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Indian Educational Researcher

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Copyright Policy

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EDITORIAL

Easter Greetings from Stella Matutina College of Education!

It is with great pride that we at Stella Matutina College of Education bring out Volume 2 Issue 1 of the India Educational Researcher. This one year has been a learining experience for ail of us.....a year where we have learned that bringing out a journal on time, with minimum errors and catering to the interests of a diverse cl1entele is not an easy task. I take this opportunity to thank all of you for your constructive criticism and feedback and hope that you keep writing to us, so that we can fly higher.

This issue opens with Dr. Gnanadevan's interesting paper on ***Reasoning Ability in Science of Higher Secondary Students in Relation to their Science Achievement.*** This is an area of research which can be pursued at the M.Phil and Ph.D., level and I am sure this paper will give some key indicators on how to proceed with the study.

The focus of Ms. Anisha Gopalakrishnan's research paper is ***Relationship between multiple intelligence and knowledge of content pedagogy of natural science secondary teacher education students.*** Her paper, addresses the issue of need for development of multiple intelligence in order to develop pedagogical content knowledge.

Teacher Education and NCTE: Fencing eats the crops is the title of Prof. Chauhan's article. The views expressed by him in the article point to the need for a national dialogue on the need for the existence of NCTE. Dr. Jitendra Sharma in his paper A Research into the functioning of the Regulatory bodies in Higher Education takes a look at the functioning of bodies like the UGC and NCTE.

In the past decade, the digital revolution has brought in major transformations to the methods and techniques of teaching - learning. Ms. V. Priya effectively exhibits the importance of critical web evaluation, highlighting various issues involved.

The book review on **Teaching Nursery Rhymes** has been done by Dr. M.C. Aruna, Managing Editor, Pearson Ed.. With her extensive exposure to books of all genres, her comprehensive book review makes us feel that this book is a must read. We look forward to divergent views on this challenging area from you. Please do write in giving us suggestions to help us keep growing.

Radha Mohan Associate Editor

Research Article

REASONING ABILITY IN SCIENCE OF HIGHER SECONDARY STUDENTS IN RELATION TO THEIR SCIENCE ACHIEVEMENT

By

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Abstract

Reasoning ability in science is the mental exercise of inferring relationships among facts and phenomenon having a scientific basis, evaluating evidences and coming to a conclusion. The present study seeks to measure the relationship between the different aspects of reasoning ability in science and achievement in science of higher secondary students. Reasoning ability in science scale constructed and standardized by Anuradha Joshi and Bhuban Chandara Mahaptra (1994) was administered to a random sample of 300 higher secondary students studying in Cuddalore district of Tamil Nadu, India. This study reveals that there is a significant relationship between the reasoning ability in science and achievement in science of higher secondary students.

Keywords: *Reasoning ability, science achievement, higher secondary students, inference, evaluation, problem-solving, scientific reasoning, Cuddalore district, Tamil Nadu.*

INTRODUCTION

The mental exercise or the power of mind to deduce inferences from premises concerning all information of sciences to argue, to examine, to think out, to bring by rationale is called scientific reasoning or reasoning ability in science.

Scientific reasoning can also be defined as the mental exercise of inferring relationships among facts and phenomena having a scientific basis, evaluating evidences and coming to a conclusion. Reasoning can be categorized as inductive reasoning, deductive reasoning, analogical reasoning, abstract reasoning, axiomatic reasoning, electric reasoning, syllogistic reasoning and classification as reasoning etc. For this study five types of reasoning have been considered. These are analogical reasoning, classification as reasoning, electric reasoning, deductive reasoning and inductive reasoning.

The present study focuses on reasoning ability in science, which may have important bearing on the achievement is science. The investigator has made an attempt to study the reasoning ability in science of higher secondary students in relation to their achievement in science.

OBJECTIVES OF THE STUDY

The study has the following objectives:

1. To find out the level of different aspects of reasoning ability in science of higher secondary students.
2. To find out whether there is a significant difference between the higher secondary boys and girls in the different aspects of reasoning ability in science.
3. To find out whether there is a significant difference between the students residing at urban and rural area in the different aspects of reasoning ability in science.
4. To find out whether there is a significant difference between the students studying in government and private school in the different aspects of reasoning ability in science.
5. To find out whether there is a significant relationship between different aspects of reasoning ability in science and achievement in science of higher secondary students.

METHOD OF STUDY

The normative survey method was used to find out the reasoning ability in science of higher secondary students in relation to their academic achievement. Reasoning ability in science scale constructed and standardized by Anuradha Joshi and Bhuban Chadara Mahaptra (1994) was used to find out the reasoning ability in science of higher secondary students. Academic achievement in science was determined by the marks secured in science subjects by the students in Quarterly examinations. It is taken up from the school register. The tool was administered to a random sample of 300 higher secondary students studying in Cuddalore district of Tamil

Nadu. The data has been subjected to statistical techniques like descriptive analysis, differential analysis and correlational analysis.

RESULTS AND DISCUSSION

Analysis of Different Aspects of Reasoning Ability in Science of Higher Secondary Students

The mean and standard deviation has been calculated to find out the reasoning ability in science of higher secondary students, which is found to be 18.41 and 3.75

Respectively (Table 1). It may be remembered that a student can get a maximum score of 30. The mean value is more than the mid score of 15. Hence, it can be concluded that the reasoning ability in science of higher secondary students is high.

A more detailed analysis of the different aspects of reasoning ability in science of the higher secondary students has been made by calculating the mean and standard deviation for different aspects of reasoning ability scores of higher secondary students. The results of the analysis are given in Table 1. The analysis shows the following conclusions:

1) The analogical reasoning of higher secondary students is high.
2) The classification as reasoning of higher secondary students is high.
3) The electric reasoning of higher secondary students is high.
4) The deductive reasoning of higher secondary students is high.
5) The inductive reasoning of higher secondary students is low.

Comparison of Different Aspects of Reasoning Ability in Science Scores of fighter Secondary Male and Female Students

The 't' value has been calculated to find out the significant difference between the higher secondary boys and girls in the different aspects of reasoning ability. The results of the analysis are given in the Table 2.

The analysis shows the following conclusions:

1. The higher secondary boys and girls do not differ significantly in their analogical reasoning.

2. The higher secondary boys and girls do not differ significantly in their classification as reasoning.
3. The higher secondary boys and girls differ significantly in their electric reasoning. The girls students have more electric reasoning than the boys students.
4. The higher secondary boys and girls differ significantly in their deductive reasoning. The girls have more deductive reasoning than the boys students.
5. The higher secondary boys and girls do not differ significantly in their inductive reasoning.
6. The higher secondary boys and girls differ significantly in their reasoning ability. The girls students have more reasoning ability than the boys students.

Comparison of Different Aspects of Reasoning Ability Scores of Higher Secondary Students Residing at Urban and Rural Area

The't' value has been calculated to find out the significant difference between the students residing at urban and rural area in the different aspects of reasoning ability. The results of the analysis are given in the Table 3.

The analysis shows the following conclusions:

1. The higher secondary students residing at urban and rural area differ significantly in their analogical reasoning. The students residing in urban areas have more analogical reasoning than the students residing in rural areas.
2. The higher secondary students residing in urban and rural area do not differ significantly in their classification as reasoning.
3. The higher secondary students residing in urban and rural area do not differ significantly in their electric reasoning.
4. The higher secondary students residing in urban and rural area differ significantly in their deductive reasoning. The students residing in urban area have more deductive reasoning than the students residing in rural area.
5. The higher secondary students residing in urban and rural area do not differ significantly in their inductive reasoning.

6. The higher secondary students residing in urban and rural area differ significantly in their reasoning ability. The students residing in urban area have more reasoning ability than the students residing at rural area.

Comparison of Different Aspects of Reasoning Ability in Science Scores of Higher Secondary Students Studying in Government and Private School

The't' value has been calculated to find out the significant difference between the students studying in government and private school in the different aspects of reasoning ability. The results of the analysis are given in the Table 4.

