

Attitude Of Teachers Towards Use Of Mathematics Laboratory In Teaching Learning Process In High Schools

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Abstract: This paper examined the effect of instructional materials and teaching methodology and high school mathematics teachers view about use mathematics laboratory achievement among high school students of Amravati division of Vidarbha. Descriptive survey research design was adopted, and the population for the study comprises 120 high school teachers of Amravati. Simple random sampling technique was the sampling method used to select thirty secondary schools in each educational district from the four educational districts in Maharashtra State. For the purpose of data collection three research instruments were used by the researcher, the instruments were titled: "Questionnaire on Effect of Instructional Materials on Mathematics Achievement, Questionnaire on Effect of Teaching Methodology on Mathematics Achievement and researcher developed attitude scale for use of Mathematics laboratory in teaching learning process. These instruments were self-developed questionnaires. A reliability test was conducted on the instruments using test-retest method, a reliability coefficient of 0.76 and 0.82 were obtained. In order to determine the effect of instructional materials and teaching methodology on mathematics achievement among high school teachers. State three research questions and four hypotheses were formulated to guide the study. The hypotheses were tested at 0.01 level of significant using Chi-Square statistics. The results revealed that teaching methodology has significant effect on mathematics achievement among high school students. It was recommended that teachers should learn how to improvise instructional materials from the local environment instead of using foreign materials that students are not familiar with. Teacher should learn how to use diverse methodology in their teaching rather than restrict themselves to a particular method. The value of X^2 is 143.98 and which is far more than 13.27 (table value). So According to views of high school teacher use of mathematics laboratory create interest among students. That's they have favorable attitude towards use of mathematics laboratory in creation of interest in the subject. More than 93% of teachers agree about the use mathematics laboratory to increase the interest of students in mathematics subject. So use of mathematics laboratory create interest in the subject. Though it is not available in their schools.

Keywords: Attitude, Mathematics Teaching, Mathematics Concept, Mathematics Laboratory.

I. INTRODUCTION

Mathematics laboratory includes models of geometrical shapes or paper cutting, paper folding techniques, concrete objects, charts, graphs, pictures, posters, blocks games, circle game, fraction model, geometrical geo sticks, measurement scales pattern, sorting, theorem etc. Mathematics lab is important especially for students of class I to class 12. Mathematical games and puzzles are important for mental development of students. The activities could be done individually by students or with teachers. At this place

students do experiments with numbers and geometrical shapes and try to generalize patterns. Students solve real life problems with real data because complex calculations are no longer a major consideration. Students make charts and models to illustrate mathematical ideas. The creativity of student development is allowed free play. Students find areas and volume of both regular and irregular solids. Interfaces between algebra, geometry, probability, calculus etc are experimented. Students enjoy learning mathematics. Mathematics has always occupied an important place in school curriculum. Mathematics Laboratory is a place where



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students can learn and explore mathematical concepts and verify mathematical facts and theorems through a variety of activities using different materials. These activities may be carried out by the teacher or the students to explore, to learn, to stimulate interest and develop favourable attitude towards mathematics. That is, a mathematics laboratory is a place, where we find a collection of games, puzzles, teaching aids and other materials for carrying out activities. These are meant to be used both by the student by their own and together with their teacher to explore the world of mathematics, to discover, to learn and to develop an interest in mathematics. Although mathematics is not an experimental science in the way in which physics, chemistry and biology are, a mathematics laboratory can contribute greatly to the learning of mathematical concepts and skills.

Need and Purpose of Mathematics Laboratory Some of the ways in which a Mathematics Laboratory can contribute to the learning of the subject are:

- ✓ It provides an opportunity to students to understand and internalize the basic mathematical concepts through concrete objects and situations.
- ✓ It enables the students to verify or discover several geometrical properties and facts using models or by paper cutting and folding techniques.
- ✓ It helps the students to build interest and confidence in learning the subject.
- ✓ The laboratory provides opportunity to exhibit the relatedness of mathematical concepts with everyday life.
- ✓ It gives more scope for individual participation. It encourages students to become autonomous learners and allows a student to learn at his or her own pace.
- ✓ It provides scope for greater involvement of both the mind and the hand which facilitates cognition.
- ✓ The laboratory allows and encourages the students to think, discuss with each other and the teacher and assimilate the concepts in a more effective manner.
- ✓ It enables the teacher to demonstrate, explain and reinforce abstract mathematical ideas by using concrete objects, models, charts, graphs, pictures, posters, etc.
- ✓ It widens the experiential base, and prepares the ground for later learning of new areas in mathematics and of making appropriate connections.
- ✓ In various puzzles and games, the students learn the use of rules and constraints and have an opportunity to change these rules and constraints. In this process they become aware of the role that rules and constraints play in mathematical problems.
- ✓ Because of the larger time available individually to the student and opportunity to repeat an activity several times, students can revise and rethink the problem and solution. This helps to develop meta cognitive abilities.
- ✓ It builds up interest and confidence in the students in learning and doing mathematics.
- ✓ Importantly, it allows variety in school mathematics learning.
- ✓ Mathematics Lab provides a conducive ambience for students to learn the subject in a joyful manner through practical activities and interaction.
- ✓ Teachers need to pay attention to both the transactional strategies and evaluation strategies.

