were used to find out the observational skill. All questions are based on the standard 9 physics and chemistry Text book.

The Process Skill Assessment Test (PSAT) was administered to the selected samples. The students were given necessary instructions before allowing them to answer the questions. The meaning of terms and items which the student could not understand if any were explained to them. The scoring procedure was done according to the scoring key prepared by the investigator. The collected data was systematically classified and tabulated according to the formulated hypotheses.

Statistical Techniques

The following statistical techniques were employed for the analysis of the data collected.

1. Mean
2. Standard deviation
3. 't' –test

Analysis and Interpretation

Table 1

Distribution of the scores of Basic Science Process Skills among students of standard Nine

Class interval	Frequency	Percentage
16-20	2	1.83
21-25	3	2.75
26-30	7	6.42
31-35	8	7.33
36-40	16	14.68
41-45	35	32.11
46-50	27	24.79
51-55	11	10.09
56-60	0	0
Total	109	100

The first objectives was to find the distribution of Basic Science Process Skills among the standard nine students. From the table values it is interpreted that highest number of students fall in the class interval of 41-45. 32% students got this score. The tables show that the scores are accumulated towards the central scores. Only 1.83% belongs to class interval 16-20 and no samples found in the class interval 55-60. This shows that the process skills are normally distributed among the samples

Table 2

Classification of total sample of students based on their Basic Science Process Skills.

Level of process skills	Range	No: of students	Percentage
High process skills	>49.29	20	18.34
Moderate process skills	Between 49.29 and 33.87	73	66.97
Low process skills	<33.87	16	14.67
	Total	109	100

The second objective was to find out the level of process skill development among Students of Standard Nine. The investigator classified the whole sample based on the scores obtained in the tool selected Process Skill Assessment Test (PSAT). The classification was done using the mean and standard deviation of the scores. As table 2 shows majorty (66.97%) of students have moderate process skills. Only 18.34% of students have high process skills. About 14.67% of students have low process skills.

Table 3

Basic Science Process Skills among Students of Standard Nine with respect to Gender

Variables	Category	Mean	S.D	t-value	Remarks
Basic Science Process Skills (Observation, classification, inference)	Boys	41.3962	7.50	0.238	Not significant at .05 level
	Girls	41.7500	7.96		

Table 4

Basic Science Process Skills among Students of Standard Nine with respect to medium of instruction

Variables	Category	N	Mean	S.D	t-value	Remarks
Basic Science Process Skills (Observation, classification, inference)	English medium	69	43.7101	6.50362	4.054	Significant at .05 level
	Malayalam medium	40	37.9000	8.30446		

The third objective was to find out the significance of difference in the process skills of Students of Standard Nine based on Gender and Medium of instruction. The investigator used inferential statistics to find out the significance of difference between the mean scores of the variables. It is clear from the table 3 that the t-value is less than 1.96 at 0.05 level of significance. It shows that there is no significant difference in process skills between the Boys and Girls of standard Nine. The null hypotheses accepted. The mean scores on process skills of Boys and Girls are more over same.

Table 4 shows that the t-value 4.054 is greater than 1.96 at 0.05 level of significance. It shows that the mean scores on the process skills of English medium and Malayalam medium Students of Standard Nine differs significantly. The null hypothesis formed is rejected. The investigator concludes that there exists significant difference between English medium and Malayalam medium Students of Standard Nine in the process skill development. The mean scores on process skills among English medium students is 43.71 and Malayalam medium students is 37.9. So the English medium students having good process skills than that of Malayalam medium students.

Table 5

Mean scores of the components of Basic Science Process Skills (classification, Inference, Observation)

Components of Basic Science Process Skills	S.D	Mean
Classification	3.29	11.91
Inference	2.92	14.01
Observation	2.98	15.65

The fourth objective was to find out the mean scores of observational, classification and inferential skill of Students of Standard Nine.

From the table 5 it is clear that the mean scores of Observational skill are higher than that of Classification skill and skill of inference. Most of the students are better in their Observational skill than the other two skills.

Major Findings of the Study

1. The distribution of Basic Science Process Skills among students is normally distributed.
2. Most of the students have moderate Basic Science Process Skills.
3. There is no significant difference in Basic Science Process Skills among Boys and Girls.
4. There is significant difference in Basic Science process skills among English medium and Malayalam medium students.
5. Most of the students are better in Observational skill among the Basic Science Process Skills.

Conclusion

The acquisition of Basic Science Process Skills (simple skills) act as the foundation for integrated process skills (complex skills).When students focus on the process of inquiry, they develop the ability to ask questions, define problems, investigate the world around them and use their observations to construct reasonable explanations for the problem. Inquiry is a terminal thinking process in which the students have to actively engage in, after passing through the necessary prerequisites for conducting it. Therefore it should be attained in the context of teaching and learning conditions which include discovery from the part of the learner. The teacher should ensure the active engagement of pupils throughout the activities in the science classroom through constructivist approach. Then only the process skill develops and processes are essential part of students' learning experiences so that they can learn and practice the methodology of Science.

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COOPERATIVE LEARNING- A PROMISING STRATEGY TO EMPLOYABILITY

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Abstract

Cooperative learning is a broad phrase for an effective learning and living. The major elements are – team work, interpersonal relationship, positive interdependence, individual accountability, communication and evaluation which in turn help the development of social skills in a learner through his academic work. These social competencies are very similar to the common employability skills. Several researches and experiences have been reported from abroad, highlighting the importance of cooperative learning in employability. In the light of these evidences the author wishes to give a suggestion that incorporation of cooperative learning as a strategy for curriculum transaction will have effective and immense output in education and employability.

Key Words : *Cooperative Learning, Employability, Instructional Strategy, Individual Accountability, Positive Inter-dependence, Social Skills.*

Introduction

"Each of us can do something but none of us can do everything".

So let us put this something together and make everything out of it through cooperative learning.

Cooperative learning is a structured systematic instructional strategy in which a small group of students work together towards a common goal. According to Slavin(1983) cooperative learning is a teaching strategy that encourages students to work in small heterogeneous learning groups in order to promote individual learning.

Cooperative learning enables all learners in the classroom to work together with individual accountability and positive interdependence and arrive at the final goal through team work. Here small heterogeneous groups of 5- 6 members work together. Unlike other methods of instruction, cooperative learning contributes to the intellectual development as well as to the social and psychological development of the learners or it equips him with the social skills necessary for leading a successful social life. Thus it helps to achieve the individual and social goals of education. The era of globalization has made positive interdependence, an indispensable factor in sharing knowledge, information and ideas and narrowing down the differences, so that global challenges are met with good will and cooperation. Many nations have come to realize the inevitability of interdependence and cooperation so that humanity survives better

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despite the negative trends of globalization. The worst effects of market economy in the context of globalization tend to impose individualistic forms of competition. The conventional education systems in India and abroad have been promoting teacher fronted and highly individualistic ways of learning and achieving. And they have emphasized individual achievements and unfair competitions resulting in a division of winners and losers which in turn creates a kind of hostility among the students. More over it is away from humanistic ways of achieving things.

Cooperative learning provides a shift from traditional ways of learning. It provides better chances for learners to develop successful learning and communication strategies and helps them to solve the deficiencies found in the conventional models. As a process oriented learning, it gives emphasis on the process of learning rather than products of learning, fosters cooperation rather than individualistic competition and appreciates meta cognitive strategies rather than survival skills.

Cooperative learning involves four major elements:

* Positive interdependence
* Individual accountability
* Face to face interaction
* Social skill development

If these key elements are implemented properly by teachers, cooperative learning strategy can create a supportive environment that enable students to succeed academically, enhance their employability skills and improve their interpersonal relationship. When students work in cooperative teams in which "all work for one and one work for all", team members receive academic as well as emotional support which will help them to overcome many obstacles they face in school. In a cooperative learning environment, students are positively linked to others in the class. They will help each other and depend on others for completing the tasks. Team work fosters positive interdependence among the members. This will help them learn valuable interpersonal skills that will benefit them socially and vocationally. Team work also paves way for developing high level thinking skills as analyzing, explaining and synthesizing.

Interactive sessions in cooperative learning stimulate and develop cognitive, linguistic and social abilities of students. Cooperative learning creates natural interactive contexts in which students have authentic reasons for listening to one another, asking questions, clarifying answers and restating points of view. While providing ground for social skill development, it will enhance academic achievement, employability skills, interactionship and general psychological health.

Values of Cooperative Learning

In cooperative learning groups, students are given two responsibilities:-

1. To learn the assigned material and make sure that all other members of their group do so.
2. Students perceive that they can reach their learning goals only if other students in the learning also do so.

Inherent Values in Cooperative Learning

- Commitment to the common good.
- Success depends on the joint effort of everyone to achieve mutual goals. Success depends on everyone doing his or her part.
- Facilitating, promoting and encouraging the success of others in a natural way.

- Pleasure of succeeding is associated with others' happiness in their success.
- Others are potential contributors to one's success.
- Diverse qualities of others facilitate joint success. Thus everyone has value. Cooperation teaches self worth.
- Cooperators value intrinsic motivation based on striving to learn, grow, develop and succeed.
- Others are perceived as potential resources and contributors to one's success.

The diverse contributions of members results in the realization that in the long run, everyone is of equal value and equally deserving, regardless of their gender, ethnic membership, culture, ability etc.

Origin of Cooperative Learning

"Two are better than one, because together they can work more effectively." Ecclesiastes: 4: 9

In the first century, Quintillion stated that students could benefit from teaching one another. In the late 1700s Joseph Lancaster and Andrew Bell made extensive use of cooperative learning groups in England and the idea was brought to America when Lancastrian School was opened in New York City in 1806. During the 'Common School Movement' in United States in the early 1800s there was a strong emphasis on cooperative learning. In the last 3 decades of 19th century Colonel Francis Parker brought into practice a classroom atmosphere which was truly cooperative and democratic. Parker's advocacy of cooperation dominated American education by the turn of the century. Following Parker, John Dewy promoted the use of cooperative learning groups as a part of his project method of instruction. But in 1930s interpersonal competition and in 1960s individualistic learning dominated in school education. Herman Schneider (1872- 1939) made a frame work for cooperative education in 1901 in Carnegie Technical School. Now it is known as Carnegie University. Later in 1903 he was appointed in Cincinnati University for promoting cooperative learning. Thus it has the practical beginning in Cincinnati University in 1906 and they gave permission for cooperative programme award which is popularly known as 'Herman Schneider Award'. In the mid 1960s Johnson & Johnson contributed much for cooperative learning in the training of teachers at the University of Minnesota. Then it progressed till 1970s where researchers like David Devries and Keith Edwards at John Hopkins University built up Team-Game-Tournament and Sholmo and Yael Sharan in Israel developed the group investigation procedure. In late 1970s Robert Slavin extended Devaries' and Edward's work at John Hopkins University into Student-Team-Achievement Division. At the same time Spencer Kagan created Co-op Co-op procedure. In 1980s Donald Dan Screan formulated a number of cooperative scripts. By 1990s Johnson & Smith worked out several cooperative learning procedures. Later in 1995 cooperative learning was used in communicative language learning by Putman. By 1980s schools in abroad widely opened the doors for cooperative learning. Now it can be said as an educational magic of 21st century. But little attempt is done in Indian class rooms.

Why Cooperative Learning in Classrooms?

A study published by the center for public resources in 1982 indicated that the main reason people lose their jobs is not because they don't have the skills for the jobs, but they cannot get along with their co-workers.

It is the teacher's job to teach social skills for two reasons:-

- These skills are vitally important for the future success of students.
- These skills are not generally being learned at home or anywhere else.

The investment of time in teaching social skill will more than be paid back in time gained, since students who know how to work together effectively are able to accomplish a great deal more than those who do not.

Regarding the academic side, in cooperative learning groups; students will be able to do their academic work more successfully. More over it inculcates higher order thinking skills, social skills and problem solving skills among the learners.

Social skill development, one of the major elements of cooperative learning is very significant for learners to develop inter personal skills needed for succeeding in a multicultural world.

The social skills include several aspects such as:-

- Communication
- Leadership
- Decision making
- Conflict management
- Listening
- Taking turns
- Contributing ideas
- Explaining oneself clearly.
- Encouraging others.
- Constructive criticism of others.
- Value inculcation
- Acceptance to differences

Social Skills and Employability

Employability can be said as the ability of an individual to attain, enter, survive and succeed well in a profession or employment. This ability can be cultivated and developed through training using suitable strategies. These strategies help him to attain certain common skills known as social skills which are essential for all employers. Thus employability and social skills have a close relation. In other words the social skills build the ground for employability. So these social skills can be otherwise referred as employability skills. Hence every individual should have some training in these social skills during school education and further during higher education so that he can thrive well in employment.