The analysis shows the following conclusions:

1. The higher secondary students studying in government and private school differ significantly in their analogical reasoning. The students studying in private schools have more analogical reasoning than the students studying in government schools.
2. The higher secondary students studying in government and private school differ significantly in their classification as reasoning. The students studying in private schools have more classification as reasoning than the students studying in government schools.
3. The higher secondary students studying in government and private school do not differ significantly in their electic reasoning.
4. The higher secondary students studying in government and private school differ significantly in their deductive reasoning. The students studying in private schools have more deductive reasoning than the students studying in government schools.
5. The higher secondary students studying in government and private school differ significantly in their inductive reasoning. The students studying in private schools have more inductive reasoning the students studying in government schools.
6. The higher secondary students studying in government and private school differ significantly in their reasoning ability. The students studying in private schools have more reasoning ability than the students studying in government schools.

Relationship Between Different Aspects of Reasoning Ability in Science and Achievement in Science of Higher Secondary Students

The co-efficient of correlation has been calculated to find out the relationship between different aspects of reasoning ability in science and achievement in science of higher secondary students. The results of the analysis are given in the Table 5.

The analysis shows the following conclusions:

1. There is a significant relationship between the analogical reasoning and achievement in science of higher secondary students.
2. There is a significant relationship between the classification as reasoning and achievement in science of higher secondary students.
3. There is no significant relationship between the electic reasoning and achievement in science of higher secondary students.
4. There is a significant relationship between the deductive reasoning and achievement in science of higher secondary students.
5. There is a significant relationship between the inductive reasoning and achievement in science of higher secondary students.
6. There is a significant relationship between the reasoning ability in science and achievement in science of higher secondary students.

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Table 1

Mean and Standard Deviation for Different Aspects of Reasoning Ability Scores of Higher Secondary Students

S.No.	Type of Reasoning	N	Mean	Standard Deviation
1	Analogy	300	3.55	1.45
2	Classifications	300	4.81	1.01·
3	Eclectic	300	3.29	1.07
4	Deduction	300	4.08	i.41
5	Inductive	300	2.66	1.12
	Reasoning Ability in Science	300	18.41	3.75

Table 2

Comparison of Reasoning Ability Scores of Higher Secondary Male and Female Students

Class	Sub-Sample	N	Mean	S.D	't' value	Level of significance at 0.05 level
Analogical Reasoning	Boys	158	3.62	1.37	0.87	Not Significant
	Girls	142	3.47	1.53		
Classification as Reasoning	Boys	158	4.76	1.02	0.91	Not Significant
	Girls	142	4.87	1.00		
Electic Reasoning	Boys	158	3.06	1.14	3.87	Significant
	Girls	142	3.54	0.94		
Deductive Reasoning	Boys	158	3.65	1.29	5.82	Significant
	Girls	142	4.55	1.39		
Inductive Reasoning	Boys	158	2.56	1.08	1.58	Not Significant
	Girls	142	2.77	1.15		
Reasoning Ability in Science	Boys	158	17.68	3.59	3.62	Significant
	Girls	142	19.22	3.76		

Table3

Comparison of Reasoning Ability Scores of Higher Secondary Students Residing at Urban and Rural Area

Class	Sub-Sample	N	Mean	S.D	't' value	Level of significance at 0.05 level
Analogical Reasoning	Rural	191	3.37	1.40	2.86	Significant
	Urban	109	3.87	1.49		
Classification as Reasoning	Rural	191	4.R3	0.95	0.47	Not Significant
	Urban	109	4.77	1.11		
Eclectic Reasoning	Rural	191	3.31	1.04	0.44	Not Significant
	Urban	109	3.25	1.14		
Deductive Reasoning	Rural	191	3.90	1.39	.2.85	Significant
	Urban	109	4.38	1.40		
Inductive Reasoning	Rural	191	2.64	1.07	0.35	Not Significant
	Urban	109	2.69	1.20		
Reasoning Ability in Science	Rural	191	18.08	3.44	2.02	Significant
	urban	109	18.99	4.19		

Table4

Comparison of Reasoning Ability Scores of Higher Secondary Students Studying in Government and Private Schools

Class	**Sub-Sample**	**N**	**Mean**	**S.D**	**'t' value**	**Level of significance at 0.05 level**
Analogical Reasoning	Private	145	3.78	1.57	2.67	Significant
	Government	155	3.34	1.30		
Classification as Reasoning	Private	145	5.06	0.89	4.15	Significant
	Government	155	4.58	1.06		
Electic Reasoning	Private	145	3.37	1.13	1.33	Not Significant
	Government	155	3.21	1.01		
Deductive Reasoning	Private	145	4.39	1.46	3.79	Significant
	Government	155	3.78	1.30		
Inductive Reasoning	Private	145	2.91	1.16	3.82	Significant
	Government	155	2.43	1.02		
Reasoning Ability in Science	Private	145	19.53	3.92	5.24	Significant
	Government	155	17.36	3.24		

Table 5

Co-Efficient of Correlation Between the Different Aspects of Reasoning Ability in Science and Achievement in Science of Higher Secondary Students

SI.No.	Variables	Number	'r' value	Level of significance at 0.05 level
1.	Analogical Reasoning and Science Achievement	300	0.238	Significant
2.	Classification as Reasoning and Science Achievement	300	0.194	Significant
3.	Electic Reasoning and Science Achievement	300	0.053	Not Significant
4.	Deductive Reasoning and Science Achievement	300	0.250	Significant
5.	Inductive Reasoning and Science Achievement	300	0.123	Significant
6.	Reasoning Ability in Science and Science Achievement	300	0.291	Significant

Research Article

RELATIONSHIP BETWEEN MULTIPLE INTELLIGENCE AND KNOWLEDGE OF CONTENT PEDAGOGY OF NATURAL SCIENCE SECONDARY TEACHER EDUCATION STUDENTS.

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Abstract

The present study investigates the relationship between multiple intelligences and the knowledge of content pedagogy among secondary teacher education students specializing in Natural Science. The framework of Howard Gardner's Theory of Multiple Intelligences was adopted to assess the dominant intelligence profiles of the students and to explore how these intelligences correlate with their pedagogical knowledge in teaching science content effectively. The study employed a descriptive and correlational research design with a representative sample of secondary teacher trainees. Standardized tools were used to measure multiple intelligences and knowledge of content pedagogy. The findings revealed that students with higher levels of logical-mathematical and naturalistic intelligences demonstrated stronger pedagogical knowledge in Natural Science. Additionally, interpersonal and linguistic intelligences were also positively associated with effective instructional strategies. The study concludes that understanding learners' multiple intelligences can significantly enhance teacher education programs by aligning pedagogical training with individual cognitive strengths. This integration supports the development of competent and innovative science teachers.

Keywords: *Multiple Intelligence, Content Pedagogy, Natural Science, Teacher Education, Secondary Teacher Trainees, Pedagogical Knowledge, Correlational Study, Science Teaching*

Many prospective science teachers know their content well but they have not learned to transform or translate that knowledge in to meaningful units for instruction. Directly or indirectly teacher education programmes will benefit from pedagogical content knowledge. In order to develop pedagogical content knowledge the prospective teachers have to develop multiple intelligence. This study has been undertaken with a view of finding out if there is any significant relationship between multiple intelligence and knowledge of content pedagogy of natural science secondary teacher education students, the 't' value shows that there is significant relationship between bodily kinaesthetic, musical rhythmic, interpersonal, intrapersonal, naturalistic, multiple intelligence and knowledge of content pedagogy of natural science secondary teacher education students.

SECONDARY TEACHER EDUCATION

The Education Commission said, (1964) "A sound programme of professional education of teachers is essential for qualitative improvement of education. Investment in teacher education can yield very rich dividends because the financial resources required are small when measured against the resulting improvements in the education of millions".