- ✓ Simple, experiments and projects will lead to the development of different skills like numerical, observation, thinking, analytical and so on.
- ✓ Establishing a Mathematics Lab does not involve high cost. Improved aids using inexpensive material can be made.

OBJECTIVES OF THE STUDY

The study aimed at fulfilling the following objectives:

- ✓ To develop the attitude scale towards use of mathematics laboratory for high school teachers.
- ✓ To find out the views teachers towards use of laboratory as self learning tool at high school level.
- ✓ To find out the views teachers towards use of laboratory for creation of interest of subject
- ✓ To find out the views of teachers towards use of laboratory to all concepts of maths syllabus.
- ✓ To find out the views teachers towards use of laboratory lesson plan.

HYPOTHESES

The following null hypotheses were formulated by the above objectives:

HO: 1 There is no significant difference between teacher attitude towards use of mathematics laboratory.

HO: 2 There is no significant difference between views teachers towards use of laboratory as self learning tool at high school level.

HO: 3 There is no significant difference between views teachers towards use laboratory for creation of interest of subject

HO: 4 There is no significant difference between views teachers towards use of laboratory to teach all concepts of syllabus.

HO: 5 There is no significant difference between views teachers towards use of laboratory lesson plan.

II. OPERATIONAL DEFINITIONS

ATTITUDE: It is referred as the tendency to react favourable/ positive or unfavourable/negative towards use of mathematics laboratory in teaching learning process.

HIGH SCHOOL TEACHERS: Teachers of aided and granted schools are considered for research purpose teaching to 8th 9th and 10th class students of state board school.

MATHEMATICS: Mathematics has the four fundamental operations of addition, subtraction, multiplication and division. Mathematics subject covers the topics such as real number system, algebra, logarithms, geometry, mensuration, probability, graphs and statistics at secondary level.

HIGH SCHOOL: The high school consists of VIII, IX and X standard students Classes in the Educational system. It was followed by secondary school syllabus. The present study only selected granted school teachers.

MATHEMATICS LABORATORY: The Mathematics Laboratory is a room, rich in manipulative material, to which children have ready access to handle them, perform

mathematical experiments, play mathematical games, solve mathematical puzzles and become involved in other activities through proper guidance of teacher

III. RESEARCH DESIGN

This research was basically a survey approach with some orientation to explorations of opinion finding their roots and also to implement them to actions. Therefore, the present researcher used a mixed approach in educational research.

SAMPLE

This was Random sample consisting of 120 High school mathematics teachers from different schools of Anuravati division of Vidarbha.

INSTRUMENT

The instrument was a Mathematics Laboratory Questionnaire, which included thirty five statements. The Mathematics Laboratory Questionnaire consisted of two parts: Part A sought information on school data: name of school and state, type and location of school. Part B sought information on the existence and operation of mathematics laboratories in schools and views of teacher regarding use of mathematics laboratory in teaching learning process.

STATISTICAL USED: The mean, standard deviation and chi square - test were used for analyzing the data

SOME OF STATEMENTS OF SCALE ARE AS

Sr. No	STATEMENT	S.A	A	U	D	SD
1.	Maths laboratory create more interest in subject	60 (50%)	32 (43%)	04 (3%)	04 (3%)	00
2.	Maths laboratory play vital role in maths learning	36 (30%)	52 (43%)	16 (13%)	16 (13%)	00
3.	Maths laboratory is essential for self learning of students	12 (10%)	48 (40%)	20 (17%)	40 (33%)	00
4.	Maths laboratory helps in the completion of maths syllabus	08 (7%)	40 (33%)	44 (37%)	08 (7%)	08 (7%)
5.	The equipments which are used in maths laboratory are costly	04 (3%)	24 (20%)	48 (40%)	40 (33%)	00
6.	Maths laboratory is not useful for each and every concept	08 (6%)	60 (50%)	44 (37%)	08 (6%)	00
7.	Development of Maths laboratory is expensive	08 (6%)	44 (37%)	12 (10%)	48 (40%)	08 (7%)

Table 1

CREATE INTEREST

Create interest	S.A	A	U	D	SD	Total
Observed Frequency (f_o)	60	32	04	04	00	120
Expected Frequency (f_e)	24	24	24	24	24	120
$(f_o - f_e)$	36	8	-20	-20	-24	
$(f_o - f_e)^2$	1296	64	400	400	576	

$\frac{(f_o - f_e)^2}{f_e}$	34	32.66	16.6	16.6	24	
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Table 2

$$\chi^2 = \sum \left(\frac{(f_o - f_e)^2}{f_e} \right) = 54 + 32.66 + 16.66 + 16.66 + 24 = 143.98$$

$$Df = 4$$

The value of χ^2 is 143.98 and which is far more than 13.27 (table value). So According to views of high school teachers use of mathematics laboratory create interest among students. That's they have favorable attitude towards use of mathematics laboratory in creation of interest in the subject. More than 93% of teachers agree about the use mathematics laboratory to increase the interest of students in mathematics subject. So use of mathematics laboratory create interest in the subject. Though it is not available in their schools.