The main employability skills are:

- Communication skills (oral, written, visual)
- Team work
- Responsibility
- Problem Solving
- Information processing
- Adaptability
- Initiative and enterprise
- Planning and organizing
- Self management
- Technology skills

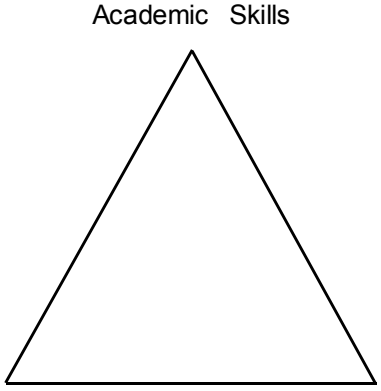
These skills are very much similar to the social skills listed above.

Cooperative Learning and Employability Skills (Abroad and in India)

Cooperative learning had been successfully used in abroad for inculcating employability skills among learners. It has been proved from researches done abroad and there they had developed several cooperative learning models and programmes for developing employability skills among learners. Some of them are listed here.

Employability skill implementation model developed by Guilford Technical Community College (GTCC)

This model is diagrammatically represented in the form of a triangle.



'Co-op' model developed by Grubb and Villenuve (1995). This includes school based and work based learning and connecting activities such as seminars and worksite visits. This model helps students to connect work and learning. 'Co-op' model is helpful in building motivation, career clarity, employability, vocational maturity etc.

In Griffith University all course outlines are required to show evidence of employability skills development at the graduate level.

Melbourne university had developed a model called Melbourne model for employability skill development.

University of New South Wales had developed a cooperative programme. University of Sydney had developed Lucy programme for employability skill development.

And still more examples are left behind.

All these programmes and models are for inculcating employability skills along with academic skills through cooperative learning.

But unfortunately, very little attempt is made in India in these lines. So we should take a bold step for incorporating cooperative learning strategies initially in the school curriculum and later at higher education level. Because developing employability skills is a continuum and students gradually acquire this through academic work.

Conclusion

Cooperative learning strategies hold great promise for accelerating student's attainment of high academic standards and development of knowledge and abilities necessary for thriving in a multicultural world. Cooperative approaches can create a supportive environment that enables the learner to succeed academically and enhance employability skills through the attainment of social skills. The 'quaint essence' of this strategy is interpersonal relationship and positive interdependence. So when cooperation is successful "the whole becomes greater than the parts".

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IDENTIFICATION AND CLASSIFICATION OF DIFFICULT BEHAVIOURS OF ADOLESCENTS USING Q-METHODOLOGY ON PERCEPTIONS OF SECONDARY SCHOOL TEACHERS

Darvin V. J. *

Dr. Vijay Grover **

Abstract

Difficult behaviours of learners have huge implications in the teaching learning process. Lesser the number and frequency of difficult behaviours greater will be the learning outcomes. The present study aimed at exploring the possible difficult behaviours of adolescents in classrooms and some classification that might be existing for these behaviours. Behaviours can fall in all the three domains of behaviour i.e. cognitive, affective as well as psychomotor. Here we have basically concentrated on affective domain rather than covering all the three domains. The study was carried out through ipsative choice method of Q-technique using procedure of interperson correlation as described by Stephenson in 'Study of Behaviour' (1953). Sixty secondary school Teachers of. Muktsar Dist., Punjab, constituted the sample. It was found that the highest rated difficult behaviours were 'aggressive', 'arrogant', 'rebellious', 'complaining', 'angry', 'abusive', 'stubborn', 'argumentative', 'uncooperative', and 'disobedient'. The least difficult rated behaviours were 'self-praising', 'moody', 'sentimental', 'submissive', 'low self-esteem', 'self-superiority', 'shy', 'slow-learning', 'irrational' and 'isolated'. The result shows that 'acting out' is the common feature of difficult behaviours endorsed by all the groups. It means that teachers don't consider acting in as difficult behaviours, which has been a major concern for the psychologists. Teachers are only concerned about their efficient classroom management and effective delivery of the subject matter. They see 'acting out' behaviours as a challenge to their authority. 'Acting in' behaviours or students' deficiencies, do not fall in the domain of most difficult behaviours. We can infer from it that teachers want to be authoritative rather than facilitator or co-learner.

Key Words **:** *Difficult Behaviour, Q-Methodology, Negative Behaviour, Ipsative Choice Method, Acting-out Behaviour, Acting-in Behaviour.*

Introduction

Quality of teaching does not depend only on the skills and behaviours of the teacher, but also on the intrinsic and extrinsic nature of the learners. Students have behaviours of both positive and negative extremes, where the former type make teaching a smooth ride and the latter disturb the classroom proceedings to any extent. The present study is concerned with the negative behaviours, which are termed as difficult behaviours. Every

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child misbehaves at times especially in adolescence. When it happens in a classroom it is distressing for a teacher who always likes to be a perfect teacher of perfect students. Teachers expect some designated classroom behaviour from the learner.

Difficult behaviours of learners have huge implications for a classroom atmosphere. Lesser the number and frequency of difficult behaviours greater will be the efficiency of classroom performance. For taking stoke of difficult behaviours shown by learners in a classroom, teachers are the best source of information; that is why teachers were made participants in the present study.

Difficult Behaviours

A difficult behaviour is an undesirable behaviour shown or expressed by a student in the classroom. It can be a monologue, dialogue or even a gesture which makes a teacher uncomfortable and distract from the teaching. A behaviour can be termed as difficult if it puts majority of teachers at discomfort, if it is felt so strongly as well as if it happens with significant frequency.

Difficult behaviours are basically two types 'Acting out' and 'Acting in' and may take various forms. The 'acting out' behaviour can be in the form of being rebellious, angry, aggressive, anti-social, arrogant and the like; whereas 'acting in' can take the form of withdrawal, isolates, non-social, self-centred etc. The present study is aimed at exploring the possible difficult behaviours and some classification that might be existing for these behaviours.

Q-Methodology

Q-method is a dependable way to address individual's unique points of view (Brown, 1996). The instrumental basis of Q-methodology is the Q-sort technique, which conventionally involves the rank ordering of a set of statements from agree to disagree (Brown,1996).

As difficult behaviours can be innumerable and perceived differently by different persons, the subject is of subjective nature. It came to the mind of the investigator to identify and classify these difficult behaviours of the adolescents. This cannot be studied by normal research tools available; consequently Q-technique came into the picture.

Operational Statement of the Study

Study of difficult behaviours of students as perceived by their teachers through ipsative choice method of Q-technique using procedure of interperson correlation as described by Stephenson in 'Study of Behaviour' (1953).

Objectives of the Problem

1. To construct unstructured Q-sort for the concept 'difficult behaviours'.
2. To find Interperson correlation for data obtained for persons (Teachers) through Q-sorting.
3. To identify most endorsed and least endorsed difficult behaviours of students by teachers.
4. To obtain the factors based on nature of items for the given groups of persons.
5. To give naming (dubbing) to the obtained factors.
6. To analyze the factors and priority of items on the basis of item mean scores.

Hypotheses

H_1 There exist distinct groups of teachers who have their own perceptions when it comes to identifying difficult behaviours of adolescents.

H_2 Difficult behaviours identified by different groups have unique dimension to identify these collectively representing a construct.

H_3 There are some common behaviours which run in more than one factor.

H4 Q- Technique is successful in dealing with subjective issues like the one under investigation

Sample for the Study

Sixty secondary school Teachers of. Muktsar Dist., Punjab, session 2011-12 constituted the sample. It was a sort of snow ball sample in a sense that one participant let us know the next one who could be offered to become participant in the study. Investigator tried to cover diversity of the sample in terms of attribute variables.

Description of the Tool Used

Self-constructed and standardized Q-sort items were used as tool for data collection. Seventy difficult behaviours were collected which represented a wide range of difficult behaviours. Except few all could be categorized in to two categories namely 'acting out' and 'acting in'. With the requirements of Q-sort operation of symmetry only fifty one behaviours were finalized. These behaviours were sequenced from 1 to 51 in random order as given below.

Table 1

Behaviour Number and Difficult Behaviour

Behaviour No.	Difficult Behaviour
1.	Attention getter
2.	Complains
3.	Aggressive
4.	Eccentric
5.	Throws temper tantrum
6.	Arrogant
7.	Indulges in self-praise
8.	Unfair
9.	Antisocial
10.	Hypocrite
11.	Moody
12.	Indifferent
13.	Neurotic
14.	Rambles
15.	Impulsive
16.	Hostile
17.	Insincere
18.	Egoistic
19.	Shows anger
20.	Sentimental
21.	Submissive
22.	Ill-mannered
23.	Abuses others
24.	Stubborn
25.	Argues
26.	Low self-esteem
27.	Envious of others
28.	Expresses self-superiority
29.	Boastful
30.	Leader
31.	Cheater
32.	Hyperactive
33.	Shyness
34.	Rebellious
35.	Mischievous
36.	Sensitive
37.	Lazy
38.	Careless
39.	Un-cooperative
40.	Slow learner
41.	Irrational
42.	Unethical
43.	Isolated
44.	Remains isolated
45.	Critical of others
46.	Talkative
47.	Distracted
48.	Disobeys
49.	Dependent
50.	Day dreamer
51.	Non-punctual

These behaviours were written on cards of 4''X6'' size and were to be distributed by the participants on the difficulty scale from most difficult to least difficult. The choice was ipsative in a sense the piles were fixed as nine in number with fixed number of cards to be placed as 1, 3, 5, 9, 15, 9, 5, 3,1 in symmetrical distribution. It must be noticed that centre is given much more probability of selection, but then most difficult and least difficult behaviours have to be lesser in number to be considered so. Data recording was done on the schematic data recording sheet prepared individually for each participant.

Administration of the Tool

It was a face to face exercise; the participants had to show their preferences according to their view on an ipsative scale of difficulty magnitude of the behaviour. The investigator noted the serials of the items placed in respective order in the Q-sort.

Scoring/Coding of the Q-Sort

After sorting of fifty one difficult behaviours into nine piles by sixty teachers, the scoring was done from least difficult to most difficult as 1 to 9.The most difficult behaviour pile (1 item) was scored 9, slightly lesser than most difficult behaviour pile (3 items) scored 8 for each item, somewhat lesser than most difficult behaviour pile (5 items) scored 7 for each item, lesser than most difficult behaviour pile (9 items) scored 6 for each item, equidistant pile from most difficult to least difficult behaviour (15 items) scored 5 for each item, greater than least difficult behaviour pile (9 items) scored 4 for each item, somewhat greater than least difficult behaviour pile (5 items) scored 3 for each item, slightly greater than least difficult behaviour pile (3 items) was scored 2 for each item, and least difficult behaviour pile (1 item) was scored 1.

The scoring was symmetrical in nature to give appropriate chance for selection for each position. These scores were arranged as matrix of person x scores. The columns of persons' responses were correlated to obtain interperson correlations.

Statistical Techniques Used

The original technique devised by Stephenson is based on array calculations, but the investigator has used a simpler approach of using means of the groups of persons on items. Interperson correlations was calculated by using Pearson product moment correlation method. Item means was calculated for observing priority to the items given by a group, accordingly factors were dubbed.

The data obtained in coded form for 51 items for 60 teachers was put to interperson correlation. It was observed that correlation values ranged from 0 to 1. Quite a good number of correlations were found to be significant at 118 degrees of freedom. The zero value of correlation indicated independent existence of persons, whereas high values represented likeness in perception.

Making of Groups of Persons

The groups of persons were formed on the basis of high correlations among the persons. The minimum correlation value selected for qualifying to form a group was .30. Groups were framed minimum for five members in it.The highest mean score items represented their priority for difficulty scale of behaviours of the students. These items were compared for the priorities for the same group. On the basis of the nature of high priority items, names of the groups were dubbed to show their independent existence.

The naming was done on the basis of most difficult behaviours obtained from first three piles. The remaining piles played no role in the study.