MULTIPLE INTELLIGENCE

The theory of multiple intelligence was first describes by Howard Gardner in Frames of Mind(l983).Gardner defines intelligence as "an ability or set of abilities that allow a person to solve a problem that is valued in one or more cultures". He proposed in the book Frames of Mind(1983),the existence of at least seven basic intelligence; ***verbal linguistic, logical mathematical, visual spatial, bodily kinesthetic, musical rhythmic, interpersonal and intrapersonal intelligence.*** More recently, he has added an eighth naturalistic intelligence and discussed the possibility of ninth. (Gardner, 1999). His current research indicates there are eleven distinct forms of intelligence.

CONTENT PEDAGOGY

Content pedagogy refers to the pedagogical (teaching) skills teachers use to impart the specialized knowledge or content of their subject area. The effective teachers display a wide range of skills and abilities that lead to creating a learning environment where all students feel comfortable and are sure that they can succeed both academically and personally. This complex combination of skills and abilities is integrated in the professional teaching standards that also

include essential knowledge, dispositions and commitments that allow educators to practice at a high level.

The content knowledge of the prospective science teacher is developed primarily in science courses taught by science faculty. All science teacher candidates should be provided with a carefully designed; balanced content curriculum leading toa demonstrated knowledge of the concepts and relationships they are preparing to teach.

SIGNIFICANCE OF THE-STUDY

Multiple Intelligence theory makes its greatest contribution to education by suggesting that teachers need to expand their repertoire of techniques, tools and strategies beyond the typical linguistic and logical methods. In the multiple intelligence classroom the teacher continually shifts her method of presentation from linguistic to spatial to musical and so on, often combining intelligence in creative ways. Teachers need to know much about and understand students being taught in the classroom. The abilities, interests and needs of each students must be studied and accepted by the science teacher. Teacher needs to be well versed in different intelligence possessed by students and how there may be used to assist each student to optimize instruction in many fields of knowledge and skills.

The general pedagogical content provides a relatively comprehensive categorization scheme for future studies of pedagogical content knowledge development in teacher education. It will provide a classification scheme for implementing unique instructional methods in the science classroom. Secondary science education programme could focus on developing topic specific pedagogical content knowledge in prospective teachers. Many prospective science teachers know their content well but they have not learned to transform or translate that knowledge in to meaningful units for instruction. Directly or indirectly teacher education programmes will benefit from pedagogical content knowledge. In order to develop pedagogical content knowledge the prospective teachers have to develop multiple intelligence. So the investigator wants to study the relationship between multiple intelligence and knowledge of content pedagogy of the prospective science teachers.

STATEMENT OF THE PROBLEM

Relationship between multiple intelligence and knowledge of content pedagogy of natural science secondary teacher Education Students.

OBJECTIVES

1. To find out the level of multiple intelligence of natural science secondary teacher education students.
2. To find out the level of multiple intelligence of male and female natural science secondary teacher education students.
3. To find out the level of knowledge of content pedagogy of natural science secondary teacher education students.
4. To find out the level of knowledge of content pedagogy of male and female natural science secondary teacher education students.
5. To find out the relationship between multiple intelligence and knowledge of content pedagogy of natural science secondary teacher education students.

NULL HYPOTHESES

1. There is no significant difference between male and female natural science secondary teacher education students in their multiple intelligence; verbal linguistic, logical mathematical, visual spatial, bodily kinaesthetic, musical rhythmic, interpersonal, intrapersonal and naturalistic intelligence.
2. There is no significant difference between male and female natural science secondary teacher education students in their knowledge of content, pedagogy and content pedagogy
3. There is no significant relationship between multiple intelligence and knowledge of content pedagogy of natural science secondary teacher education students.

METHOD USED FOR THE PRESENT STUDY

The method adopted in the present study is survey.

POPULATION FOR THE STUDY

The population of the study is natural science secondary teacher education students studying in B. Ed colleges affiliated to Mahatma Gandhi University, Kottayam.

SAMPLE

The investigator has used stratified random sampling technique for selecting the sample. The investigator selected 11 B.Ed colleges randomly, affiliated to Mahatma Gandhi University. From each college natural science optional students were taken by including both male and female students. The sample consists of 250 natural science secondary teacher education students from 11 B.Ed college affiliated to Mahatma Gandhi University, Kottayam. Among them 42 are male students and 208 are female students.

TOOLS USED

The following tools were used for data collection

1. Multiple Intelligence Inventory developed by Dr. Terry Armstrong.
2. Content Pedagogy Knowledge Tool developed by Anisha and Dr. PAnnaraja.

STATISTICAL TECHNIQUES USED

1. Arithmetic Mean
2. Standard Deviation
3. 't' test
4. Pearson's Product moment co-efficient of correlation

ANALYSIS OF DATA

Multiple Intelligence of Natural Science Secondary Teacher Education Students was studied.

► Level of Multiple Intelligence of Natural Science Secondary Teacher Education Students

It is inferred from the Table 4.1.1 that 14.4% of the natural science secondary teacher education students have low, 70.4% of them have moderate and 15.2% of them have high level of multiple intelligence.

► Level of Multiple Intelligence of Male Arid Female Natural Science Secondary Teacher Education Students

It is inferred from the Table 4.1.2 that 9.5% of male natural science secondary teacher education students have low, 8% of them have moderate and 9.5% of them have high level of multiple intelligence.

Regarding female natural science teacher education students 15.4% of them have low, 68.3% of them have moderate, and 16.3% of them have high level of multiple intelligence.

► **Difference between Male and Female Natural Science Secondary Teacher Education Students in their Multiple Intelligence**

It is inferred from the Table 4.1.3 that and there is no significant difference between male and female natural science secondary teacher education students in their verbal linguistic, logical mathematical, bodily kinaesthetic, musical rhythmic, interpersonal; intrapersonal, naturalistic and multiple intelligence, but there is significant difference between male and female natural science secondary teacher education students in their visual spatial intelligence.

Level of knowledge of content pedagogy of Natural Science secondary Teacher Education students It is inferred from the Table 4.2.1 that 14% of natural science secondary teacher education students have low, 69.6% of them have moderate and 16.4% of them have high level knowledge of content pedagogy.

Level of knowledge of Content Pedagogy of Male and Female Natural Science Secondary Teacher Education Students It is inferred from the Table 4.2.2 that 2.4% of the male natural science secondary teacher education students have low, 76.2% of them have moderate and 21.4% of them have high level of knowledge of content pedagogy.

Regarding female natural science secondary teacher education students 16.3% of them have low, 68.3% of them have moderate and 15.4% of them have high level of knowledge of content pedagogy.

Difference between Male and Female Natural Science Secondary Teacher Education Students in their Knowledge of content Pedagogy

It is inferred from the Table 4.2.3 that there is no significant difference between male and female natural science secondary teacher education students in their knowledge of content Pedagogy and knowledge of their content pedagogy.

It is inferred from the Table 4.3.1 that there is no significant relationship between verbal linguistic, logical mathematical, visual spatial, intrapersonal intelligence and knowledge of content ped1gogy of natural science secondary teacher education students. But there is significant relationship between bodily kinaesthetic, musical rhythmic, interposal•, naturalistic, multiple intelligence and knowledge of content pedagogy of natural science secondary teacher education students.

FINDINGS

► **Multiple Intelligence of Natural Science Secondary Teacher Education Stu- dents**

1.1 15.2% of the natural science secondary teacher education students have high level of multiple intelligence.

1.2 9.5% of male and 16.3% of female natural science secondary teacher education students have high level of multiple intelligence.

1.3 There is significant difference between male and female natural science secondary teacher education students in their visual spatial intelligence. That is, male natural science secondary teacher education students are better than female natural science secondary teacher education students in their visual spatial intelligence. But there is no significant difference between male and female natural science secondary teacher education students in their verbal linguistic, logical mathematical, bodily kinaesthetic, musical rhythmic, interpersonal, intrapersonal, naturalistic and multiple intelligence.