SELF LEARNING

Self Learning	S.A	A	U	D	SD	Total
Observed Frequency (f_o)	12	48	20	40	00	120
Expected Frequency (f_e)	24	24	24	24	24	120
$(f_o - f_e)$	-12	24	-4	16	-24	
$(f_o - f_e)^2$	144	576	16	256	576	
$\frac{(f_o - f_e)^2}{f_e}$	6	24	0.66	10.66	24	

Table 3

$$\chi^2 = \sum \left(\frac{(f_o - f_e)^2}{f_e} \right) = 6 + 24 + 0.66 + 10.66 + 24 = 65.32$$

$$Df = 4$$

The value of χ^2 is 65.32 and which is far more than 13.27 (table value). So According to views of high school teachers use of mathematics laboratory is essential for self learning of high school students. That's they have favorable attitude towards use of mathematics laboratory in creation of interest in the subject. More than 60% of teachers agree about the use mathematics laboratory as self learning tool.

LABORATORY IS NOT USEFUL FOR EACH CONCEPT

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Observed Frequency (f_o)	12	64	36	08	00	120
Expected Frequency (f_e)	24	24	24	24	24	120
$(f_o - f_e)$	-12	40	12	-16	-24	
$(f_o - f_e)^2$	144	1600	144	256	576	
$\frac{(f_o - f_e)^2}{f_e}$	6	66.66	6	10.66	24	

Table 4

$$\chi^2 = \sum \left(\frac{(f_o - f_e)^2}{f_e} \right) = 6 + 66.66 + 6 + 10.66 + 24 = 113.32$$

The value of χ^2 is 113.32 and which is far more than 13.27 (table value). So According to views of high school teachers use of mathematics laboratory is not useful for each and every concept of mathematics curriculum. That's they have unfavorable attitude towards use of mathematics laboratory for each and every concept of mathematics.

LESSON PREPARATION IS TIME CONSUMING

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Observed	12	80	20	08	00	120

Frequency (f_o)	24	24	24	24	24	120
Expected Frequency (f_e)						
$(f_o - f_e)$	-12	56	-4	-16	-24	
$(f_o - f_e)^2$	144	3136	16	256	576	
$\frac{(f_o - f_e)^2}{f_e}$	6	130.66	0.66	10.66	24	

Table 5

$$\chi^2 = \sum \left(\frac{(f_o - f_e)^2}{f_e} \right) = 171.98$$

The value of χ^2 is 171.98 and which is far more than 13.27 (table value). So According to views of high school teachers preparation of mathematics lesson plans are time consuming. Thus preparation of mathematical lesson plans needs more practice than traditional lesson plans. Thus lab activity planning needs more time than the traditional way of teaching.

I HAVE PREPARED TEACHING AIDS TO PROVE THEOREM

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Observed Frequency (f_o)	04	56	20	40	00	120
Expected Frequency (f_e)	24	24	24	24	24	120
$(f_o - f_e)$	-20	32	-4	16	-24	
$(f_o - f_e)^2$	400	1024	16	256	576	
$\frac{(f_o - f_e)^2}{f_e}$	16.66	42.6	0.66	10.66	24	

Table 6

$$\chi^2 = \sum \left(\frac{(f_o - f_e)^2}{f_e} \right) = 94.64$$

The value of χ^2 is 94.64 and which is far more than 13.27 (table value). So According to views of high school teachers prepared teaching aids on for the proving the theorem. Thus teacher view regarding preparation of mathematical teachings aids is much more favorable.

CHALK AND BLACKBOARD ARE MORE USEFUL IN MATHEMATICS LABORATORY

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Observed Frequency (f_o)	48	44	16	12	00	120
Expected Frequency (f_e)	24	24	24	24	24	120
$(f_o - f_e)$	24	20	-8	-12	-24	
$(f_o - f_e)^2$	576	400	64	144	576	
$\frac{(f_o - f_e)^2}{f_e}$	24	16.6	2.66	6	24	

Table 7

$$\chi^2 = \sum \left(\frac{(f_o - f_e)^2}{f_e} \right) = 73.32$$

The value of χ^2 is 73.32 and which is far more than 13.27 (table value). So According to views of high school teachers Chalk and Blackboard are most useful in mathematics teaching learning. Thus Chalk and Blackboards are used by 92% of the high school teacher.