Findings and Interpretations

- The overall highest rated difficult behaviours are given below:

Table 2

Most Difficult Rated Behaviours

Sr. No.	Behaviour No.	Behaviour
1	3	Aggression
2	6	Arrogance
3	34	Rebelliousness
4	2	Complaining
5	19	Angriness
6	23.	Abusive
7	24	Stubbornness
8	25	Argumentative
9	39	Un Cooperative
10	48	Disobedient

- Overall least rated difficult bahaviours are the following :

Table 3

Least Difficult Rated Behaviours

Sr. No.	Behaviour No.	Behaviour
1	7	Self Praising
2	11	Moodiness
3	20	Sentiment
4	21	Submissiveness
5	26	Low self-esteem
6	28	Self-superiority
7	33	Shyness
8	40	Slow learning
9	41	Irrationality
10	43	Isolation

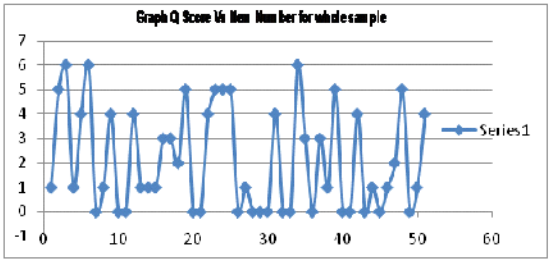
- Six groups of persons were discovered, which were distinct in their perceptions about the concept of difficult behaviours of the students.

Table 4

Groups of Persons, their number and the title given

Group of Items	No. of Persons	Title
Group I	5	Stubborn - lazy - Acting out
Group II	9	Disobedient-Argument-ative- Acting Out
Group III	7	Stubborn-Angry- Acting out
Group IV	9	Disobedient-Abusive - Acting out
Group V	6	Eccentric - Antisocial - Acing out
Group VI	5	Antisocial - Insincere - Acting out

- Overall highest rated difficult behaviours are 3, 6, 34, 2, 19, 23, 24, 25, 39 and 48. They are depicted in the graph shown below.



- Acting out is the common feature of difficult behaviours endorsed by all the groups.
- At least six factors are running through the concept of students difficult behaviours. These factors are Stubborn -

lazy - Acting out Student, Disobedient-Argumentative- Acting Out, Stubborn-Angry- Acting out, Disobedient - Abusive - Acting out, Eccentric - Antisocial - Acing out and Antisocial - Insincere - Acting out.

- The factor 'Stubborn - lazy - Acting out Student' reveals the fact that teachers find students who are stubborn are difficult to manage, the same is true for lazy and rebellious students. When these characteristics are in combination in a student it becomes further difficult to manage. If all the three difficult behaviours are present in a student it will make things worse.
- Nineteen teachers could not agree as a group to the meaning of difficult behaviours. In other words they had their own perception of students' difficult behaviours which do not fall in the investigator's given range of behaviours. It may be the fact that they have unique combination of these behaviours which do not match with other participants.
- It seems teachers are only worried about acting out behaviours and are not worried about acting in behaviours. They see acting out behaviours as a challenge to their authority.
- The view of the result reveals acting in behaviours or students' deficiencies, do not fall in the domain of most difficult behaviours. These behaviours definitely do not challenge the authority of the teacher. We can infer that teachers want to be authoritative rather than facilitator or co-learner.
- None of the behaviours has attained Q score as 9 i.e. absolutely difficult in overall sample, this is even true for any of the groups of persons. This is good as far as teachers' perceptions are concerned.

Hypotheses Testing

Hypotheses testing in the study is more or less qualitative type and is not tested on statistical levels of significance. These are to be proved on the basis of procedural outcomes and synthetic view point of the results obtained.

- Testing of Hypothesis H_1: "There exist distinct groups of teachers who have their own perceptions when it comes to identifying difficult behaviours of adolescents".

  The results revealed that there are at least six distinct groups as far as their perceptions about students' difficult behaviours are concerned. This proves that hypothesis stands accepted on empirical ground and summative evaluation of the outcomes of the study.

- Testing of Hypothesis H_{2-}: Difficult behaviours identified by different groups have unique dimension to identify these collectively representing a construct.

  The items included in these groups are on the basis of ranking produced in terms of perceptions of the groups. The four highest ranked items are distinctly different in majority cases from others, which suggested a unique title for the groups of items. This proves that the perceptions are different for uniquely constituted group of students. In other words we accept the hypothesis on the basis of the qualitative outcome of the results.

- Testing of Hypothesis H_{3}: There are some common behaviours which run in more than one factor.

  Behaviour number 3, 6, 34, 48 are common to all the six groups. Behaviours number 2, 19, 23, 24, 25, 39 are common to five out of six groups. Behaviour number 5, 9, 12, 22, 31, 42, 51 are endorsed to be difficult by four groups. Behaviours number 16, 17, 35, 37 are common to three groups. Behaviour number 1, 4, 8, 13, 14, 15, 27, 38, 46, 50 are of diverse nature. Behaviours number 1, 4, 13, 14 belong to group V, behaviours number 8, 15, 46, 50 belong to group II, behaviours number 27 belongs to group VI and behaviour number 38 belongs to group number I. These behaviours unique to the group have been taken into account while dubbing the factors. On the basis of the above qualitative observation we can say that hypothesis H_3 could not be rejected.

- Testing of Hypothesis H_4: Q- Technique is successful in dealing with subjective issues like the one under investigation

  The result obtained in this study should substantiate the fact the technique could resolve the issue quite successfully. But the investigator believes that data and results are open to the readers and reviewers and one is free to interpret in his/her own way and decide whether this hypothesis should be considered as accepted or rejected.

Conclusions and Suggestions

It was found that teachers don't consider acting in as difficult behaviours, which has been the big concern for the psychologists. Teachers seem to be less concerned about the growth and development of the student rather are only concerned for their efficient classroom management and effective delivery of the subject matter. Teachers need to be taught true prospective of teaching and its parameters to be effective.

The factors revealed during the study have thrown some light on the concerns of the teachers regarding difficult behaviours of the students in the classroom. Teachers do not like their student to be Antisocial, Insincere, Eccentric, Disobedient, Abusive, Stubborn, Angry, Argumentative, Lazy and Acting Out in any form. In other words they want their students to be social, sincere, normal, obedient, calm, disciplined, and active, and should not challenge the authority of the teacher. The last character is particularly to be reassessed, whether teachers are looking for submissive and conformist students who are rarely creative in their doings.

The results can be utilized to make students aware of the teachers' concerns and liking for the students' behaviour. At the same time the results can be used to make teachers aware of their faulty perceptions of difficult behaviours.

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SOCIAL COMPETENCE, SELF-CONFIDENCE AND ACADEMIC ACHIEVEMENT OF TRIBAL STUDENTS IN SECONDARY SCHOOLS OF IDUKKI DISTRICT

Lincymol Mathew *

Dr. Shaiju Francis **

Abstract

Development and progress of societies and nations largely depend on the quality of its members and the quality of the members can be enhanced only by imparting quality education to all including socially and educationally backward sections. In the educative process of children various factors such as self-confidence and social competence have a significant role. These factors may influence the achievement of students. The present study is an attempt to find out the relationship between social competence, self-confidence and achievement of tribal students in secondary schools. Survey method was used for the study. The sample consisted of 283 secondary school tribal students of Idukki district selected by stratified sampling procedure. Data was analysed using t-test, ANOVA and product moment correlation. On analysis, it was found that there is a significant relationship between all pairs of the three variables selected in the study.

Key Words : *Social competence, Social Skills, Self-confidence, Academic Achievement, Tribal People.*

Introduction

The mental, social and emotional competencies are responsible for the success of a person. Social competence refers to the social, emotional and cognitive skills and behaviours that children need for successful social adaptation. A child's social competence depends upon a number of factors including the child's social skills, social awareness and self-confidence. . The student with adequate social skills, social awareness, and perception is likely to be socially and academically competent.

Significance of the Present Study

The future of any country depends on the quality of young people, their motivation, aspiration, and ambitions and in the final analysis their character. The education of the backward classes in general and tribal people in particular is the major programme of equalization and national integration. A deep knowledge regarding various aspects related to education such as social competence, self confidence and academic achievement of students of those categories is essential for the implementation of various programmes for

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the uplift of their education. So the present study is made with the following objectives.

Objectives of the Study

1. To find out the relationship between social competence and self-confidence of secondary school tribal students in Idukki district.
2. To find out the relationship between social competence and academic achievement of tribal students of secondary schools in Idukki district.
3. To find out the relationship between self-confidence and academic achievement of secondary school tribal students in Idukki district.
4. To find out the difference in the academic achievement among secondary school tribal students from various tribal communities in Idukki district.
5. To find out the difference in the academic achievement between residential and non-residential secondary school tribal students in Idukki district.

Hypotheses of the Study

1. There is a significant relationship between social competence and self- confidence of secondary school tribal students in Idukki district.
2. There is a significant relationship between social competence and academic achievement of secondary school tribal students in Idukki district.
3. There is a significant relationship between self-confidence and academic achievement of secondary school tribal students in Idukki district.
4. There is a significant difference in the academic achievement among secondary school tribal students from various tribal communities in Idukki district.
5. There is a significant difference in the academic achievement between residential and non–residential secondary school tribal students in Idukki district.

Method Adopted for the Study

The study was made using survey method and it was undertaken to analyze the relationships among social competence, self-confidence and academic achievement of secondary school tribal students.

Population and Sample

Population includes the entire secondary school tribal students in Idukki district.

By stratified random sampling method, the investigator selected 283 secondary school tribal students from the population.

Tools used for the Study

The major tools used for the study are:

1. In order to measure the social competence of students the investigator adopted the Social Competence Scale by Dr. V.P.Sharma.
2. In order to assess the self confidence of students, the investigator used a self-prepared Self-Confidence Scale.
3. For measuring the academic achievement, the investigator used the total marks obtained by the students in the previous examination conducted state wide and it was collected from the school authorities.

Procedure of Data Collection and Statistical Techniques Used

The investigator personally visited the schools selected for the study. t-test, ANOVA and Product moment Correlation were used for analysing the data.

Major Findings of the Study

1. There is a significant relationship between social competence and self-confidence of secondary school tribal students in Idukki district.

   It is found that, the calculated 'r' value (0.437) is greater than the table value (0.113) at 5% level of significance. Hence the null hypothesis is rejected. Thus it is concluded that, there is a significant relationship between social competence and self-confidence of secondary school tribal students in Idukki district.

2. There is a significant relationship between social competence and academic achievement of secondary school tribal students in Idukki district.

   It is found that, the calculated 'r' value (0.391) is greater than the table value (0.113) at 5% level of significance. Hence, the null hypothesis is rejected. Thus it is concluded that, there is a significant relationship between social competence and academic achievement of secondary school tribal students in Idukki district.

3. There is a significant relationship between self-confidence and academic achievement of secondary school tribal students in Idukki district.

   It is found that the calculated 'r' value (0.279) is greater than the table value (0.113) at 5% level of significance. Hence the null hypothesis is rejected. Thus it is concluded that, there is a significant relationship between self-confidence and academic achievement of secondary school tribal students in Idukki district.

4. There is a significant difference in the academic achievement among secondary school tribal students of various tribal communities in Idukki district.

   It is found that, the calculated 'F' value (4.261) is greater than the table value (2.64) at 5% levels. Thus the null hypothesis is rejected. Thus it is concluded that, there is a significant difference in the academic achievement among secondary school tribal students of various tribal communities in Idukki district.

5. There is a significant difference in the academic achievement between residential and non- residential secondary school tribal students in Idukki district.

   It is found that the calculated 't' value (4.12) is greater than the table value (1.97) at 5% level. Hence the null hypothesis is rejected. Thus it is concluded that, there is a significant difference in the academic achievement between residential and non -residential secondary school tribal students in Idukki district.

Educational Implications of the Study

Nowadays, education is becoming a challenge for each pupil. Here, we can use the famous quotation 'the survival of the fittest'. In order to compete with the

challenging world, one has to be self-confident and socially competent. If a student has adequate self-confidence, he/she will be academically very well in almost all cases.

1. Through this study the investigator has proved that there exists a significant relationship between social competence, self-confidence and academic achievement.
2. Self-confidence scale should be administered in educational institutions. By doing so, it is possible to bring about improvements in the self-confidence and academic achievement of students.
3. In order to improve the self-confidence and social competence of students, participation in social activities, seminars and interviews with various leaders and discussions are essential.
4. Self-confidence is very essential to get a good academic record. So it is essential to improve this quality through training. In order to improve the self-confidence of students, the service of psychologists and counsellors are essential in all the educational institutions.

Conclusion

The present study inquired on the relationship between social competence, self-confidence and academic achievement of secondary school tribal students. The investigator believes that, the findings of the study are helpful in improving the social competence and self-confidence of the young children in such a way as to enable them to score high level of academic achievement.