► **Knowledge of Content Pedagogy of Natural Science Secondary Teacher Education Students**

2.1 16.4% of natural science secondary teacher education students have high level of knowledge of content of pedagogy.

2.2 21.4% of male and 15.4% of female natural science secondary teacher education students have high level of knowledge of content Pedagogy.

2.3 There is no significant difference between male and female natural science secondary teacher education student in their knowledge of content, pedagogy and knowledge of content pedagogy.

► **Relationship between Multiple Intelligence and Knowledge of Content Pedagogy of Natural Science Secondary Teacher Education Students**

3.1 There is significant relationship between bodily kinaesthetic, musical rhythmic, interpersonal, intrapersonal, naturalistic and multiple intelligence and knowledge of content pedagogy of natural science secondary teacher education students. But there is no significant relationship between verbal linguistic, logical mathematical, visual spatial and intrapersonal intelligence and knowledge of content pedagogy of natural science secondary teacher education students.

Results and Discussions

't' test results reveal that, male natural science secondary teacher education students are better than female natural science secondary teacher education students in their visual spatial intelligence. This may be due to the fact that male students have great interest in keen observation and have more interest on the physical environment. More over usually male students express more practical bend up of mind than female students and are more exposed to physical and social environment.

't' value shows that there is significant relationship between bodily kinesthetic, musical rhythmic, interpersonal, intrapersonal, naturalistic, multiple intelligence and knowledge of content pedagogy of natural science secondary teacher education students. This may be due to the fact that natural science, being a discipline related to nature and physical environment requires the students to-do a lot of physical activities including experimentation that will in turn enhance their bodily kinaesthetic, interpersonal, intrapersonal and naturalistic intelligence.

TABLES

TABLE 4.1.1

Level of Multiple Intelligence of Natural Science Secondary Teacher Education Students

Dimensions of Multiple futelligence	Low		Moderate		High	
	No	%	No	%	No	%
Verbal linguistic intelligence	41	16.4	174	69.6	35	14
Logical mathematical intelligence	30	12	185	74	35	14
Bodily kinesthetic intelligence	47	18.8	162	64.8	41	16.4

Musical mythrnic intelligence	40	16	165	66	45	18
futerpersonal intelligence	37	14.8	176	70.4	37	14.8
futrapersonal intelligence	47	18.8	164	65.6	39	15.6
Naturalistic intelligence	30	12	180	72·	40	16
Multipleintelligence	36	14.4	176	70.4	38	15.2

TABLE 4.l.2

Level Of Multiple Intelligence Of Male And Female Natural Science Secondary Teacher Education Students

Dimensions of Multiple Intelligence	**Low**				**Moderate**				High			
	Male		**Female**		**Male**		**Female**		**Male**		**Female**	
	No	%	**No**	%	**No**	%	**No**	%	**No**	%	**No**	%
Verbal linguistic intelligence	6	14.3	35	16.8	31	73.8	143	168.8	**5**	11.9	30	14.4
Logical mathematical intelligence	4	9.5	26	12.5	33	78.6	152	73.1	*5*	11.9	30	14.4
Visual spatial intelligence	3	7.1	31	14.9	31	73.8	147	70.7	8	19	30	14.4
Bodily kinesthetic intelligence	8	19	39	18.8	23	54.8	139	66.8	11	26.2	30	14.4
Musical rhythmic intelligence	6	14.3	34	16.3	27	64.3	138	66.3	9	21.4	36	17.3
Interpersonal intelligence	3	7.1	34	16.3	31	73.8	145	69.7	8	19	29	13.9
Intrapersonal intelligence	10	23.8	37	17.8	30	71.4	134	64.4	2	4.8	37	17.8
Naturalistic intelligence	8	19	22	10.6	27	64.3	153	73.6	7	16.7	33	15.9
Multiple intelligence	4	9.5	32	15.4	34	81	142	68.3	4	9.5	34	16.3

Table 4.1.3

Difference Between Male and Female Natural Science Secondary Teacher Education Students in their Multiple Intelligence

Dimensions of Multiple Intelligence	Male		Female		Calculated Value of "t"	Remarks at5% **level**
	Mean	**SD**	**Mean**	**SD**		
Verbal linguistic intelligence	1833	339	18.50	4.27	0.28	NS
Logical mathematical intelligence	15.7	6.30	14.76	4.66	0.40	NS
Visual spatial intelligence	2036	4.66	18.75	5.28	2	S
Bodily kinesthetic intelligence	17.95	4.81	16.72	4.91	151	NS

Musical rhythmic intelligence	20.24	631	20.14	5.84	0.00	NS
Inter personal intelligence	24.88	5.61	23.08	6	1.87	NS
Intra personal intelligence	29.02	6.62	30.98	7.62	1.70	NS
Naturalistic intelligence	2555	7.12	26.93,	554	1.9	NS
Multiple intelligence	17150	20.80	169.85	24.61	0.45	NS

Table 4.2.1

Level of Knowledge of Content Pedagogy of Natural Science Secondary Teacher Education Students

Dimensions of Content Pedagogy	Low		Moderate		High	
	No	%	No	%	No	%
Content	47	18.8	149	59.6	54	21.6
Pedagogy	26	10.4	181	72.4	43	172
Knowledge of content pedagogy	35	14	174	69.6	41	16.4

Table 4.2.2

Level of Knowledge of Content Pedagogy of Male and Female Natural Science Secondary Teacher Education Students

Dimensions of Content Pedagogy	Low				Moderate				High			
	Male		Female		Male		Female		Male		Female	
	No	%	No	%	No	%	No	%	No	%	No	%
Content	8	19	39	18.8	26	61.9	123	59.1	8	19	46	22.1
Pedagogy	1	24	25	12	33	78.6	148	712	8	19	35	16.8
Knowledge of content pedagogy	1	24	34	163	32	762	142	683	9	21.4	32	15.4

Table 4.23

Difference Between Male and Female Natural Science Secondary Teacher Education Students in Their Knowledge of Content Pedagogy

Dimensions of Content Pedagogy	Male		Female		Calculated Value of 't'	Remarks at5% level
	Mean	SD	Mean	SD		
Content	21.98	3.73	22.0'J	3.93	0J8	NS
Pedagogy	1338	3.40	1261	3.86	131	NS
Knowledge of Content Pedagogy	3536	5.45	34.70	6.20	0.69	NS

TABLE 4.3.1

Relationship Between Multiple Intelligence and Knowledge of Content Pedagogy of Natural Science Secondary Teacher Education Students

Dimension of Multiple Intelligence	Σx	Σx^2	Σ*y*	Σy^2	Σ*xy*	Calculated Value of *'t'*	Table Value Of 't'	Remarks at 5% level
Verbal linguistic intelligence	8703	312213	4618	89584	161268	0.080	0.113	NS
Logical mathematical intelligence	8703	312213	3707	61157	129893	0.112	0.113	NS
Visual spatial intelligence	8703	312213	4754	97196	165543	.006	0.113	NS
Bodily kinesthetic intelligence	8703	312213	4231	77639	148297	0.135	0.113	s
Musical rhythmic intelligence	8703	312213	5039	110377	176661	0.138	0.113	s
Interpersonal intelligence	8703	312213	5846	145634	204754	0.137	0.113	NS
Intrapersonal intelligence	8703	312213	7662	248894	265770	0.084	0.113	NS
Naturalistic intelligence	8703	312213	6675	186795	233796	0.160	0.113	s
Multiple intelligence	8703	312213	42532	7380104	1485982	0.147	0.113	s

(At 5% level of significance the table value of 't' is 1.96)

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Conceptual Article

TEACHER EDUCATION AND NCTE: FENCING EATS THE CROPS

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Abstract

The article critically examines the role of the National Council for Teacher Education (NCTE) in shaping teacher education in India. While the establishment of NCTE aimed to ensure planned development, maintain quality, and prevent commercialization of teacher education, the study highlights significant shortcomings in its functioning. The author discusses issues such as corruption, ineffective inspections, substandard teacher education institutions, lack of emphasis on ICT and modern teaching methods, and political influence in decision-making. The article argues that, despite the expansion of teacher education institutions, the quality of teacher preparation has declined, undermining the original objectives of the NCTE. The study emphasizes the need for reform and greater accountability to align policy intentions with actual outcomes in teacher education.