DIFFERENT METHODS ARE USED TO TEACH MATHEMATICS

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Observed Frequency (f_o)	60	56	00	04	00	120
Expected Frequency (f_e)	24	24	24	24	24	120
$(f_o - f_e)$	36	32	-24	-20	-24	
$(f_o - f_e)^2$	1296	1024	576	400	576	
$\frac{(f_o - f_e)^2}{f_e}$	54	42.6	24	16.6	24	

Table 8

$$\chi^2 = \sum \left(\frac{(f_o - f_e)^2}{f_e} \right) = 161.32$$

The value of χ^2 is 161.32 and which is far more than 13.27 (table value). So According to views of high school teachers Different methods of teaching are most useful in mathematics teaching. Thus Mathematics teaching needs various skills and strategies. Thus 98% teachers are favorable in application of different teaching methods of mathematics.

IV. CONCLUSION

The results of this study lead us to an important conclusion that More than 93% of teachers agree about the use mathematics laboratory to increase the interest of students in mathematics subject. So use of mathematics laboratory create interest in the subject. So According to views of high school teachers prepared teaching aids on for the proving the theorem. Thus teacher view regarding preparation of mathematical teachings aids is much more favorable. So teachers attitude towards use of mathematics laboratory is most favorable. Policy maker should focus on issue of development of mathematics laboratory at high school level in Maharashtra state.

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ATTITUDE OF HIGH SCHOOL STUDENTS TOWARDS IMPACT OF MATHEMATICS LABORATORY IN LEARNING

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ABSTRACT

The main objective of this study was to survey the extent of the use of laboratory approach to mathematics instruction in secondary schools of Amravati Division .Seven hundred high school students of VII Standard were purposively sampled from various granted schools. The instrument used for the study was attitude scale of use of Mathematics Laboratory in learning . Major results showed that Mathematics laboratories are virtually non-existent in our secondary schools, and the laboratory approach to mathematics instruction is hardly used by mathematics teachers.



This study was based on a survey of high school students about their attitudes towards Mathematics laboratory use in learning . Students of both the gender constitute the population of this study. Sample of the study was 700 students (male = 350 and female = 350) of 8th Class selected conveniently from 10 government granted schools. Descriptive statistics and t-test with $P < 0.05$ level of significance were used for data analysis.

Based on the findings, state governments are advised to provide funds to schools to enable the establishment of mathematics laboratories.

KEY WORDS: Attitude , Impact, Mathematics Laboratory, Learning, High School Students .

INTRODUCTION

Mathematics Laboratory is a place where students can learn and explore mathematical concepts and verify mathematical facts and theorems through a variety of activities using different materials. These activities may be carried out by the teacher or the students to explore, to learn, to stimulate interest and develop favourable attitude towards mathematics. That is, a mathematics laboratory is a place where we find a collection of games, puzzles, teaching aids and other materials for carrying out activities. These are meant to be used both by the student by their own and together with their teacher to explore the world of mathematics, to discover, to learn and to develop an interest in mathematics.

Mathematics is the bedrock of all scientific technological investigations and has provided the route to modern world of science and technology. In order to understand the subject matter, teachers and researcher have developed problem solving models and strategies to consequently, improve the performance of learners (Adaramola & Onwoiduokit, 2010).

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Students have different intellectual capacities and learning styles that favor to knowledge growth. As a result, teachers are interested in ways to effectively cause students to understand better and learn. Teachers want to bring about better understanding of the matter. It is the responsibility of the educational institutions and teachers to seek more effective ways of teaching in order to meet individual's and society's expectations from education. Improving teaching methods may help an institution meet its goal of achieving improved learning outcomes.

LEARNING BY DOING:

There are several ways of learning, viz., Learning by seeing and Learning by doing. "Learning by Doing" is one of the most effective ways of learning. It is in this context that mathematics experiments play a vital role in not only arousing the interest of the learner but also in making the learning of mathematics more meaningful. In the process of "Learning by Doing", students also learn some applications of Mathematics in real life situations. Hence the use of mathematics experiments ensures better understanding among the students.

MATHEMATICS LABORATORY:

Mathematics Laboratory is a place where students can learn and explore mathematical concepts, verify mathematical facts and theorems through a variety of activities using different materials. These activities may be carried out by the teacher or the students to explore, to learn, to stimulate interest and develop favorable attitude towards mathematics.

Laboratory method is based on the principles of "learning by doing" and "Learning by observation" and proceeding from concrete to abstract. Students do not just listen to the information given but do something practically also. Principles have to be discovered, generalized and established by the students in this method. Students learn through hands on experience. This method leads the student to discover mathematical facts.

NEED AND PURPOSE OF MATHEMATICS LABORATORY:

Dr.N.M.Rao (2009) explained some of the ways in which a Mathematics Laboratory can contribute to the learning of the subject are:

1. It provides an opportunity to students to understand and internalize the basic mathematical concepts through concrete objects and situations.
2. It enables the students to verify or discover several geometrical properties and facts using models or by paper cutting and folding techniques.
3. It helps the students to build interest and confidence in learning the subject.
4. The laboratory provides opportunity to exhibit the relatedness of mathematical concepts with everyday life.
5. It provides greater scope for individual participation in the process of learning and becoming autonomous learners.
6. The laboratory allows and encourages the students to think, discuss with each other and the teacher and assimilate the concepts in a more effective manner.
7. It enables the teacher to demonstrate, explain and reinforce abstract mathematical ideas by using concrete objects, models, charts, graphs, pictures, posters, etc.