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MEDIA CLUBS IN SCHOOLS AND ROLE OF MEDIA EDUCATORS

Dr. Anubhuti Yadav *

Abstract

One of the key points made by the National Curriculum Framework 2005 i.e. connecting knowledge to the life outside the school, has actually opened the door for media studies, a subject which was never in the past given its due importance in school curriculum. It was realized that students' media experiences are as important as their experience with their parents, peers and teachers and by allowing them to bring their media experiences in classroom, a creative environment can be created where they could get a chance to discuss issues which are very integral to their life. The idea behind teaching media is not to make them journalists or media persons. Media should also be taught along with other subjects as it is a very important part of students' lives. Students knowingly or unknowingly learn a lot from the continuous flow of media messages in their life. Sometimes the learning that take place is good whereas sometimes they also learn things which can affect their life adversely. Hence a media discourse is necessary at schools. Keeping in view the need for media discourse at school level and its probable challenges, a media club in school is suggested. This paper is written for media educators and teachers interested in education and public outreach and discusses elements involved in setting up and running of the Media Clubs. A community based learning (CBL) approach is proposed here. Methods of integrating media with other elements of curriculum are discussed and a list of hand-on media activities is presented.

Key Words *: Media Club, Media Educator, Creative Environment, Media Discourse, Media Diary, Local Media.*

Introduction

Various national organizations like National Council of Educational Research and Training, Central Board of Secondary Education, National Institute of Open Schooling and various state boards are working hard to make media as a subject at school level, but Media educators somehow has not paid any attention to this new development which in fact can change the face of media education in India. Despite efforts of various organizations, little attention is paid to media studies at school level across the country, both by the media educators at higher level and also by the schools. Since the subject is elective and is at a very nascent stage most schools avoided the subject. Some bury it with other subjects like social sciences and languages. Very few teach it as a standalone subject in schools. In addition the schools that offer this as a subject and the

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teachers who are called upon to teach this subject often have no training whatsoever in the field of media.

As media educator with the experience of teaching this subject at post graduate and undergraduate level and handling projects at school level, I felt that the subject has to be taken to schools because like other subjects it is important for them to study media. Challenges and obstacles will definitely be there as its always there whenever we introduce anything new. Introduction of media at school level can be done in three ways. It can be integrated with other subjects like language or social science. Second, it can be offered as a standalone subject. But, in both the above mentioned ways the challenges are many which include trained teachers, structured curriculum, curriculum overload etc. Here enters the school media clubs, the third way by which media can be integrated in school curriculum.

Determined to do something about this, I took up a project of establishing Media clubs in schools. In fact the idea of Media club came while we at NCERT were organizing training programmes for teachers in media studies. In-depth discussions on this matter which included lack of time and resources for the introduction of new subject, non availability of structured curriculum, no experience and expertise of teachers in this field came the idea of establishing media clubs in schools. This is a very realistic and doable strategy for infusing media into the educational experience of school children, their families, and, to some extent, their teachers as well. As media educator in University department of Journalism and mass Communication one can take a lead. In fact, media educators who really want the subject should be taken to schools and students must understand media messages can take this initiative of establishing media clubs in their respective regions.

These media clubs will help students to develop a conceptual understanding of the media that will involve both critical reception of and active production through media. It will also enable them to express their own voice through media, as well as the ability to see through what mass media offer. The basic idea is to provide students with an opportunity to develop life skills which will enable them to analyze these forms of modern communication and to help students to become wise consumers of media.

Objectives of Media Clubs

- To develop among students an understanding of the effects of mass media on themselves as individuals and also upon society and how the media influence our understanding of reality.
- To develop skills to deconstruct media messages by making them understand the constructed nature of media.
- To develop skills to encourage the production of creative media messages.
- To encourage students to express their feelings and thoughts through media messages they produce
- To introduce students to various career opportunities in mass media.

How to Begin: Links with Schools

Once you've decided that you would like to establish media clubs in schools, you will need to establish contact with the school to make it happen. There are a number of

steps in this process and it is important that they be done in a rough sequence. First contact schools, the school principal or vice principal is the primary contact person for these activities. Tell them what you want to do and work with them to schedule a room, time, and a registration process. Most schools have a monthly newsletter or their website. This can be a great place to advertise your club. Also, some schools have very well developed internet email list serves or short messaging services that you can use to communicate with parents. It is very important, at this time, to find out about school policies and procedures. Since a media educator will not be able to devote full time in school, it is necessary that responsibility should be shared with some school teachers. Ideally the teacher should have some experience in media or should be motivated enough to take up this new assignment. Here teachers handling subjects like social science, language or art education can prove to be a good resource. Select the teacher judiciously and discuss the other guidelines regarding number of hours required for the same, fieldtrips, taking the students outside for shoots, making connections with parents, and inviting experts from the local media.

Designing the Club

Once you have the approval of the school and are aware of school regulations and procedures, you are ready to design your club and as discussed earlier, finding a teacher co-leader is a good first step. So your first step is to set up a preliminary meeting with your teacher co-leader to decide on club logistics. First, you will need to pick a time. If the school already has such programmes in schedule, you may want to align with that. You will need to decide how large you want the club to be and which, if any, special populations of students (e.g. girls) you want to market the club to. Club sizes can vary, of course and the presence of a teacher co-leader will allow you to manage more club members. I suggest the maximum number should be 25 members, at least for the first few years. With 25, you can design some activities for three to four teams of students.

You should design the first few sessions ahead of time, or at least have a few sessions developed that you can pick from. Let your teacher co-leader help you design the activities. Contact a local media like newspaper or electronic media for some materials, ahead of time. Your school may also have materials you can use like various programmes, their own school magazines etc which can be uses for the analysis assignments.

Preparing for the Club

In preparing for your media club, there are a few things to keep in mind. Following the checklist below will help make it a more enjoyable and manageable experience for you and the club. Meet with your teacher co-lead before the first club session. Make sure you have each other's work and home contact information. Go over expectations and outline/ refine at least the first few club projects. Let the teacher help you with the process of teaching such as grade appropriate projects/ videos and presentation styles. Check IT policies before trying to use school computer equipment.

First Day – On the first day, you will spend some time to know each other. Plan a shorter activity on this day that is long on engagement and perhaps shorter on processing and analysis. Introduce yourself to the class and tell them about your interest(s) in media, where you work, how you got started, etc. Introduce your teacher co-lead and have them introduce themselves to the class as well. Always refer to what you and the teacher have planned or will be doing (not just what you have planned). Have your co-lead work with you to tell the club members what you expect they will be doing in the club. Then ask each student to give their name, grade, and tell something about their interest in media. Some will have past experience and interest in media. Some will not be even able to verbalize why they are there. Help each student to express an interest in something. Take notes on their interests and use the notes to help structure activities for the remainder of the semester. All this will take up a surprising amount of time. But make sure it doesn't take up the entire class time. Prepare something fun for the last hour of the class that does not require much effort.

Teachers' Involvement

You need teachers' immense help to conduct activities in schools. You might have experience handling students at graduate and undergraduate level, but handling school students is little difficult or little different I would say. Teachers understand their students better, hence their help will be required every time you visit school to conduct any activity. Teachers can help with discipline freeing you from having to juggle class content and student behaviour. Teachers are trained in classroom management and are generally given a level of respect by the students that make them more effective in controlling or directing student behaviours. Teachers also have access to school resources that a visiting scientist will not have. This can include utilizing resources from schools like stationary, different school locales, school equipments etc. Teachers understand school guidelines. This can be very helpful for things like arranging field trips and many other club activities. Teachers understand grade level curriculum and learning goals. They can help you to integrate media activities with other subjects.

They can also rope in teachers of other subjects so that media discourse is not happening in isolation but it encompasses all other subjects and activities which students and teachers are already involved in. They can help to turn a media project into an activity that enriches the student's experience across many disciplines addressing specific school learning objectives. For example, there are lot of concepts in the subjects like political science, environmental science which can be integrated with club activities. In fact a meeting with various teachers will help you to identify those concepts. A teacher co-lead can fill in when you are unable to attend club meetings. This can be especially helpful if you are busy with your own teaching assignment in your institute or cannot attend for other reasons. For this to work well, plan ahead. Discuss the entire calendar of event for the year with the club coordinator. Provide the club coordinator with enough notes and support material so that he/she is confident of what is going to happen in media club in one year.

With continuous comprehensive evaluation (CCE) at place in most of the

schools in India teachers now a days are very busy. So you have to keep in mind a teacher that agrees to help you with your club is probably highly motivated. This is a precious resource to develop and treat with great respect and appreciation. You should adopt a posture of both teacher and student, respecting and showing your gratitude for the unique contributions your club coordinator can bring to the club.

Parents' Involvement

Students not only learn in schools. They learn a lot at home too. As far as media experiences are concerned they are more or less common with students and parents. Household with one television set watches the same programme at one point of time. Talking about media to students alone will not bring the desired results if we really want them to be media literate we have to rope in parents also. What parents watch has a great influence on children. The ideal situation is to talk about media to both students and parents. Since parents would not be having much free time, they can always be involved once in a while in club activities. Certain media activities should be a family activity like tracking their media habits etc. Parental involvement in your media club will also help to enrich and extend the learning experience of the club members. If parents are also engaged and included in club activities and communications, they will be more likely to view the club as a positive experience for their child and to reinforce student learning at home by asking questions and showing interest and enthusiasm.

A wonderful way to include parents in their children's media learning is to track each other media habits and sharing the same with family and have discussion on the same. A get together can also be organized at school where all the families share their experience. Another way to include parents is to invite them to attend club meetings. Beyond this, we can have a facebook page for media club and invite parents to join the same. This way they will be informed what activities are happening in media club and they will also pitch in as and when their schedule allows.

Local Media

Beyond the boundaries of the school is a large resource reserve within the community that is often equally untapped. Opportunities for field trips to local newspapers, photography studios, cable channel are likely to be present somewhere in the city. Visits to such places can be an exciting addition to your media club agenda. Before you begin your club, you should make a list of these resources and have an idea of how you might use them during the year.

Journalists, reporters, advertisers and other people associated with this field will even be willing to come and speak with media club coordinators. Inviting a guest speaker to one of your sessions can be a nice change of pace and allow you to view the club in a different, role, as facilitator.

There are number of activities one can organize for the media. To begin with I would suggest you the following list. The list may appear little overambitious but you may revise it as per the resources available at your end. The idea behind setting up media clubs in schools is not to prepare media persons but to make students media literate. The activities mentioned below are indicative and

changes as per your requirement can be made.

The Activities under the Media Club

Media Diary:

Each student of media club will have his/her own Media Diary to record consumption of media messages. The club coordinator (teacher) will analyze the diary to see the trend in the media habits of children. This will help the students to keep track of their media diet.

School Newspaper:

A thought-provoking newspaper could be brought out by the students of Media club. The newspaper could be an issue based newspaper which carries news, features, editorials, poem etc on one theme e.g. Right to Education, Corporal Punishment, Environment etc. Themes could be selected by the editorial board/members of media club based on their experiences or the events taking place in the society around them.

Expression through Pictures:

This includes capturing scenes and events through camera. Students will be given topics to click photographs on.

Documentary:

A video / audio documentary can be scripted and produced by the students of media club. Club may screen the documentaries or programmes produced by their club and critiquing can be arranged by inviting experts from the field.

Screening:

The club also can have screening of good films/video and listening to good audio programmes

Media Advocacy:

Club coordinator along with other teachers and students will track the content of media both print and electronic and initiate debate and discussion on various issues highlighted in the media.

Media Literacy Activities:

A manual containing around 50 activities related to media analysis will be provided to schools by the CIET. Club coordinators will conduct those activities with the club members to develop among students an understanding of media.

Media Club News Bulletin:

Since lot of activities will be organized in schools, the media club members will record these activities and pass it on to CIET for Media Club News Bulletin which will be aired On DD1 and Gyan Darshan. This will be a news bulletin by the students for the students.

Interface with Media:

This is the platform through which members of media club will get an opportunity to interact with the experts from media and media education. Schools may organize talk by various media personalities.

Media Club on Facebook:

The coordinator of media club will be invited to join the media club on facebook where they can share their experiences with others. This will be platform wherein media club coordinators & members will exchange information and explore more possibilities and opportunities.

Media Club Blog:

Each school will have their own media club blog.

It's our voice:

Students will be encouraged to participate in mainstream media by writing letters or by joining some socially relevant campaigns initiated by the media.

'Media Club Experience' Seminar:

This will be organized at CIET at the end of the year wherein club coordinators will share their experience of running media club in their school.

Structure of Media Club

The media club should essentially have a governing council which plans and executes the activities of media club. The members of the Governing Council should include:

- Media Club – Director (you/media educator)
- President – Principal
- Secretary – Vice Principal
- Media Club coordinator – Teacher
- Four members who will include teachers, experts from media and media education.