Keywords: *Teacher Education, NCTE, Quality Control, Educational Policy, Professional Training, Teacher Preparation, India, Curriculum Framework, Regulatory Challenges*

It is rightly said that 'there can be marvellous teaching in muddy walls and muddy teaching in marble halls'. What it means is that a school does not mean simply a magnificent building with beautiful gardens and lawns, rich laboratories and libraries, and a large playground; rather, it means a 'learning environment' created by visionary and imaginative teachers. Education Commission (1964-66), in its report, emphasized the importance of the quality, competence, and character of teachers and their professional preparation for qualitative improvement of education.

"Investment in teacher education can yield very rich dividends because the financial resources required are small when measured against the resulting improvements in the education of millions. The essence of a teacher education program is its 'quality' without which, it becomes, not only a financial waste, but also a source of overall deterioration in educational standards", the Commission added. When India became free in 1947, it was expected that the post- independence era would witness revolutionary changes in the basic structure of education. But, unfortunately the colonial system was allowed to continue and it still continues. Within education, teacher education has been most neglected till now. As education system in our country expanded after independence, the need of more and better teachers increased.

Quantitatively, the teaching profession is the largest among all the professions of equivalent status with about 6 million members-5.5 million working at school stage and 0.5 million at higher education stage. In spite of the fact that teaching is not a preferred vocation for most of our graduates, teachers constitute a major portion of our workforce. As evident from the share of funds allocated in the plan and non-plan budgets, 'education' is not a significant sector of economy for our government. On the other hand, general public is also not satisfied with our education system, especially, the performance of teachers. There is a general complaint that teachers at all levels either 'do not reach' or 'cannot teach'. The reasons for 'do not teach' may be related to their social and moral aspects of behavior while those for 'cannot teach' may be traced in the process of their academic and professional preparation.

The National Policy on Education-1986 laid greater stress on quality of teacher education than ever before and proposed that the National Council for Teacher Education (NCTE) should be given a statutory status. The proposal was approved by the government through an Act of Parliament in 19°1. The statutory NCTE was created 'to achieve planned and coordinated development of teacher education system throughout the country and to ensure the maintenance of norms and st..ndards in teacher education system', and also 'to stop its commercialization'. The organization started functioning in August 1995. The first major task which NCTE undertook after its inception was to ask the existing teacher education institutions to seek from it a formal recognition of their courses. For this purpose inspections were conducted by the NCTE which accounted for huge expenditure from public funds. The process of inspection followed by formal recognition of old institutions continued for at least five years. It was difficult to understand why an institution functioning for over a hundred years should

seek formal recognition from the NCTE after awarding thousands of (unrecognized?) degrees and diplomas. It is difficult to justify the expenditure, which ran into millions of rupees, on this exercise. It would have been more reasonable had this process been adopted only for creating new and quality teacher training institutions.

With the inception of NCTE as a quality control mechanism, it was expected that teacher education system in India would undergo a radical change. But unfortunately, the new teacher education 'curriculum framework' developed and published by it in 1998 also followed the traditional lines. It included traditional theory courses and practice teaching to be conducted by the traditional methods. The only significant and noticeable changes, as_p,:oposed by then experts of the NCTE, were the ones regarding extension of the duration of training courses from one year to two years and revival of the four-year integrated teacher education programs. It appeared that the thought processes underlying the formulation of the new curriculum framework were least influenced by the new developments in information and communication technology. The ICT has revolutionized the teaching learning pro_cess at all levels and in all fields, but teacher education has not seen the light of the day, courtesy the 'traditional outlook' of then NCTE officials and experts. Unfortunately, our experts and policy planners go by folklore without carrying out field surveys themselves or taking any clues from available research literature. The NCIE never thought of analysing the teachers' job to identify the desired teaching behaviors and competencies and develop curriculum accordingly. Such an effort would have been a genuine gesture of sympathy to the poor taxpayers who finance such huge projects.

The single publicly visible achievement of the NCTE is that it has multiplied the number of teacher education institutions through a process of development of norms, conduct of inspections, and award of recognition to all those institutions which could somehow make the inspection teams submit favourable reports to the concerned regional committees. This process involved rampant corruption. When an element of corruption crept into the process of inspection many senior teacher educators either withdrew voluntarily or deliberately excluded from the panels because they were 'inconvenient and non-cooperative'. Gradually, the 'envelop culture' of underhand dealings took strong roots and selected people who were ready to rub their palms with the NCTE functionaries for sharing the grease, became professional inspectors. Now, the stage has reached that teachers of small degree colleges wi1h a few years

of experience are repeatedly sent by the NCTE for conducting inspections because they are 'convenient and cooperative'. A clan of politicians and businessmen as 'B Ed mafia' has developed over the years which dominates the decision making process through their political links. The structure of regional committees of the NCTE provides a live evidence of this fact. Sometimes, members of the inspection team do not even formally visit the institution and write the inspection report inside the air-conditioned lobbies of the starred hotels hired in advance by the hosts to ensure their comfortable stay. One interesting thing is that proposals of owners of private institutions are processed very expeditiously while those of central universities gather dust for years. This is simply because central universities cannot do what private people can. One who is interested to know more about the functioning of this organization is advised to read the report of the Anand Swaroop Committee which was appointed to inquire into the affairs of some teacher education institutions in Bihar and West Bengal under Eastern Regional Committee. The opening sentence of the report reads as follows: "This is a narrative about the so-called Fake Institutions for Teacher Education, which reportedly came upin Bihar following the establishment of NCTE in 1995, after the NCI'E Act came into force on thel 7thof August 1995." What happened to this report is not known. Maybe, as usual, it has gone to a waste-paper basket.

The net result is that secondary teacher education institutions have gone up from only a little more than 600 in 1994 to more than 3000 (most of them having substandard quality) within a short period of one decade. Nobody, including the NCTE officials, seems to be concerned about the quality of training imparted in these institutions. It appears that saving their chairs/positions is the topmost item on their agenda. Taking full advantage of the situation, the clever businessmen abandoned their traditional dealings in onions and potatoes and started B Ed colleges in the go downs thus vacated, because they saw in it huge monetary returns for meager investment. The designation of principal has been renamed as 'director' by private managements where most of the, so-called, directors are superannuated who could rise not higher than the position of a lecturer in their regular job. Has the NCTE approved such designations? Instances have been reported where a single qualified person is shown working as lecturer in several B Ed colleges while, in fact, he works nowhere and draws partial salary from all of them. The persons with B Ed degrees are teaching B Ed students on meager salaries. The general feeling among teacher educators is that the quality of teacher education was better

before the inception of the NCTE. Of course, some pseudo-educationists made hay at the sun-shine during the formative years of NCTE. It was like an old-age home for them. They travelled by air even for short distances of 250 kilometres at the cost of poor people of the country. If air bills of a few persons associated with the NCTE those days are re-examined, startling facts will come to light.

Unfortunately, teaching is not recognized as a profession by our government at par with professions like engineering, medicine and law. No non-medico can be posted as Chairman of Medical Council of India. But, in the case of teacher education this principle is not followed. The government just picks up anybody irrespective of his seniority and caliber and places him on the highest position in the field of teacher education. That is why all chairpersons of the NCTE appointed by the government so far have been persons without any formal training/degree in teacher education. The genuine teacher educators have been content with only the second position. But, they have had hard times because their bosses had stronger political connections. It is really interesting to see that training is essential even for a primary school teacher, but a person who controls the entire teacher education system of the country does not require any kind of formal training. If a person can become 'the best teacher educator of the country' without formal training, then existence of such a large system of teacher education is not justified. If one has a casual glance over the list of members of various Regional Committees constitutes by the NCTE, one finds that these committees arefull of those who have nothing to-do with education and teaching, not to talk of formal training as teachers. This tells the underlying story and gives the message that teacher education is not recognized by the government as a specialized professional training.