Taking into consideration the national aspirations and expectations reflected in the recommendations of the National Curriculum Framework developed by NCERT, the Central Board of Secondary Education had initiated a number of steps to make teaching and learning of mathematics at school stage activity-based and experimentation oriented. In addition to issuing directions to its affiliated schools to take necessary action in this regard, a document on "Mathematics Laboratory in Schools"

'towards joyful learning' was brought out by the Board and made available to all the schools. The document primarily aimed at sensitizing the schools and teachers to the concept of Mathematics Laboratory and creating awareness among schools as to how the introduction of Mathematics Laboratory will help in enhancing teaching- learning process in the subject from the very beginning of school education. The document also included a number of suggested hands-on activities.

Objectives: The following objectives have been formulated related to the study:

- To develop the attitude scale towards impact of mathematics laboratory in learning for high school students.
- To find out the difference between students attitude towards confidence in use mathematics laboratory in learning patterns.
- To find out the difference between Government and Government - aided high school students attitude towards use of mathematics laboratory for learning.
- To find out the difference between urban and rural high school students attitude towards use of mathematics laboratory for learning.
- To find out the difference between English and Marathi medium high school students attitude towards use of mathematics laboratory for learning.

NULL HYPOTHESES

There is no significant difference between Government and Self-finance secondary school students attitude towards mathematics.

H01: There is no significant difference between Government and Government aided high school students attitude towards impact of mathematics laboratory for learning..

H02: There is no significant difference between male and female high school students attitude towards impact of mathematics laboratory for learning.

H03: There is no significant difference between urban and rural secondary students attitude towards impact of mathematics laboratory for learning

H04: There is no significant difference between English and Marathi medium high school students attitude towards impact of mathematics laboratory for learning.

METHOD AND PROCEDURE

Method of the Study: Considering the objectives and hypotheses of the study, the investigator had selected the normative survey method for the present study.

The following methods and procedures were adopted to conduct this study.

POPULATION AND SAMPLE

The random sampling technique was adopted the present study. The investigator selected only 8th standard students for the sample 700 students from Amravati Division, India.

Students of both the genders constitute the population of this study. Sample of the study was 700 students (male = 350 and female = 350) of the 8th Class from government and aided schools selected conveniently from Amravati Division.

TABLE -1

Type of school	Medium	Students	Gender		AREA	
			M	F	U	R
Government School	Marathi	200	100	100	100	100
Government aided school	Semi -Eng	500	250	250	350	150

INSTRUMENT FOR THE STUDY

Attitudes were measured by using researcher designed Attitude of students towards impact of math laboratory Scale consisted of 25 statements. This instrument was developed for measuring attitude of male and female students towards use of mathematics laboratory in learning. It consisted of four subscales: a confidence about mathematics learning, to develop understanding of self learning patterns of mathematics, easiness in understanding subject mathematics laboratory method, enhancement mathematical interest. Some of them measured a positive attitude and some measured a negative attitude. This instrument was based on five point Likert scale. By adding the score for each scale, the total for that attitude was obtained. The highest possible score for each scale was 125 points. This adapted form of instrument was pilot tested and self prepared.

Statistical Used: The mean, standard deviation and t- test were used for analyzing the data.

Testing of Hypotheses:

Hypothesis: 1HO1 There is no significant difference between Government and Government aided high school students attitude of impact of mathematics laboratory for learning.

TABLE -2

Variables	N	M	S.D	t-value	Level of significance
Type of school					
Government School	200	87.48	6.88	1.66	Not significant At 0.05 level
Aided school	500	88.40	6.18		

It is inferred from the above table: 2 that the calculated t- value (1.66) is lesser than the table value (1.96). Hence the hypothesis is accepted. Thus, there is no significant difference between government and aided high school students attitude towards impact of mathematics laboratory in learning.

Hypothesis: 2 HO2: There is no significant difference between male and female high school students attitude towards impact of mathematics laboratory for learning.

TABLE -3

Variables	N	M	S.D	t-value	Level of significance
Gender					
male	350	87.73	6.62	1.67	Not significant At 0.05 level
female	350	88.54	6.16		

It is inferred from the above table: 2 that the calculated t- value (1.67) is lesser than the table value (1.96). Hence the hypothesis is accepted. Thus, there is no significant difference between male and female students attitude towards impact of mathematics laboratory in learning.

Hypothesis: 3 HO3: There is no significant difference between urban and rural secondary students attitude towards impact of mathematics laboratory for learning.