The governing council can meet four times in a year for proper planning and monitoring of the media club activities.

Summary

Media has penetrated deep into the lives of students and hence has enormous power to reconstruct the way they look at the world, to shape their opinion, and redefine their values. Media messages if consumed wisely can broaden their horizon and help them to understand the world in a better way but if these messages are not consumed wisely and judiciously it can create havoc. Hence, teaching media to school children is the need of the hour. One way is to establish media clubs. Running Media Clubs can be an incredibly enriching and rewarding experience with just a little foresight and preparation. The media club provides the media educator with an opportunity to make a real and sustained impact on the media literacy of school age children, teachers, and school administrators who are involved in the development of the program.. But most of all, it's just a lot of fun and your responsibility towards those children who are flooded with media messages and are totally confused to decide what is good and bad for them as far as media messages are concerned.

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ACHIEVEMENT LEVEL OF STANDARD II AND III STUDENTS IN KERALA

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Abstract

Kerala has almost succeeded in achieving the objectives of universal enrolment and universal retention at elementary level. Now the major concern of the state is regarding the level of achievement of the students. Relevant knowledge related to the level of achievement of students is inevitable for planning and implementing suitable strategies for the improvement of achievement level. The present study is an attempt for assessing the level of achievement of standard II and III students in Kerala. For this achievement tests were conducted in a sample consisting of 2280 standard II and 2365 Standard III students selected using multi-stage cluster sampling procedure covering the entire state. The tests were in Malayalam, English, Environmental Studies and Mathematics. Indirect grading system was followed. Analysis of the test scores revealed that of the 5 grades allotted, the highest percentage in students of all subjects in standard II and III was for grade A. It was also found that the percentage of students obtained grade E is very small for all subjects both in standard II and III.

Key Words : *Fully Literate State, Accessibility to School Education, Child Centred Curriculum, Enrolment, Grading System, Achievement Level.*

Introduction

Kerala is one of the smallest states of India with a population of 333.87 lakh as per 2011 census. The male population of the state is 48% against 51.54% in India and of the female is 52 as against 48.46 in India. The decadal growth rate of population was +9.43 in 1991-2001 and it has decreased to +4.86 in 2001-2011. All the districts in the state show deceleration in the decadal growth rate and it is negative in two districts – Pathanamthitta (-3.12%) and Idukki (-1.93%). The state is highly homogeneous in terms of language. Nearly 96.66% of the population has Malayalam as mother tongue, 2.1% speak Tamil and 1.2 % use Kannada as the mother tongue. There is very small percentage of people speaking languages like Tulu, Konkani, Urdu etc. Those who speak languages other than Malayalam mostly reside in the border districts close to the neighbouring states.

For the past several decades, education has been a matter of concern for almost all the people in the state and there have been

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several efforts to make education more effective and less tedious especially at the school level. Consequently the state is well advanced in terms of various indicators of educational development. Kerala is the first state in India declared 'Fully Literate State' on April 18th 1991 and the literacy percentage according to 2011 census is 93.91. This percentage was 90.86 as per the 2001 census. The enrolment at the primary level is now almost universal and drop-out rates are very low.

Structure of School Education in Kerala

The system of school education in Kerala is comprised of Lower Primary (LP) schools, Upper Primary (UP) schools, High Schools and Higher Secondary Schools. The LP section consists of standards 1 to 4 (a small number of schools having standard 1 to 5), UP section is from standard 5 to 7 and High School section is from standard 8 to 10. Standards 11 and 12 come under Higher Secondary section. Government, Government Aided and Recognised schools are functioning in the State. The details regarding the number of schools come under each of the categories are presented in Table 1

Table 1

Details of Schools in Kerala

SL. No.	Type of schools	Govt.	Govt. Aided	Recog-nised	Total
1	L.P. schools	2692	3968	962	7622
2	U.P. schools	1088	1999	928	4015
3	High schools	655	934	577	2166
	Total	4435	6901	2467	13803
	AIE	320	-	-	320

Source: Sarva Shiksha Abhiyan Kerala Annual Report 2013 - 2014

Accessibility to School Education

With the wide net work of schools, there is greater accessibility so that 99.2% percent of the rural population is served by primary school sections within a distance of 1 km. With regard to U.P. education, 97.8 percent of the population is served with an Upper Primary Schooling facility within a distance of 1.2 kms. The access to the schooling facility has helped for the universal enrolment including students from Scheduled Caste and Scheduled Tribe.

Enrolment of Students in Schools

The enrolment of students in standard 1 to 8 during 2013-2014 is 4104921, according to the DISE data. Out of the total students 383782 are Scheduled Caste and 79741 are Scheduled Tribe Students.

Standard wise enrolment of students is given in Table 2.

Table 2

Enrolment of students in 2013-2014

Std	All Communities		ST		ST		Total
	B	G	B	G	B	G	
I	250872	239026	22702	21394	5497	4980	489898
II	246211	235739	21863	20962	4943	4544	481950
III	250363	238288	22445	21312	5200	4729	488651
IV	257661	245764	23870	22420	5312	4883	503425
V	264843	250509	24588	23026	5140	5012	515352
VI	273392	258190	26235	24424	5160	4795	531582
VII	281452	267673	27716	26127	5015	4802	549125
VIII	281310	263628	28700	25998	5358	4371	544938
Total	**2106104**	**1998817**	**198119**	**185663**	**41625**	**38116**	**4104921**

Source : SSA Kerala, Annual Report 2013-14

Though greater accessibility to schooling facility is provided to all children and universal enrolment is achieved by the State, the greatest challenge faced in the field of school education in Kerala is regarding the means of providing quality education to all children. With a view to address this problem, various measures were taken in the State. Many of such innovative interventions were implemented as a part of various educational programmes and projects.

Reflections of the Programmes

The effects of various projects and other strategies implemented in the field of primary education are reflected in many of the indicators of educational development. Some of them are presented here.

Table 3

Dropout Rates at Lower Primary Level (2013-2014)

Category	Dropout Rates		
	Boys	Girls	Total
All	0.44	0.39	0.41
SC	0.84	0.35	0.60
ST	1.02	2.16	1.59

Source: SSA Kerala: DISE Data

The table shows that the dropout rate is very small, though in the case of ST girls it is not so small.

Table 4

Dropout Rate at Upper Primary Level (2013-2014)

Category	Dropout Rates		
	Boys	Girls	Total
All	0.53	0.46	0.50
SC	0.53	1.38	1.05
ST	1.14	1.07	1.11

Source: SSA Kerala: DISE Data

The table shows that the state has reached very near to the targeted level of 0 dropout rate.

Table 5

Retention Rates at Primary Level (2013 2014)

Level	Retention Rates		
	Boys	Girls	Total
Lower Primary	100.00	100.00	100.00
Upper Primary	100.00	100.00	100.00

Source: SSA Kerala: DISE Data

The table shows that the Retention Rates, both at lower primary and upper primary level is 100.

Table 6

Transition Rate from Lower Primary to Upper Primary

Year	Boys	Girls	Total
2014-15	99.77	99.80	99.78

Source: SSA Kerala, DISE Data

The table shows that the transition rate both for boys and girls is very high. It is approaching 100.

Table 7

Out of School Children

Year	Boys	Girls	Total
2014-15	387	360	747

Source: SSA Kerala, DISE Data

All the above mentioned indicators show the high standard of various aspects of primary education in Kerala.

The Present Study

With a view to enhance the level of academic achievement of elementary school children, various strategies are introduced in that area of education. As a part of such measures, curriculum was changed as child centred, activity based and process oriented. In the construction of the new curriculum the five guiding principles suggested by NCF 2005 were taken into account.

Besides the curriculum revision, the latest practical experiences in pedagogy and educational psychology was begun to use in a better way in all schools in the state. Corresponding to the changes in pedagogy, changes were brought in the examination system also. Consequently, the type of questions asked in the examination changed from direct questions that required rote learning and verbatim reproduction of answers taught in the class to situation oriented open ended questions which could be answered by the child in own words.

The implementations of all these innovative measures have helped to improve the academic achievement of students. Though the achievements of students are assessed internally through continuous evaluation, it would be desirable if it is done by an external agency also. Only with the thorough knowledge of the present status of learner achievement it can be decided the 'where' and 'how' aspects of further changes and modifications in the field of primary education. The present study is such an attempt to assess the achievement level of lower primary school students in the state.

Objective of the Study

To assess the level of achievement of Standard II and III students in the following 4 subjects

a. **Malayalam**
b. **English**
c. **Environmental Science**
d. **Mathematics**

Method and Sample of the Study

Survey method was used for the present study. All the students in standard II and III of Government and Aided Schools in Kerala were the population. From this population, using multistage cluster sampling procedure 117 schools were selected in the sample. From these schools 2280 standard II students and 2365 standard III students were included for the study.

Table 8
Districts, No. of Sub Districts, No. of Schools Selected in the Sample

SL. No.	Name of District	Name of Sub Districts	No. of Schools
1	Thiruvanathapuram	Parasala	10
		Attingal	08
2	Alppuzha	Alappuzha	10
		Thuravoor	10
3	Kottayam	Kottayam(East)	10
		Erattupetta	10
4	Thrissur	Thrissur (East)	10
		Chalakkudy	10
5	Kannur	Irutty	10
		Thaliparamb	08
6	Idukki	Adimali	10
		Peermade	04
		Munnar	07
Total	**6**	**13**	**117**

Tools Used for the Study

Achievement tests in standard II and III for Malayalam, English, Environmental Science and Mathematics were the tools used for

assessing the achievement level of students. These tools were constructed by the research team.

Indirect grading system was followed and the total scores allotted for each subject was 25.

Awarding of Grades

The marks were converted into grades as per instructions of SCERT, which is being followed in the state.

Table 9

Mark and Grade Relationship

Range of Marks (%)	Grade
75 - 100	A
60 - 74	B
45 - 59	C
33 - 44	D
0 - 32	E

Analysis of the Data

The answer scripts of students subjected to achievement tests were valued and scores were allotted as per the scoring scheme prepared. Then based on the percentages of scores obtained the scores were converted into either one of the 5 grades, viz., grade A, B, C, D or E. The percentage of students come under each of the grades for all subjects were calculated for both the standars II & III presentage of grade level of Standard II and III is given in table 10 and 11 respectively.

Table 10

Grade Levels of Standard II Children

Grade	Percentage of Students			
	Mal.	Eng.	Env. Sci.	Maths
A	47.74	45	50	40.9
B	31.69	31.84	28.83	37.57
C	15.97	17.63	14.22	13.98
D	3.98	4.87	5.93	6.48
E	0.62	0.66	1.02	1.07
Total	100	100	100	100

Table 11

Grade Levels of Standard III Children

Grade	Percentage of Students			
	Mal.	Eng.	Env. Sci.	Maths
A	40.13	42.14	50.65	41.09
B	28.68	25.96	25.07	28.02
C	19.03	19.47	13.92	16.94
D	8.67	10.45	8.34	10.96
E	3.49	1.98	2.02	2.99
Total	100	100	100	100

Findings, Conclusions and Suggestions

I. Findings Related to the Achievement Level of Standard II students.

- The study shows that, out of the five grades allotted, the highest percentage for all subjects is for grade A.
- The highest percentage of A grade is obtained for Environmental Science (50%) and the least is for Mathematics (40.90).
- The percentages of grades from A to E for all subjects show a decline which is desirable. For example in the case of Malayalam, the percentage of A grade holders is 47.74 and the other grade holders, i.e., B, C, D, and E are 31.69, 15.97, 3.98 and 0.62 respectively.
- The percentage of students that comes under the last two grades, viz., D and E is very small.

II. Findings Related to the Achievement Level of Standard III students.

- The study shows that, out of the five grades allotted, the highest percentage for all subjects is for grade A.

- The highest percentage of A grade is obtained for Environmental Science (50.65%) and the least is for Malayalam (40.13).
- The percentages of grades from A to E for all subjects shows a decline.
- The percentage of students that comes under the last two grades, viz., D and E is very small.