Institutions are created with great fanfare, but while manning them, they are hit at the very roots. The body, as a quality control mechanism, was created to fulfil the twin objectives of achieving planned and coordinated development of teacher education and stopping its commercialization. Unfortunately, since the inception of NCTE the quality of teacher education in India has gone down and its commercialization has risen to its peak. The results are contrary to the intensions. The fundamental problem is that NCTE never recognized its regulatory functions which were assigned to it by the Act of Parliament in 1993. There has been a mismatch between the vision and the ground reality. It passed most of its time in writing curriculum frameworks and books on educationists which should have been a secondary

business, the primary being making efforts for determination and maintenance quality. Now, it is high time for the government to think whether the existence of NCTE or any such organization is worth the expenditure involved in its maintenance. We already have the NAAC which is also a regulating body for higher education institutions including those of teacher education, then why do we need another organization for the same purpose? Let us not forget that poor people pay for these projects.

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Conceptual Article

A RESEARCH INTO THE FUNCTIONING OF THE REGULATORY BODIES IN HIGHER EDUCATION

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Abstract

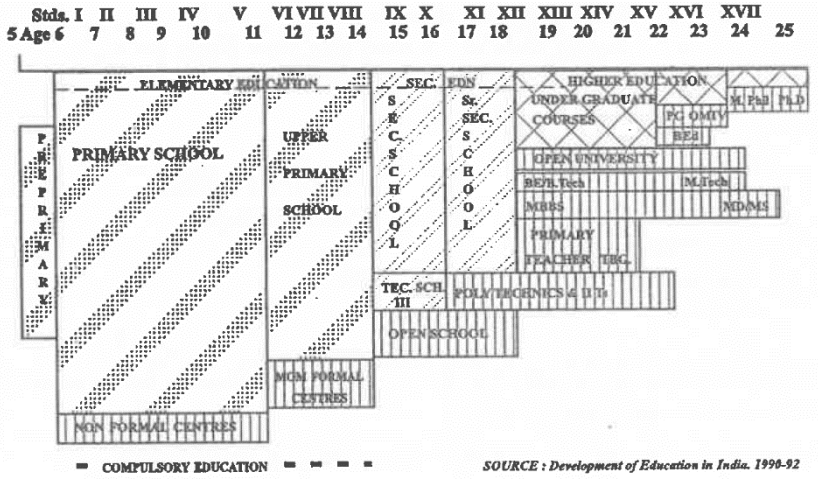
The paper examines the complexities and contradictions in the governance of higher education in India, particularly concerning University-affiliated Teacher Education Colleges. Despite clear definitions of higher education and statutory regulations set by bodies like the University Grants Commission (UGC) and the National Council for Teacher Education (NCTE), discrepancies in implementation persist. Issues include non-adherence to UGC-prescribed qualifications, lack of NET/SLET requirements, inconsistent pay scales, and administrative control of teacher education colleges by state secondary education departments rather than higher education authorities. Conflicting regulations from UGC and NCTE create ambiguity regarding compliance, leading to ad hoc appointments, compromised academic standards, and poor coordination among regulatory bodies. The paper highlights the urgent need to clarify the roles, responsibilities, and accountability of statutory and regulatory bodies to ensure quality and uniformity in teacher education and higher education institutions across India.

Keywords: *Higher Education, Teacher Education, UGC, NCTE, Regulatory Bodies, Qualifications, NET/SLET, Academic Standards, Governance.*

The first sentence on the linkhttp://www.knowledgecommission.gov.in/focus/higher.asp on the web site of the Knowledge Commission is as follows: "Higher education in India refers to education beyond school (class 12)."

The term 'Higher Education' shouldn't suffer from any ambiguity but the fact of the matter is that it suffers and suffers very seriously and chronically in India. To a lay man also all formal education beyond +2 levels comes under the 'Higher Education' and this is what it ought to be but in reality the things are not like that. This situation also gives rise to the perceived ambiguities in the roles of the statutory and regulatory bodies like the University Grants Commission (UGC), the National Council for Teacher Education (NCTE), etc. On the official web site of the Ministry of Human Resource Development (MHRD), Government of India the following diagram is available that portrays the structure of education in India.

STRUCTURE OF EDUCATION IN INDIA



(Downloaded from http://www.education.nic.in/strchar1.html)

From the diagram it is also amply clear that the teaching for the degrees like B.Ed. and M.Ed. falls in the domain of the Higher Education but in Rajasthan all the University affiliated Teachers' Colleges come under the administrative control of the Secondary School Education Department and not the Higher/College Education. This was the case even before 1995 when another statutory and regulatory body known as the National Council for Teacher Education (NCTE) came on the scene.

The teachers in these Colleges are neither appointed as per the UGC Norms and Regulations nor are paid the UGC pay scales. They are also neither appointed as per the NCTE norms. No NET is required for the teachers of these Colleges. SLET in Education is not even conducted in Rajasthan. These teachers also don't attend the Refresher and the Orientation Courses organized by the UGC through its Academic Staff Colleges.

The issue is under whose jurisdiction should the functioning of the University affiliated Teachers' Colleges fall when the two statutory and regulatory bodies both framed by the Acts of Parliament come out with dichotomous rules and regulations. A corollary to this question is another question: Are the State Governments free to have their own ways in quite a contradiction to what the UGC and/or the NCTE say/s?

The UGC vide its letter D.O. No. F.1-52/97(CPP-II) dated 7th June 1999 came out with SPECIFICATION OF DEGREE (its available on UGC's website i.e. www.ugc.ac.in). Its first sentence is, **"As per Section 22 of the UGC Act, a "Degree" means, a degree which is specified by the University Grants Commission by notification in the official gazette."** The Appendix I of this letter states the degrees of B.Ed., M.Ed, and Ph.D. (Education) as the degrees specified by the UGC. The teachers involved in the teaching for the UGC specified degrees can only come under the Higher Education because the UGC deals with only the Higher Education and not the Secondary Education.

This happens when the UGC vide its Circular No. F.3-3/2000(PS) of July 17, 2003 states: "No person shall be appointed to a teaching post in University (or) in any of the institutions including constituent or affiliated Colleges recognized under Clause (f) of the Section 2 of UGC Act, 1956 (or) in an institution deemed to be University under Section 3 of the said Act in a subject if she/he does not fulfil the requirements as to the qualifications for the appropriate subjects as prescribed by the Commission".

As per D.O.No.F.1-l/2002(PS) Exempt of 14th June, 2006 of the UGC the Commission in its meeting held on 11.6.2006 approved the second amendment in UGC Regulations for minimum qualifications for appointment and career advancement of teachers in Universities and Colleges incorporating the recommendations given in the Interim Report of the Committee constituted by MHRD under the Chairmanship of Prof. Bhalchandra Mungekar, Member, Planning Commission, New Delhi, to review the National Eligibility Test conducted by UGC.

As per this Notification:

"NET shall remain the compulsory requirement for appointment as Lecturer for those with post-graduate degree. However, the candidates having Ph.D. degree in the concerned subject are exempted from NET for PG level and UG level teaching. The candidates having M. Phil degree in the concerned subject are exempted from NET for UG level teaching only."

(ii) They shall apply to every university established or incorporated by or under a Central Act, Provincial Act or a State Act, every institution including a constituent or an affiliated college recognized by the Commission, in consultation with the university concerned under Clause (f) of Section-2 of the UGC Act, 1956, and every institution deemed to be a university under Section 3 of the said Act.

(iii) They shall come into force with immediate effect.

Readers' attention is drawn to the marked bold in the above notification. Now following is the qualification as decided by the NCTE on 21 July 2006 and published in the Gazette of India Extraordinary Part - III Section-4.