TABLE -4

Variables	N	M	S.D	t-value	Level of significance
area					
Urban	450	87.68	6.62	2.61	significant At 0.05 level
Rural	250	88.96	5.98		

It is inferred from the above table: 4 that the calculated t- value (2.61) is greater than the table value (1.96). Hence the hypothesis is rejected. Thus, there is significant difference between urban and rural secondary students attitude towards impact of mathematics laboratory in learning.

Hypothesis: 4 HO4: There is no significant difference between English and Marathi medium high school students attitude towards impact of mathematics laboratory for learning.

TABLE -5

Variables	N	M	S.D	t-value	Level of significance
Medium					
Marathi	200	87.83	6.88	1.00	Not significant At 0.05 level
Semi-eng	500	87.27	6.18		

It is inferred from the above table: 5 that the calculated t- value (1.00) is lesser than the table value (1.96). Hence the hypothesis is accepted. Thus, there is no significant difference between medium high school students attitude towards impact of mathematics laboratory in learning.

CONCLUSION :

Mathematics involves thinking logically and reasonably so as to understand how formulae are derived and their applications. In order to enhance learners' mastery and meaningful learning of mathematics, it is necessary to reduce to the bearable minimum its level of abstraction with the use of instructional materials used in mathematics laboratory activities. Mathematics laboratory provide opportunities to handle instructional materials that facilitate effective teaching and pleasant learning that is teaching aids through which learning process encourage and motivate student under the classroom situation. Thus laboratory enhances the quality of teaching learning process. Although mathematics is not an experimental science in the way in which physics, chemistry and biology are, a mathematics laboratory can contribute greatly to the learning of mathematical concepts and skills. After discovering something by own efforts, the student starts taking pride in his achievement, it gives him happiness, mental satisfaction and encourages him towards further achievement.

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STATUS OF INDIAN WOMEN AND NEED OF WOMEN EMPOWERMENT FOR NATIONAL DEVELOPMENT

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Abstract : *This paper Focus on empowerment of women, status of women in society & how they work for family; social as well as on political ground, this paper shows necessity of women empowerment if they empowered they become source of infinite power.*

Introduction

The subject of empowerment of women has becoming a burning issue all over the world including India since last few decades. Many agencies of United Nations in their reports have emphasized that gender issue is to be given utmost priority. It is held that women now cannot be asked to wait for any more for equality. We all know that girls are now doing better at school than boys. The annual results of Secondary and Higher Secondary Board examinations reveal this fact. More women are getting degrees than men, and are filling most new jobs in every field.

We can now see women in almost every field: architecture, lawyers, financial services, engineering, medical and IT jobs. They have also entered service occupations such as a nurse, a beautician, a sales worker, a waitress, etc.

Status of women in society

Women's were considered a weaker sex they were given a subordinate status in they Hindu society she is protected by the father in her childhood, by the husband in her adult hood & by the son in her old age. The male dominated paternal system allows her to survive as secondary member of the family & lower citizen society.

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A women expected to daughter in her father-in-law household to which she goes after her marriage she is placed under severe restrictions and has little or no say in decision making and is directly subordinate to her mother-in-law. Her status in the family depend greatly on her husband's contribution to the family economy, and in the middle & upper-class, on the amount of dowry brought by herself.

They learn early in the life need for flexibility, adjustment & submissiveness and hesitate to develop strong opinion and commitment which they, may not be allowed to pursue after marriage. These constriction & inhibitions affected most women in their later over, particularly when they have to complete with men in their careers.

Women today are trying to understand their position in the society, women have became increasingly aware of sexual inequalities in every sphere of life and are seeking ways to fight.

No decision is now made in matters of education between boys & girls, their voice is now are forceful & important as that of men. They are becoming equal partners in making or dismissing of government.

Women Empowerment still an illusion of reality

Not-with standing the remarkable changes in the position women in free India there is still a great divergence between constitutional position and stark reality of deprivation & degradation.

Whatever whiff of emancipation has blown in Indian society, has been inhaled and enjoyed by the urban women, their population belonging to the rural a rear are still totally untouched by the coined of changes. They still have been living in miserable conditions, steeped in poverty, ignorance, superstition and starve.

They are still exists a wide gulf between the goals encysted in the constitution, legislation polices, plans, programmers and related mechanism on the hand and the situational reality on the stator of women in India, on the other.

"You can tell the status of nation by looking at the status of its women" Pandit Nehur.

Equality & empowerment of women are the most critical points and gender equality is not an agenda of women versus men rather men should be partners in the empowerment of women.

Empowerment of women in any society is an important to enable women to participation in the economic & political development of society.

What is Empowerment?

Women empowerment is new phase in the vocabulary of gender literature; The phrase is used in two broad sensor i.e. general & specific. In general since. It refers to empowering women to see self dependent by providing them access to all the freedom and opportunities which they were denied in the part only because of their being 'Women' In specific sense 'women empowerment refers to enhancing their position in the power structure of society.