Suggestions for Quality Improvement

1. Our aim is the attainment of grade A in all subjects by all students. The study revealed that for almost all subjects, grade (A) is obtained by nearly 50% of students. From the class room observations and discussions made with the teachers it is understood that some of the students are not giving due importance and seriousness for learning. To address this problem students are to be motivated properly. For this, asking questions to students, applying the skill of questioning and the skill of probing questions can be effectively used by the teachers frequently.
2. To improve the interest and motivation of students, teachers should use variety of teaching techniques such as story-telling, using pictures, power-point presentation, etc.
3. Students to become effective learners, the co-operation of parents is inevitable. For this teachers must try to get co-operation from parents. This can be ensured through home visits by teachers, inviting parents to school, etc.
4. Strengthening of class PTA is a good strategy for strengthening of parents-teachers relationship. Class PTAs should be conducted periodically and organised effectively. Teachers should be capable of and interested in addressing the parents as often as possible.
5. Opportunities should be provided to the parents to make them acquainted with the new evaluation system and teaching strategies.
6. Exhibitions can be conducted in schools to showcase the various products of students' talents and abilities.
7. A better use of audio-visual aids is required in schools. Most of the audio-visual aids such as LCD projectors, T.V, etc. remain only as mere asset of the school. They are to be used as often as possible.
8. The intelligent use of technology can transform and improve almost every aspect of school. Technological aids such as smart classrooms, LCD projectors, etc. should be made available in all the schools. The schools should also be provided with sufficient help in the maintenance of these aids.
9. In the case of teaching of English, the teachers need to be more efficient, especially in the matter of speaking and pronunciation. The teachers should converse more in English with the learners. The learners are to be provided with more activities and opportunities for developing their speaking skill.
10. From our classroom observation and from the opinion of many teachers it is understood that some of the teachers are not using activity based and child-centred approaches in the classes effectively. One of the reasons behind this is the lack of their knowledge in applying these methods

in the classes, though they have attended various in-service programmes. To address this problem it is suggested to include many demonstration classes at the time of in-service programme focussing on activity based approach.

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TECHNOLOGY IN HIGHER EDUCATION FOR TEACHING-LEARNING PRACTICES FOR THE PROFESSIONAL DEVELOPMENT OF THE TEACHING COMMUNITY

Zacharias Tirkey *
Bharati Das **

Abstract

In the present scenario, the use of technology for teaching–learning practices for their knowledge and skills is of vital importance. In order to be conversant with the latest developments in the field, technology is a tool for teaching-learning practices for the professional development. The current academic system of courses, credits, and evaluation methods does not seem to meet learner's needs. Courses are large blocks of content, a learner often only needs small parts of that content; and they are increasingly able to get what they need from other providers. In this regard, this particular study is undertaken as 'Technology in Higher Education for Teaching-Learning Practices for the Professional Development of the Teaching Community'. The study was conducted in the selected B.Ed. Colleges under Guwahati University, Assam. The findings are subjected to the researchers' observations and interaction together with the collected information from 11 B.Ed. colleges. The teaching-learning practices will be in better shape for the coming days if there is a joint effort from the side of teaching community, Government and the society to use technology in Higher Education in all the B.Ed. colleges. They are in favour of technology for teaching –learning and suggest that policy makers create due assistance for the outcome of the policy with concerted effort.

Key words *: Higher Education, Technology, Teaching-Learning Practices, Professional Development, Teaching Community.*

Introduction

India stands third largest in the world in Higher Education System and tremendous efforts, energy and resources are invested for the same to bring a certain standard in the teaching learning practices. The term 'Professional Development' in the context of teacher education refers to the process whereby teachers and student-teachers become more professional. In other words, which they acquire, during the course of teacher education program, substantial

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knowledge and skill and make use of theory as a background to practice with a view to attain higher degree of autonomy. Encoding the teacher to grow intellectually in the course of his daily class work, the teacher should be kept up-to-date regarding new developments in the fields of education. In the present scenario, importance of the role of the teachers in relation to technology for teaching –learning practices must update their knowledge and skills. In order to be conversant with the latest developments in the field technology is to be used as a tool. The current academic system of courses, credits, and evaluation methods seems to be too narrow to meet learner's needs. Courses are large blocks of content, a learner often only needs small parts of that content, and they are increasingly able to get what they need from other providers. ICT is the biggest challenge for the teachers in this technological era of rapid progress. With this in view the researchers have undertaken a study of selected B.Ed. colleges under Gauhati University with the intention to stress the importance of technology in teaching- learning practices for professional development of the teaching community (Teachers & Student Teachers). The objectives are given below.

Objectives

1. To find out the need of technology in teaching-learning practices in B.Ed. Colleges.
2. To study the present problems of Teaching-learning practices without technology in B.Ed. Colleges.
3. To find out the current issues in the teaching-learning practices for the Professional Development of the teaching community.
4. To suggest measures for technology-enabled teaching-learning practices in B.Ed. colleges.
5. To give importance for professional development of the teaching community through technology-enabled teaching-learning practices.
6. To give hint to the teaching community to develop research mind through the usage of technology.

Delimitation of the Study

Due to the constraints of time, resources and distance the researchers have delimited their study only on 11 selected B.Ed. colleges under Guwahati University.

Methodology

a) Population

All the B.Ed. Colleges under Guwahati University is the population of the study.

b) Sample

Eleven B.Ed. Colleges are selected in which 80 teachers and 550 student-teachers represent the sample of the study.

c) Tool used

The researchers used self developed scale where 41positive statements were constructed to collect the required information from B.Ed. teachers and Student-teachers. The statements were assessed on the basis of Strongly Agreed (SA), Agreed (A), Undecided (U), Disagreed (D), and Strongly Disagreed (SD).

d) Procedure of Data Collection

The researchers personally visited the 11 B.Ed. Colleges under Gauhati University and interacted with the Teachers and the

Student-teachers in their respective colleges to collect the information.

e) Data Analysis

The data collected was analyzed with simple averages and percentages to bring out interpretation followed by Findings, implications suggestions and conclusion.

Major Findining and Observations

The following findings are illustrated from the information collected by the researchers through the analysis of the data collected using the rating scale and general observation.

a) 60% of colleges are yet to appoint ICT teacher as per the concerned syllabus.

b) In some colleges ICT subject is taught by sharing topic based.

c) There is no indication that there is an internet facility for the teachers in the staff room.

d) 60 % of colleges are yet to provide computer lab for the student teachers.

e) B.Ed. teachers are less equipped with technological devices in the classroom.

f) In one Government college the deputed student teachers were totally against the introduction of ICT subject as there is no facility created in advance for the same.

g) There is no facility for EDUSAT in anyone of the 11 B.Ed. colleges.

h) Teachers hardly use powerpoint presentations for the delivery of content in the classroom to break the monotony of lecture method.

i) It is found that management of the B.Ed. colleges are not prompt in arranging computers for the concerned colleges.

j) There is no sign that teachers use e-books for consultation to prepare the lessons.

k) In some colleges teachers are encouraged to use LCD/OHP projectors in the classroom.

l) Majority of the teachers and student teachers strongly agreed that professional meeting helps to acquire new techniques of teaching.

m) Majority of the teachers and student teachers strongly agreed that technology-enabled classroom is a must in the 21st century teaching-learning practices.

n) Action research does help the teachers and student teachers to grow professionally.

o) 90% of the teachers and student teachers strongly agreed that audio-visual aids bring variety in classroom teaching.

p) Both the teachers and the student teachers strongly agreed that learning through internet provides latest information.

q) There is no digital library in any of the 11 B.Ed. colleges visited.

r) The student teachers complained that there are less books on ICT in the market and no proper teachers appointed for the same.

s) 80% of the teachers and student teachers agreed that virtual classroom is essential for the teaching learning practices in B.Ed. colleges.

t) Around 60% of the teachers agreed that tele/video conferencing can generate effective interaction among students.

u) More than 50% of the teachers agreed that technology boosts the activities in the research and development of B.Ed. teachers.

v) More than 50% of the teachers said that e-learning is an easy method to get information to grow professionally.

w) More than 50% of the teachers said that e-learning helps to discover knowledge.

x) Teachers as well as student teachers strongly agreed that the use of multimedia in teaching-learning keeps attention span of the learners longer.

y) Traditional method of lecture is still prevalent in teaching learning practices in B.Ed. Colleges.

Implications

a) To create facilities before the introduction of ICT subject in the syllabus.

b) The student teachers are scared that some will not pass the B.Ed. course by the introduction of ICT subject in the college as it is bothering them a lot because of practical exams.

c) The teaching community feels that through the introduction of ICT subject in the syllabus, they are challenged to grow in the usage of technology in the teaching-learning practices for professional development.

d) Smart-Classroom is strongly stressed through technology enabled classroom.

e) The student teachers will be prepared for the technology enabled classroom through the ICT subject in the syllabus.

f) The B.Ed. teachers will feel comfortable to use internet and e-source in learning.

g) Digital library will save precious time of the teachers during the online consultation.

h) Learning will be easy and cheap.

i) Distance Education can be facilitated well with all the modern means.

Suggestions

a) Orientation programmes can be conducted by the UGC-ASC for the B.Ed. teachers only in technology enabled classroom.

b) EDUSAT facilities can be created by the state education department in every B.Ed. College under Guwahati University so that there is professional development of the teaching community.

c) More books on ICT subject can be published to meet the need of the student-teachers during the B.Ed. course.

d) B.Ed. teachers can be oriented towards Smart Classroom teaching-learning practices.

e) The State Government can assist the Teacher Training Institutions with technology assisted teaching-learning practices for the professional development of the teaching community.

f) The syllabus meeting of the B.Ed. teachers can be held before the introduction of ICT and Action Research subjects in order to have clear cut opinions about the subjects introduced.

g) The university can evaluate the subject on ICT after a due period in order to find the relevance of the contents.

Conclusion

Modern advancements and developments in the field of technology have brought the world into a new era. It has emerged as a powerful tool that is continuously transforming the working methodologies and day-to-day services. Hence, the teaching community, as well as researchers should be acquainted with the

knowledge of technology for teaching-learning practices for the professional development. It is hard to manage the change and meet the demands of the present era with regard to present rapid progress. The teaching-learning practices will be in better shape for the coming days if there is a joint effort from the side of teaching community, Government and the society to use technology in Higher Education in all the B.Ed. colleges under Guwahati University. The teaching community is in favour of technology for teaching–learning and suggest that policy makers should give due assistance for the outcome of the policy with concerted effort.

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RELATIONSHIP BETWEEN FAMILY ENVIRONMENT AND PROFESSIONAL COMMITMENT OF TEACHER EDUCATORS

Akhil K. M. *
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Abstract

The progress of a country depends upon the quality of its teachers. Nevertheless, a teacher cannot perform his or her multifarious tasks and responsibilities unless he or she is update professionally and personally. NCF for Teacher Education (2009) has pointed out that teacher education programs shall focus on competencies and commitment in much greater magnitude. From the light of the above mentions, this investigation has the significance as the students and this society are in need of dedicated teachers who love and provide sufficient care of them as well as dedication to their profession. In fact, teacher trainees expect more dedication, well balanced, and socially-commitment from their teachers; that they are future teachers. In the present study an attempt was made to find the Relationship between Professional Commitment and Family Environment of Teacher Educators under Mahatma Gandhi University. For this a sample of 114 Teacher Educators was selected using random sampling technique. Professional Commitment Scale and Family Environment Scale were used to collect the data. Analysis of the data revealed that there exists a significant correlation between Family Environment and Professional Commitment of Teacher Educators. Gender difference, Locality difference, and Management type differences are not making any influence on it.

Key Words *: Professional Commitment, Teacher Education, Basic Skills, Personal Adjustments, Professional Knowledge.*

Introduction

Education plays a pivotal role in shaping a person. Balanced education should give total opportunity to discover and use one's fullest potential whole aiming at total growth. It should cater to the development of skills, proper habits, attitude, and human values and application of knowledge as and when required with right dose.

Like several other professions, teacher education has taken on particular significance. Teacher education is not just meant for instructing the teacher, how to teach, but also to kindle his initiative to keep it alive to minimize evils of the "Hit and Miss" process and to save time, energy and money of the teachers and the taught. It would assist the teacher to belittle his/her hassle and to fire

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his/her duties with efficiency and potency. Teacher education is no longer a training process, but an education strategy for enabling teachers to teach and concern for their well-being.

A sound programme of professional education of teachers is essential for the qualitative improvement of education. It is of vital importance that Teacher Educators should co-opt their changing role and make them ready for this alteration. It is the role of Teacher Educators to prepare upcoming teachers to be lifelong learners and educational workers to create a learning society. Since the role of Teacher Educators is of primary importance for effective execution of teacher education curriculum, they need to be given suitable in-service and orientation education.

Significance of the Study

"A committed teacher may be understood as one who helps the development of basic skills, understanding, proper work habits, desirable attitudes, value judgement and adequate personal adjustment of the students."(Ryan, 1969)"

The situation of elementary teacher education is still best in the country and can be compared to international standards, but secondary and vocational teacher training situation needs drastic regulation and change. Over the last few decades, the teacher education has been severely criticised for being very theoretical and obsolete. The teacher education system has strongly evolved so that the quality of teachers in India improved. The curriculum of teacher education is being severely revised since 1998. In this internet age, the uses of IT and Computer Application will also be implemented to the teacher training curriculum, thus the modern teacher trainee is to compel to use the technology itself. It is aiming at 'upgrade the professional knowledge'.