Lecturer:-M.Ed / M.A. (Education) with minimum 55% marks and B.Ed

or

Master's degree in a school subject with minimum 50% marks and M.Ed / M.A. (Education) with 55% marks and B.Ed

(i) Two years' school teaching experience is desirable.

NOTE: (i) Apart from the qualification prescribed above for lecturer, the candidates shall have to qualify NET/SLET qualifications or alternative qualifications thereto as prescribed by UGC from time to time before the commencement of the academic session 2009-2010.

(a) Navigating question is that even if this dichotomy is allowed to survive another BIG l58UE is that how before 21 July 2006 the NCTE, the Universities, the Colleges. and the State Governments allowed non NET/SLET qualified and non-M.Phil. and non-Ph.D. individuals to get appointed in the B.Ed. Colleges.

(b) Can the NCTE come out with a set of qualifications which are in direct contradiction to what tht: UGC prescribes? Which regulatory body's norms shall prevail? Whose norms and regulations shall the Universities follow or adhere to at the time of giving affiliations to the B.Ed. Colleges?

This issue becomes even more complicated when· the preamble of the UGC regulation says, "They shall apply to every university established or incorporated by or under a Central

Act, Provincial Act or a State Act, every institution including a constituent or an affiliated college recognized by the Commission, in consultation with the university concerned under Clause (0 of Section-2 of the UGC Act, 1956, and every institution deemed to be a university under Section 3 of the said Act.

Are these Colleges not affiliated colleges? My teacher of English grammar always told me that in contracts and other legal documents, shall is often used with third-person subjects to refer to obligations and duties. All UGC regulations make it obligatory for the affiliated Teachers' Colleges also to follow the provisions of the regulations but the English grammar always fails when the Teachers' Colleges in Rajasthan are taken into account.

The same Norms and Standards of the NCTE say:

(a) The academic staff of the institutions (including part-time staff) shall be paid such salary in such scale of pay as may be prescribed by the UGC/University from time to time, through account payee cheque or as per advice into the bank account of employee specially opened for the purpose. The supporting staff shall be paid as per the UGC/State Government/Central Government pay scale structure."

Now, how is it that a provision which dilutes the qualifications of the teachers have at once been followed while the just quoted provision from the same Norm pertaining to the pay and salary structure as the per the UGC prescription has still not been followed.

While the UGC prescribed qualifications remain as they had been notified on 14 June 2006, the NCTE has just come out with a fresh set of qualifications for the Lecturers in the Teachers' Colleges. These new qualifications being quoted below create more distance from and chasm between the UGC prescribed qualifications and the NCTE prescribed qualifications:

"Lecturer:-Master' s Degree with M.Ed

Or

Master's Degree with B.Ed (having 55% marks)

Note:-Ph.D. / M.Phil (preferably Ph.D. in Education/ Educational Planning and

Management) shall be given special weightage.

Candidates having B.Ed degree of two years duration shall be given special weightage."

The readers themselves can note the points of departure in the above qualifications from the qualifications prescribed by the UGC. Anyone who does not even possess the Master's Degree in Education i.e. M.Ed. is now eligible to be a Lecturer in any University Department or an affiliated college. Everyone also knows that to qualify NET/SLET or to do an M.Phil. or a Ph.D. in the subject concerned one must possess the Master's Degree in the subject concerned.

It is the Universities which confer or grant Degrees to the students and the Universities are supposed to follow the UGC regulations. The cardinal question or issue is whether the Universities can grant degrees to such students whose teachers do not possess UGC stipulated qualifications and are also not paid as per the UGC pay-scale regulations.

The existing state of affairs has created a very bizarre situation so much so that it reflects a total disregard for the apex court. In the judgment given by the Hon'ble Supreme Court of India on a PIL filed by Prof. Yashpal and Ors. in the case of Chattisgarh's Private Universities the sanctity of the Norms and Regulat10ns of the UGC have been reiterated and the Court even goes to the extent of saying that :

(Para 30 of the judgment): "……..Proper standard of teaching cannot be achieved unless there are adequate infrastructural facilities in the campus like classrooms, libraries, laboratories, well-equipped teaching staff of requisite caliber and a proper student teacher ratio. For this purpose, the Central Government has made a number of Rules in exercise of powers conferred by Section 25 of UGC Act and the Commission has also made Regulations in exercise of power conferred by Section 26 of the UGC Act and to mention a few, UGC Inspection of Universities Rules, 1960, UGC Regulations 1985 regarding the Minimum Standards of Instructions for the Grant of the First Degree, UGC Regulations, 1991 regarding Minimum Qualifications for Appointment of Teachers in Universities and Colleges, etc. The UGC with the approval of the Central Government and exercising power under Section 22(3) of the UGC Act has issued a schedule of degrees which may be awarded by the Universities……"

So not appointing the teachers in these Colleges as per the UGC Regulations, no requirement of any NET, no UGC pay-scales to these teachers (on the contrary the pay- scales for these teachers are the pay-scales the teachers get in schools), no mandatory requirement for these teachers to attend the Refresher and the Orientation Courses, and the administrative

control of these University affiliated colleges by the authorities of schools - Does all this not go to prove that (and I again quote from the judgment from para no, 30) it "has the effect of completely stultifying the functioning of the University Grants Commission in so far as these Universities are concerned." (Please read by replacing the word 'Universities' by the word 'colleges').

Take for instance another very bizarre situation arising out of the peculiar sort of functioning of these two so-called statutory bodies.

The Times of India (July 10, 2006) on its page 11 i.e. TIMES NATION had carried a Notification issued by Maharshi Valmiki College of Education, Geeta Colony, Delhi-31. It is a College of the Govt. of NCT of Delhi. This Notification in fact was a corrigendum in the qualifications announced earlier for the posts of Lecturer in Education (Methods of Teaching Hindi, Economics, Physics, Chemistry, History, and Sanskrit). This Notification then had been issued in light of the new or revised qualifications as announced by the UGC in its Notification of 14th June 2006. The Notification as it had appeared in the TOI is as follows:

"Reference Advertisement dated 31.03.06 in daily "Times of India" for six different posts of Lecturer in Education (Methods of Teaching Hindi, Economics, Physics, Chemistry, History, and Sanskrit)."NET shall remain the compulsory requirement for appointment as Lecturer for those with Post-graduate degree. However, the candidates having Ph.D. Degree in the concerned subject are exempted from NET for PG level and UG level teaching. The candidates having M.Phil. Degree in the concerned subject are exempted from NET for UG level teaching only.11 Those who have not applied earlier may do so within seven (7) days of the publication of this notice.11

Now, this Notification was not in consonance with the then Norm laid down by the National Council for Teacher Education (NCTE) but was in consonance with the UGC Notification. The NCTE Norm did not stipulate any requirement for a Ph.D., or an M.Phil., or a NET/ SLET.

The moot question is: Whose rules, norms and regulations must a College of Education recognised by the NCTE follow - NCTE's or UGC's - especially in a situation where there are contradictions in the rules, norms and regulations?

Another instance of adhocism in the Higher Education is that different Universities in Rajasthan have their own different interpretations of the term 'Consistently Good Academic Record". Similarly, there are Universities which do not follow NCTE regulations pertaining to the eligibility of the students for doing B.Ed. so while a B.Com. Cannot do B.Ed. in Delhi he/she is eligible to do the same in other States. This all happens when the words like "determination, maintenance and coordination of the standards of the higher education across the country" are often heard as the prime responsibility of the UGC, NCTE, and the AICTE. With their presence around with so much of diversities and dichotomies in all the aspects of so-called Higher Education the time is really ripe to give a rethink on the justification of their existence.

The Nation needs to know their respective roles in coordinating and maintaining the standards of the Higher Education across the country. As the things stand today, there seems no evidence that any job of coordination and maintenance of the standards of and in the Higher Education in India is being carried out by these so called "statutory and regulatory bodies".