Kessler Harris, 1981

"Women empowerment allows be appreciating & acknowledging for who they are and what they do". The empowerment essentially means that they women have the power or capacity to regular their day-to-day lives in the social political & economic terms a power which enable them to move from the periphery to the center state.

What are issues for this sorry state of affairs?

Some basic issues

Lack of awareness

Lack of social & economic empowerment

Lack of political will

Freeness of accountability Mechanism

Lack of enforcement by the police force.

Lack of gender culture.

Today women change from Feeling weak to feeling strong.

Ways to Empowered Women

1) Create a safe space: Women in to gather with other women and Talk about issues like gender equity, women's rights, or health.

2) Support independence and mobility: Most of women in rural India have to ask their husbands for permission to leave home.

3) Teach women to read: If you are illiterate, simple things like reading signs on a road, numbers on a phone, or directions on a medicine bottle make daily life a struggle

4) Increase savings and income: Savings cooperatives allow women to invest money and then take turns receiving micro-loans to start micro-businesses or invest in education for their children.

5) Teach job skills and seed businesses: Women learn beekeeping, mushroom farming, sewing, and other income-generating skills through training programs.

6) Build self-esteem and confidence: helping them to become more comfortable speaking in front of groups and sharing opinions.

7) Boost decision-making power: . they have greater decision-making power in their homes and communities.

"They were mostly busy doing household activities before... but now they can travel outside of the village alone, [earn an income] in our family, and participate in decisions related to their children's education."

8) Impact health: Increased influence in their families and communities on health care, family planning, domestic violence and reproductive rights. .

9) Build networks: By building social networks, women have more support and greater opportunities to effect change in their communities alone.

10) Create public leaders: provide leadership training for women to increase their presence in the public sphere. 61-65% of women report that they are now able to express their opinions in public or in their home. Women report joining committees, facilitating meetings, participating in protests, raising their voices against violence, and organizing community programs.

The Principles for women empowerment

1) Establish high-level corporate leadership for gender equality

2) Treat all women and men fairly at work - respect and support human rights and non discrimination

3) Ensure the health, safety and well-being of all women and men workers

4) Promote education, training and professional development for women

5) Implement enterprise development, supply chain and marketing practices that empower women

6) Promote equality through community initiatives and advocacy

7) Measure and publicly report on progress to achieve gender equality

Women is the source of Infinite Power

Maharshi karve worked ceaselessly with a missionary zeal for the upliftment of women. Maharshi Karve used to say "as for as the question of status and right of women are concerned, I will never accept defeat as I do not believe that women have a lesser capacity to learn."

Education enables women to effectively participate in the affair of the country and, indeed in their own family.

"The roots of Education are bitter, but the fruits are sweet Educate the Girl and change the Generation" Kiran Bedi

Female Education

Female Education is a process of Educating Females in order to make them efficient and effective members of society both at home and outside. It should enable them to look after and take care of their daily life duties and responsibilities as well as their legitimate rights. Thousand of girls otherwise intelligent and capable enough to get Education, but are deprived of because of multifarious social cultural and economical reasons and Gender prejudice. Due to this reason they are unable to play active role in the development of society.

"If you Educate a boy ,you Educate an individual, but if you Educate a girl you Educate a community" African proverb

Different Role Of Women

Family Role- A women Role extend from being an important member of family daughter-wife, and mother to being a determinant of social development and building Nation.

The capacity of contribute increases immensely when the family environment is stable.

A women has been endowed with a special gift from nature to give tender love to her children's and family and to keep the cord of love strong amongst relations

which binds the family into loving, healthy and cultured family there fore the English saying, "Good Created Mother because he could not be present every where."

Many of the approached & values in the life are learned by a child from the mother.

Women therefore are after described an transmitters of knowledge and architects of the future. Educated women tend to provide better guidance to their children and also promote education of their Girl children. Women contribute to the development of good family, compassionate society, a progressive nation and a more tolerant world. This role is very important in society, which women should never forget.

Social Role;- Educated women can be an effective voice for articulating women related causes. They can be the voice in the fight against social evils like female filicide, childe marriage, dower & addictions, as well as against the discrimination and biases that exists in society against women.

They can be the advances for improved working condition for women. Educated women can help other women self-reliant and self-confidant. They can counsel other

EDUNOUS indexed with

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women as well as share experiences about career choice, employment opportunities and business enterprises and also in maker like nutrition and childcare. If the women of India work in this collective and collaborative spirit, change would be inevitable and change would be that which recognize, in full measure, the talent and potential women.

Political Role-

Women participation in the political and economic activities of a society enriches the fabric of a nation. Many women in India have reached high position and many others are doing well in different sphere and even in professions once unthinkable for women, I am hove ever conscious about the contracts and difficulties that they face in realizing their full potential but women still do not have the same opportunities of men.

Conclusion

Women in the modern hi-tech society, which is morning very fast under the shadow of population explosion, conflicts, chops and cooption can mould the personality of the adolescent & and youth in a proper direction and perspective, provided the women are themselves empowered.