Teachers can greatly influence young minds and hence it is important that competent teachers being recruited for the gullible and vulnerable young minds. This is possible only if there is an efficient teacher training curriculum with an efficient regulatory body. NCTE is doing a good job, but a lot has to do to improve the status and quality of teachers in India.

There are so many factors that affect the Teachers' behavioural, social, and personal adjustments along with their professional and personal life. In both the cases, there is a possibility to reflect the problems through defence mechanism and in most of the cases the students may be the victim. Therefore, the Family Environment is a leading factor that affects the Professional Commitment of a teacher. Hence, the investigator has researched the, "Relationship between Family Environment and Professional Commitment of Teacher Educators under Mahatma Gandhi University."

Objectives

1. To find out whether there is any significant relationship between Family Environment and Professional Commitment of Teacher Educators under Mahatma Gandhi University.
2. To find out whether there is any significant relationship between Family Environment and Professional Commitment of Teacher Educators with

respect to, a. Gender, b. Locale, and c. Type of management.

Hypotheses

1. There is no significant relationship between Family Environment and Professional Commitment of Teacher Educators.
2. There is no significant relationship between Family Environment and Professional Commitment of Teacher Educators with respect to, a. Gender (Male, Female), b. Locale (Rural, Urban), and c. Type of management (Affiliated College, University Centre)

Method

The investigator adopted correlation method as the appropriate means for gathering the data essential for the study and used to do descriptive analysis with both primary and secondary data.

Population and Sample

All the Teacher Educators who are teaching in various B.Ed. Colleges under Mahatma Gandhi University during the academic year 2014-15 were considered as the population for the study. From the population, 114 Teacher Educators from the different B.Ed. Colleges were selected randomly as the sample. The sample involved male and female Teacher Educators belonging to affiliated colleges and university centres (UCTEs) from rural and urban areas.

Tools Used for the Study

- The Family Environment Scale (FES). (Bhatia and Chadha, 1993)
- The Professional Commitment Scale (PCS) for Teacher Educators. (Akhil, 2015)

Analysis and Interpretation

Hypothesis One

Hypothesis one stated that, 'there is no significant relationship between Family Environment and Professional Commitment of Teacher Educators'.

Table 1

Correlation between Professional Commitment and Family Environment

Variables	N	Calculated 'r'-value	Theoretical 'r'-value	Result
Family Environment and Professional Commitment	114	0.494	0.254	Sig. at 0.01 level

It is found that the calculated 'r'-value is greater than the theoretical 'r'-value so that hypothesis one is rejected and 'there is a significant correlation between Family Environment and Professional Commitment of Teacher Educators under Mahatma Gandhi University.' This means that, the Teacher Educators who are enjoying a good life in their family, definitely should possess a strong commitment towards his profession

Hypothesis Two

Hypothesis two stated that, 'there is no significant relationship between Family Environment and Professional Commitment of Teacher Educators with respect to, a. Gender (Male, Female), b. Locale (Rural, Urban), and c. Type of Management (Affiliated College, University Centre)'.

Table 2

Correlation Analysis

Background Variables	Categories	N	Calculated r-value	Theoretical r-value	Levels of significance
Gender	Male	21	0.607	0.549	0.01
	Female	93	0.475	0.254	0.01
Locale	Rural	67	0581	0.302	0.01
	Urban	47	0.340	0.288	0.05
Type of Management	Affiliated college	81	0.547	0.283	0.01
	University centre	33	0.397	0.325	0.05

The analysis of hypothesis two shows that there is a significant correlation between Family Environment and Professional Commitment of Teacher Educators under Mahatma Gandhi University with respect to, a. Gender b. Locale c. Type of Management. Therefore the null hypothesis is rejected and established the fact that there is a relationship between Family Environment and Professional Commitment of Male and Female, Rural and Urban, Affiliated College and University Centre Teacher Educators.

Findings and Conclusions of the Study

This study revealed certain findings which are listed as below:

- There is a relationship between Family Environment and Professional Commitment of Teacher Educators.
- There exists a significant correlation between Family Environment and Professional Commitment of Teacher Educators. Gender difference, Locality difference, and Management type differences are not making any influence on it.

Implications of the Study

Teachers are the key-concept of the education process as well as the socialization.

- The investigator found that there is a relationship between Family Environment and Professional Commitment. Therefore, the educational agencies, organizations, and family should provide a favourable environment for the Teacher Educators.
- For Teacher Educators, 'Individualization' is the most important quality, that the Teacher Educator should be treated as the individual 'as such he is'; there should be no partiality at all. This will not only be a gift but also a quality of an individual from a good Family Environment.
- Teachers are 'Social Engineers'. The society consists of a group of individuals and their organizations, each individual is considered as a basic unit of the

society as 'bricks for building'. So the teacher has an additional duty to play in the individual's education process as a 'Socializer' for the ultimate construction of society through education.

- An adjustment to the organization and colleagues requires Knowledge about the human behaviour and attitude. Teacher Educators should have good knowledge in Psychology too for serving and maintaining commitment towards the colleagues, to the students, and to the organization.

Conclusion

Teacher Educators need not just be able to offer useful information to the prospective teachers, but likewise are to be even more efficient in enabling a diverse group to discover still more complex materials and use more innovative technologies. In such a scenario, the Teacher Education given to a prospective teacher should be of a better standard. New methods of training are to be employed in Teacher Education institutions to enhance the quality of education as well as the potentiality of the teachers

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PERSONALITY TRAITS AND ATTITUDE TOWARDS TEACHING AMONG POST-GRADUATE TEACHER TRAINEES

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Abstract

Teaching being a dynamic activity requires a favorable attitude and certain specific competencies from its practitioners. Teachers' proficiency depends on the attitude possesses for the profession. The positive attitude helps teacher to develop a conducive learner friendly environment in the classroom. This also casts a fruitful effect on learning of the students. An individual's personality is assessed by the effectiveness with which he or she is able to elicit positive reactions under different circumstances. Prospective teacher's Attitude towards teaching play an important role in his or her ability to transfer teaching skill from simulated environment to national settings. Personality traits of the prospective teachers are considered to be the strong motivating factor for directing the students towards the right path. The present study aims to assess the Personality Traits and Attitude towards teaching of Post Graduate Teacher trainees. Survey method was used for the study. The study was conducted on a random sample of 35 Post Graduate Teacher Trainees. The major findings of the study is that there is a positive correlation between Selected Personality Traits namely; Emotionally stable, Open to change, Intelligent and Attitude towards Teaching among the Post Graduate Teacher Trainees. The study further reveals that majority of the Post Graduate Teacher Trainees are Intelligent, Emotionally stable, and Open to Change. The study also reveals that majority of the Post Graduate Teacher Trainees possess moderate Attitude towards Teaching.

Key words *: Attitude towards Teaching, Emotionally stable, Open to change, Intelligence, Personality traits.*

Introduction

Education is a natural, harmonious and progressive development of man's innate powers. It is a medium through which the society transmits its heritage of past experiences and modifications, systems of values, and the modes or skill of acquiring it. It is a key ingredient in economic and social development. The opening sentence of the Kothari Commission Report (1964-66) states that, "The destiny of India is being shaped in her classrooms." That is the quality of education system is a necessary component for the quality of the nation.

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Attitude as a concept is concerned with an individual way of thinking, acting and behaving. Attitude has very significant implication for the learner. The mental feeling of a person towards an object, person, activity, or thought is generally known as his Attitude towards that object, person, activity or thought. Different persons have different Attitudes towards different objects, persons, activities and thoughts. It is because of the fact that these Attitudes among them are developed through their own experiences with those objects, persons, activities and thought. The Attitude towards it also changes. Thus there are various aspects of the concept of Attitude which have a great bearing on the personality of students. A teacher prepares a student, a citizen, who will build the country. In this situation, they must have a positive attitude which can empathize, motivate and give positive energy to them.

Attitude towards teaching is just a positive or negative emotional disposition towards teaching. Attitude towards teaching comprises three components; an emotional respond to teaching – positive or negative, a conception about teaching, and a behavioral tendency with regard to teaching. A mature and friendly teacher having a healthy, sympathetic and positive attitude can understand each individual student and give direction to each one's needs. The teachers who have passion, kindness, and sense of mind with right type of Attitude will be an asset to the education field.

Personality of the teacher plays a very important role in teaching and learning. Students are much influenced by their teachers. So the personality of the teacher counts, for everybody carries about with him a philosophy of life whether or not he has defined to himself. An individual's personality is assessed by the effectiveness with which he or she is able to elicit positive reactions from a variety of persons under different circumstances. Personality is an explicit construct which is invoked to explain behavioral consistency within a person and behavioral distinctiveness between persons (Webster, 2002).Personality is an inner experience that is reflected in the characteristics of individual's mind (Thomas, 1985). The key goal of the individual is to understand the needs and conflicts residing in his own unconscious behavior and to integrate this understanding in to conscious behavior. It is the sum total of all the biological innate dispositions, impulses, tendencies, appetites, and instincts of an individual and the dispositions and the tendencies acquire by experience (Prince, 1989). In this way the term personality signifies something deeper than mere appearance or conduct, it involves behavior activities, movements, and everything else concerning the individual inward and outward behavior. It helps to differentiate people or the stability in a person's behavior across different situations as personality deals with individual's behavior.

The personality of the teacher consists of the most outstanding salient impression that he or she creates in others. Teaching is one of the noblest and divine professions. Balanced personality is necessary for an effective teaching. Personality disorders of some teachers negatively affect the teaching profession. The present study aims at understanding the relationship between selected Personality traits and the Attitude towards teaching.

Need for the Study

The personality characteristics of teachers have great influence on the learner.

A mature and friendly teacher, having a healthy sympathetic and positive attitude can understand each individual students and gives direction according to each one's needs. A positive classroom climate starts with teacher's attitude towards his profession and ends with student's attitude. Attitude of teachers are developed during their passage of becoming teachers in their schools, colleges, University and especially in teacher training institute. Teacher training institutes should make pain staking efforts to equip the prospective teachers not only with teaching skills but also promotion of positive Attitude towards teaching in student teachers, as their attitude will affect their performance in the classroom.

It is a known fact that many of the M.Ed students do not have much positive attitude towards teaching. It may be primarily due to their personality. Certain valuable traits strengthening their intra- psychic structure and behavior. This may help to improve their personality and thus their Attitude towards teaching. In the light of the above facts Personality traits of teachers are thought to have correlation to their Attitude towards teaching.

Significance of the Study

Teaching is considered to be the noblest of all professions. The primary obligation of teachers is to guide children in pursuit of knowledge and skills which helps them to become useful and self-supporting citizens. A strong, secure, and effective profession of teaching is essential to build up public intelligence and to solve the social problems. Teachers who commit themselves to the profession and who have knowledge, devotion and sacrifice can build teaching profession.

The teacher's position is pivotal in the school. It is he who can install the sense of discipline build up the character and the personality of the child. In addition, to the cognitive qualities a teacher must have certain non- cognitive qualities such as empathy, love, understanding, patience and consideration for others. This would make him more humane than more academicians. So these affective qualities are very important for teachers. If the teachers have the above qualities, then only, they can become competent teachers. The researcher may hope that the results of the present study will help the teacher educators to plan various curricular and non-curricular activities in the Post Graduate Teacher Training Programme which enable the teacher trainees to develop a good personality and favorable Attitude towards Teaching.

Shanmugaganeshan and Lakshmi (2008) conducted a study on Personality types and attitude towards Teaching of Graduate teacher trainees. The major findings of the study were, there is a significant noteworthy relationship between the personality type and attitude towards Teaching of Graduate teacher trainees. Extroverts were more significant than the introverts with respect to positive attitude towards teaching. Mishra and Sigh (1998) had conducted a study on personality adjustment of graduates with reference to their Attitude towards teaching. They have found that male and female graduates have high Attitude towards teaching and personal adjustment. Dadu (1992) threw light on personality traits and attitude towards teaching of urban and rural, male and female graduate students. He reported that rural male and urban male students did not differ in their Personality traits and Attitude towards Teaching.

Statement of the Problem

Relationship between Personality Traits and Attitude towards teaching of Post Graduate Teacher trainees

Operational Definitions

Personality Trait: Personality Trait may be defined as that which defines what a person will do when faced with a defined situation (Cattell, 1965). According to Cattell's 16 PF, the researcher selected three factors namely, reasoning, emotionally stable, and open to change.