Conceptual Article

WEB EVALUATION CRITERIA- SOME ISSUES

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Abstract

The rapid growth of online educational resources has made the evaluation of websites critical for both teachers and students. This paper explores key issues in assessing the educational value of websites, focusing on interface, navigation, content, reliability, and technical aspects. An evaluation framework is proposed, highlighting criteria such as graphic design, ease of navigation, authenticity of information, user services, and technical support. The study emphasizes the importance of digital literacy skills, enabling users to critically analyze and utilize online resources effectively. While the framework provides a structured approach, further refinement and expert consensus are necessary to enhance objectivity in web evaluation.

Keywords: *Web Evaluation, Educational Websites, Interface, Navigation, Content, Reliability, Technical Aspects, Digital Literacy, Evaluation Framework.*

Education has undergone many changes. E-Learning, Virtual Learning Environments, Computer Based Educational Systems, Corporate Universities, etc are some of the new arrivals in the educational arena. In this context, it is very essential to evaluate the websites for their educational value. This paper discusses various issues of evaluating the web pages. On the basis of these parameters, some web pages are being evaluated to find out their worthiness.

The online world is quickly becoming a source of primary! Information for both teachers and students. Considering the enormous amount of information available online and the Internet usage is growing at a faster rate, students and teachers need to be able to critically evaluate Web pages for Interlace, navigation, content, reliability and technical aspects.

With more than 350 million documents available on the Web alone, finding relevant information online can be daunting. Therefore, the ability to critically evaluate information is an invaluable skill in this information age. The acquisition of digital literacy skills is dependent upon the student's ability to find information, determine its usefulness and accuracy, and utilize it effectively.

INTRODUCTION

The World Wide Web offers information and data from all over the world. Because so much information is available, and because that information can appear to be fairly "Anonymous" it is necessary to develop skills to evaluate what we find. When we use a research or academic library, the books, journals and other resources have already been evaluated in one way or another before we ever see it. When we are using the World Wide Web, none of this applies. There are no filters. Anyone can write a webpage, documents of the widest range of quality, written by authors of the widest range of authority, are available on aneven playing field. Excellent resources reside alongside the most dubious. This document discusses how to assess information found on the Internet. The following parameters are most important in evaluating a website.

INITIAL ANALYSIS

This is the first and preliminary analysis of a large number of websites. The analysis of a large number of websites at a given time allows comparison of individual criteria. It is static in nature. The following are the indicators in these criteria

- ♣ The type of Institution
- ♣ Level of the institution
- ♣ Size of the institution
- ♣ Experience
- ♣ Longitudinal Analysis
- ♣ Comparative Analysis

Evolving the criteria for evaluating the websites:

Once a number of websites are analysed by the methods given above, the next step is to find the criteria for evaluating them. This can be done by finding some similarities or any other methods. The evaluation framework consists of specific criteria within each group.

Although it cannot be completely eliminated, the purpose of the criteria on this level is to minimize subjectivity during the evaluation process. Five criteria are selected in each group.

1. INTERFACE

The interface of a website is one of the most crucial aspects of the website. The visual interface is the first thing that users notice on the web. It forms the first impression of the site. The presence of colour and graphics on a website interface makes it visual) attractive and appealing to the user. Graphics to be more effective to the use of these design elements in the interface.

2. NAVIGATION

A site may include a wealth of information, but if it is not easily accessible; the busy educator may not be able to find the needed information. There are many exemplary navigation structures, Many have a search tool to the sites, content, a help page, easy-to- navigate search tool to its own content and a great page that explains to educators how best to use the site and the materials, a site map to assist both the educator and student, when searching for information to support teaching and learning.

3. CONTENT

This parameter deals with the authenticity of the information; sites can be useful both as information resources in themselves and as links to other information. However, users can be frustrated by lists of resources which look promising, but turn out to simply contain more links.

4. RELIABILITY

The reliability is comparable with the authenticity, currency, and further help after the information has been obtained. If the furtherance is not available, then the information cannot be utilized properly and effectively.

5. TECHNICAL ASPECTS

These are the support parameters. Even though these are not affecting the quality of the information directly, they play a lead role in retrieving, gathering, and processing them, so, they are also very important.

TABLE 2 - EVALUATION FRAME WORK AND CRITERIA

GROUPS	CRITERIA TO EVALUATE
INTERFACE	
Graphic design principles	Color text, background, other general graphic design principles.
Graphic and multimedia	Effectiveness of the graphics and multimedia
Style and text	Text is concise, relevant, good style
Flexibility and compatibility	Able to handle exceptions
NAVIGATION	
Logical structure	Organization, menu
Ease of use	Ease of navigation
Search engine	Ability tofind correct pages, giving clear descriptions of the result
Navigational necessities	Absence of broken links, and under construction pages
CONTENT	
Authenticity	Precise
Institution &Contact information	Easy to find the site, its principles, etc.
Information quality	Currency &relevance of the content
Interactivity	The amount of input the user has on the site
RELIABILITY	
Stored user profile	Registering process, how the site uses the user profile
User service	Effectiveness to download/ order of information
Contact information	Actions

CONCLUSION

Even though the evaluation framework and criteria groups seem to be reasonably inclusive, it may be necessary to modify or even replace some of the criteria to ensure greater objectivity in the process The criteria require further evaluation ,and should perhaps be identified through consensus of experts in the field. It is also important to note that it takes considerable amount of time to takes it considerable amount of time to complete an evaluation.

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Book Review

BOOK REVIEW

TEACIDNG NURSERY RHYMES

By

Brinder Aulakh

Teaching Nursery Rhymes (Pearson Ed., 2007) offers a comprehensive guide for parents, teachers, and English language educators on effectively using nursery rhymes in early childhood education. The book is divided into two parts: the first focuses on objectives, teaching aids, and activities—including verbal and non-verbal strategies such as miming, drawing, and voice modulation—while emphasizing the importance of communicative language teaching, body language, and attention management for young learners. The second part provides a curated collection of nursery rhymes for classroom and home use. The handbook highlights the critical role of adults in shaping a child's early learning experiences and presents practical strategies to engage children in rhythm, language, and interactive activities, making it an invaluable resource for parents, primary teachers, teacher trainees, and Montessori educators.

Keywords: *Nursery rhymes, Early childhood education, Language teaching, Teaching methodology, Classroom activities, Parent education, Montessori, Voice modulation, Child engagement, Communicative language teaching.*

Pearson Ed. 2007

This handbook - **Teaching Nursery Rhymes** -provides an extensive and in-depth analysis of using nursery rhymes in a challenging way. This book is meant for parents, teachers and any English language teacher. The book is thematically divided into two parts. Part I includes the objectives of teaching nursery rhymes, verbal and non-verbal activities based on nursery rhymes, like miming, drawing, a list of teaching aids for teachers and the like. Part II is an exhaustive compendium of rhymes that the teacher can use or adapt in classrooms.

This book is different in the sense that it looks at each and every aspect of these rhymes and guides the reader as to how to go about it. It is said home is the first school for a child. It is therefore essential that every adult whom the child interacts with at the very beginning of life contributes to the right way of teaching the rhymes. Children are attracted to rhythm. Children are very good mimics and so it is very important to use the right voice modulation to teach rhymes. It is better if the rhymes are sung in an apt way. The teacher should use the right diction while saying the rhymes.

This book tells how nursery rhymes can be taught at any time in a home or in a classroom. Information on the methodology of communicative language teaching and the importance of body language is given at every juncture. Children have a very short attention span and there is a need to keep engaging them in diverse activities. They are so full of energy that they constantly are on the lookout for some challenges.

Teaching Nursery Rhymes is a treasure house of information and useful guidelines for any adult eager to know how to handle the sensitive child at his most impressionable age.

In the second part of the book there is a collection of very good rhymes which is easy reference for any adult to start teaching a child. This book is a must have for parents, primary teachers, teacher trainees and Montessori training institutes.

M.C.Aruna