Attitude towards Teaching: Attitude is a readiness of the psyche to act or react in a certain way (Jung,1971). Attitude towards teaching in this study refers a positive or negative evaluation towards the content, learning methods, learning aids, and evaluation methods that are included in a school system.

Post Graduate Teacher Trainees: They are those who are studying Master of Education (M.Ed) in colleges of Teacher education after completing their graduation in education.

Objectives of the Study

1. To study the distribution of scores of Personality Traits namely Reasoning, Emotionally stable, Openness to change among the Post Graduate teacher trainees.
2. To study the distribution of scores of attitude towards teaching of Post Graduate teacher trainees.
3. To study the significant differences if any between the means of scores of attitude towards teaching of Male and Female Post Graduate teacher trainees.
4. To study the significant differences if any between the means of scores of attitude towards teaching w.r.to selected Personality Traits namely reasoning, emotionally stable and openness to change of Post Graduate teacher trainees.
5. To study the relationship between each of the Personality Traits and attitude towards Teaching of Post Graduate Teacher Trainees.

Hypotheses of the Study

1. There is a significant difference in Attitude towards teaching of Male and Female Post Graduate teacher trainees.
2. There is a significant difference in Attitude towards teaching with respect to selected Personality traits of Post Graduate teacher trainees.
3. There is a significant relationship between scores of each of Personality Traits and Attitude towards teaching of Post Graduate teacher trainees.

Method adopted for the Study

The researcher adopted descriptive survey method for the present study.

Sample for the Study

In the present study the population consisted of all Post Graduate Teacher Trainees of Kottayam District. The sample selected for the study consisted of 35 Post Graduate Teacher Trainees.

Tools Used

The researcher used:

1. Personality Trait Inventory (16 PF) consisting of 36 questions with three factors namely B (Reasoning), C (Emotionally Stable), Q_1 (Open to Change).
2. Attitude towards teaching scale by Umme Kulsum consisting of 55 items.

Statistical Techniques Used

Mean, SD, t-test, ANOVA, Pearson's correlation

Analysis and Interpretation of the Data

Distribution of scores of Personality Traits of Post Graduate teacher trainees

Table 1 shows the Frequency distribution of the scores of Personality Trait namely Reasoning among the Post Graduate teacher trainees.

Classification of the Total Sample on the Basis of the Scores on Reasoning

Based on the scores obtained using Cattell's 16PF form; the raw scores are converted into Sten scores. The total sample was classified into three categories. Scores between 8-10 denotes High intelligent, scores between 4-7 denotes Average and scores between 1-3 denotes Less Intelligent. The details of the classified data are given in Table 1.

Table 1

Classification of the Total Sample of Post Graduate Teacher Trainees on the Basis of their Scores on Reasoning

Levels	Scores	No. of students	Percentage
High Intelligent	8-10	30	86
Average	4-7	5	14
Less Intelligent	1-3	-	-

It is observed from the table that majority 86% of the students are High Intelligent and only 14% of the students are Average in Intelligence.

Classification of the Total Sample on the Basis of the Scores on Emotional Stability

Based on the scores obtained using Cattell's 16PF form; the raw scores are converted in to Sten scores. The total sample was classified into three categories. Scores between 8-10 denotes Emotionally Stable, scores between 4-7 denotes Average and scores between 1-3 denotes Emotionally Less Stable. The details of the classified data are given in Table 2.

Table 2

Classification of the Total Sample of Post Graduate Teacher Trainees on the Basis of their Scores on Emotional Stability

Levels	Range	No. of students	Percentage
Emotionally Stable	8-10	35	100
Average	4-7	0	0
Emotionally Less Stable	1-3	0	0

From Table 2 it is observed that among the total sample of 35 Post Graduate Teacher Trainees all of them are Emotionally stable.

Classification of the Total Sample on the Basis of the Scores on Open to Change

Based on the scores obtained using Cattell's 16PF form; the raw scores are converted in to Sten scores. The total sample was classified into three categories. Scores between 8-10 denotes Open to Change, scores between 4-7 denotes Average and scores between 1-3 denotes Conservative. The details of the classified data are given in Table 3.

Table 3

Classification of the total sample on the basis of the scores on Open to change

Levels	Range	No. of students	Percentage
Open to Change	8-10	30	86
Average	4-7	5	14
Conservative	1-3	0	0

It is observed from the table that majority (86%) of the students are Open to change and only 14% of the students are in Average level.

Distribution of Attitude towards Teaching of Post Graduate Teacher Trainees

To find the distribution of scores of Attitude towards teaching the researcher used frequency distribution table and descriptive statistics Mean and Standard deviation. The researcher presents the frequency distribution of scores of Attitude towards teaching of Post Graduate Teacher Trainees in Table 4.

Table 4

Frequency distribution of the scores on Attitude towards teaching of Post Graduate Teacher Trainees

Class-Interval	Frequency	Percentage
130-160	15	42
160-190	6	18
190-220	14	40
Total	35	100

From Table 4, it is observed that 21 or 60% of the total sample fall between the range of 130-190 and the rest fall below the extreme.

Table 5 gives the descriptive statistics of Attitude towards teaching of Post Graduate Teacher Trainees based on Attitude towards teaching Scale.

Table 5

The Number, Mean, and Standard deviation(SD) of Attitude towards Teaching of Post Graduate Teacher Trainees

Variable	No.	Max. Mark	Min. Mark	Mean (M)	SD
Attitude towards teaching	35	220	130	175.457	15.105

Table 5 shows that the Mean value is 175.457 and Maximum mark is 220 and minimum mark is 130.

Classification of the total sample on the basis of the scores on Attitude towards teaching

Based on the scores obtained using the standardized tool Attitude towards teaching Scale prepared and standardized by Umme Kulsum the total sample was classified into three categories. High Attitude towards teaching(>M+1σ), Moderate Attitude towards teaching(between M+ 1σ and M- 1σ) and Low Attitude towards teaching (<M- 1σ). The details of the classified data are given in Table 6.

Table 6

Classification of the total sample on the basis of the scores on Attitude towards teaching

Levels	Range	No. of students	Percentage
High ATT	>(M+1σ)	8	23
Moderate ATT	between (M+ 1σ) and(M-1σ)	18	51
Low ATT	< (M-1σ)	9	26
	Total	35	100

From Table 6 it is observed that among the total sample of 35 Post Graduate Teacher Trainees 8 or 23% have high Attitude towards teaching. Among the total sample, 18 or 51% fall under the category of moderate Attitude towards teaching. Rest of the sample, fall under the category of Low Attitude towards teaching.

Comparison of the Means of Scores on Attitude towards Teaching with Regard to Selected Personality Factors.

To find the significance of difference between the Means of scores of Attitude towards teaching with respect to Selected Personality Traits of Post Graduate Teacher Trainees the researcher formulated the following null hypothesis.

H_0 : There is no significant difference in Attitude towards teaching with respect to selected Personality traits of Post Graduate teacher trainees.

In order to find the comparison the researcher analyzed the null hypothesis using one-way analysis of variance (ANOVA). The value of F is set as 3.26 at .05 level with degrees of freedom between groups 2 and within groups 32. The data and the result are presented in Table 7.

Table 7

Difference in Attitude towards teaching with respect to selected Personality traits of Post Graduate teacher trainees

Variable	Category	Group	Sum of Squares	df	Mean Square	F Value	Sig	Remark
Attitude Towards Teaching	Reasoning Emotionally Stable Open to change	Between groups	1607.72	2	803.86	.737	.05	Significant at .05 level
		Within groups	34902.95	32	1090.71			
		Total	36510.67	35				

It is inferred from the above table that the F value is .737 is less than the table value 3.26 at .05 level with degrees of freedom 2 and 32. So the obtained F value is not significant at .05 level. Hence the null hypothesis is accepted. It indicates that the scores of the personality factors namely Reasoning, Emotionally stable, Openness to Change (B, C, Q_1) do not differ significantly.

Difference in Attitude towards Teaching of Male and Female Post Graduate Teacher Trainees

To find the significance of difference between the Means of scores of Attitude towards teaching of male and female Post Graduate Teacher Trainees the researcher formulated the following null hypothesis.

H_o : There is no significant difference between the Means of scores of Attitude towards teaching of Male and Female Post Graduate teacher trainees.

In order to find the significance of difference the data was analysed and interpreted using inferential statistics namely 't' test. The 't' value was set to 1.96 for the level of significance at .05 . The data and the result are presented in Table 8.

Table 8

Data and results regarding Difference between Means of Scores of Attitude towards teaching w.r.to Gender

Variable	Gender	Number	Mean	SD	t value	P value	Remark
Attitude Towards Teaching	Male	7	169.00	30.04	.525	.305	Not signi cant at .05 level
	Female	28	176.79	33.64			

From the Table 8 it is observed that the 't' value .525 is less than the 1.96 at .05 level. Hence the null hypothesis is accepted. Therefore it can be interpreted that there is no significant difference in the Means of scores of Attitude towards teaching of male and female Post Graduate Teacher Trainees.

Relationship between each of the Personality Traits and Attitude Towards Teaching of Post Graduate Teacher Trainees

To find the relationship between the Attitude towards teaching and selected Personality Traits of Post Graduate Teacher Trainees the researcher formulated the following null hypothesis.

H_0: There is no significant relationship between scores of each of Personality Traits and Attitude towards teaching of Post Graduate teacher trainees. In order to find the correlation the data has been analyzed using Karl Pearson's Coefficient of correlation 'r'. The 'r' value was set as .325 at .05 level of significance with degrees of freedom 33. The data and the result are presented in Table 9.

Table 9

Correlation of each of the Personality factors with Attitude towards Teaching of M.Ed students.

Variable	N	r value	df	P value	Remark
ATT& Reasoning	35	.105	33	.428	Not sig.
ATT& Emotionally Stable	35	.471	33		Significant at .01 level
ATT& Open to change	35	.643	33		Significant at .01 level

From Table 9 it is observed that the obtained 'r' value for Attitude towards Teaching and Reasoning is .105 with degrees of freedom 33. The obtained 'r' value (.105) is less than the table value at .01 level of significance. Hence the null hypothesis is accepted. It can be interpreted that there exists no significant relationship between Attitude towards Teaching and Reasoning. In the case of Attitude towards Teaching and Emotional Stability the obtained 'r' value is .471 with degrees of freedom 33. The obtained 'r' value (.471) is greater than the table value at .01 level of significance. Hence

the null hypothesis is rejected. It can be interpreted that there exists a significant relationship between Attitude towards Teaching and Emotional stability. In the case of Attitude towards Teaching and Open to Change the obtained 'r' value is .643 with degrees of freedom 33. The obtained 'r' value .643 is greater than the table value at .01 level of significance. Hence the null hypothesis is rejected. Hence it can be interpreted that there exists a significant relationship between Attitude towards Teaching and Open to change.

Findings and Conclusions

One of the major conclusions that one can be drawn from the study is that there is a positive correlation between Selected Personality Traits namely emotionally stable, Open to change and Attitude towards Teaching among the Post Graduate Teacher Trainees. The analysis of the present study reveals that majority of the Post Graduate Teacher Trainees are Intelligent, Emotionally stable, and Open to Change. The investigator found that majority of the Post Graduate Teacher Trainees possess moderate Attitude towards Teaching.

Suggestions

- The development of an understanding and application of the nature of personality, acquisition of skills and abilities and desirable changes in the affective domain are the important objectives of personality. In order to attain these objectives more effective instructional strategies should be developed and used.
- The counseling workshops should be given to the teacher trainees having difference in personality.
- Teachers should develop desirable attitudes towards teaching profession.
- While framing the curriculum at primary school level, every case may be taken to make teachers to realize the nobility of teaching profession.
- Teaching experience of a teacher is not a factor for their negative attitude towards teaching profession.
- Teachers may be advised to improve their ability to teach by acquiring mastery over the subject and developing positive and favorable attitude towards teaching.
- It is desirable on the part of the recruitment authorities, managements and the Government to select teachers not only with high talents and potentialities but also with positive attitudes towards teaching.

Conclusion

The present study revealed that there is a significant positive relationship between Personality Traits and Attitude towards Teaching among the Post Graduate Teacher Trainees. The investigator feels great in the findings of the study which would lead to better understanding of the Personality Traits and Attitude towards Teaching among the students and teachers. This is an earnest attempt of the investigator to study in detail the topic under consideration with all the limitations. The investigator would feel gratified if the findings of the present study would lead to a better understanding of the importance of the Personality Traits in the field of teaching.

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