Women are in integral part of our society. The idea of human race can't be conceived without the existence of a women. Women in the holy books have been bestowed with a very high status and have been adored with various objectives, she is called as mother of the nation and it is said that education of the mother means education of entire family. Hence Empowered women for development of nation

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Reading in A Digital Age : Print Versus Digital Special Reference to Shri Shivaji College of Education, Amravati

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Abstract

Recent advancement in technology have provided new ways of dealing with Information with Advance Technology. The Libraries are moving towards digital resources which are found to be less expensive and easily available. And Readers prefers this Resources due to the increased availability of devices that allow reading from the screen, any where any time. In the last decade, computers, cell phones and the Internet access have become widely available. Such increased availability of technology may lead to changes in reading quality and reading habits In Digital Era commonly available Resources are CD-ROMS, Online Databases, Library OPACS & Internet etc. Which are Replacing the print media. The Study Focuses on the on the changing reading habits of students. and determine the differences between them while assessing the impact of the Internet and online environment on individuals' reading behavior.

Key Words - Reading, Digital reading Print media, Electronic media, Behavior, E-Resources

Introduction

Information Communication Technology is the use of Computer based technology and communication services available to a wide range of users. The Technologies and Devices like radio, telephone, telegraph, Fax, Tv, Mobile phone, Internet, video conferencing are the major part of ICT. With Advance Technology and availability of E-Resources. With Technology Availability of online newspapers, online books and journals. As a result, the amount of text based information available online is steadily increasing. Readers use the Internet to seek information, read news, to communicate, and for entertainment purposes, and especially the younger generations are using more online Resources and they prefers to read online as compare to print media. this study attempts to investigate reading behavior in the digital environment by analyzing how people's reading behavior has changed over the past ten years. Understanding changes in reading behavior would help in designing more effective digital libraries and empower users in the digital environment.

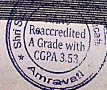
Digital age - The digital age, also called the information age, is defined as the time period starting in the 1970s with the introduction of the personal computer with subsequent technology introduced providing the ability to transfer information freely and quickly. The digital revolution has done much to reshape how students read, write, and access information. Once handwritten essays are now word-processed. Encyclopedias have yielded to online searches. One-size-fits-all teaching is tilting toward personalized learning. And a growing number of assignments ask students to read on digital screens rather than in print

Digital media - These new tools make it possible for millions of people to have access to texts that would otherwise be beyond their reach, financially or physically. Computer-driven devices enable us to expand our scope of educational and recreational experience to include audio and visual materials, often on demand. But as with writing, it's an empirical question what the pros and cons are of the old and the new.

Interacting with text on digital devices, including e-books and story apps with dynamic visuals, attention-grabbing hotspots, and games, may create a different environment for student's early literacy experiences. For example, the technological features plentiful in digital stories designed for kids, although highly engaging, run the risk of overshadowing the narrative and overwhelming the attention capacities of young students

Reading is an important and most significant activity in a society. It is important for people to acquiring knowledge and information. Even though information may appear in many different media, the point is people still need to read. Reading is said to help in individual's well-being and self development. Reading habits are an essential part of life skill and development especially considering new knowledge development and problem solving skills in our daily life: Students in academia acquire knowledge through learning and reading print and electronic sources.

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[Signature]
Principal
Shri Shivaji College of Education
Amravati

Objectives

- To find the favorite form of reading material read by the students
- To know the preference in reading newspapers, magazines and books among students
- To discover the preference among different users towards electronic sources of information over that of printed sources or vice versa

Scope and Limitations - The present study examines the existence of various e-resource data in Shri. Shivaji College Of Education. There are total 100 students 1st Sem & 4th Sem. This study is limited only students in this Library.

Research methodology Data collected from students with interview method containing the questions relating to the use of electronic environment and reading. 10 questions to elicit the opinion of the students of B.Ed in Shri. Shivaji College Of Education Amravati... The data collected from the respondents have been classified, analyzed and interpreted separately.

I asked students Following Ten Questions Related to Reading in A Digital Age: Print versus Digital media and on the answers of all ten Questions Result is found.

- 1) Which is the favorite form of reading material?
- 2) How much time they spent reading in print versus onscreen?
- 3) Preference in reading newspapers, magazines and books among students?
- 4) In which medium they were more likely to reread?
- 5) Whether cost was a factor in their choice of reading platform?
- 6) Whether text length influenced their platform choice?
- 7) How likely they were to multitask when reading in each medium; and
- 8) In which medium they felt they concentrated best?.
- 9) Preferred Language for reading
- 10) Why you go through e-resources?

Data Analysis

- 1) Which is the favorite form of reading Material?

All most students answers that they preferred print media for study For the purpose of both academic and leisure, a majority of students read printed publications such as newspapers, books and magazines Even though the majority of students read almost every day, the number of those who were not reading regularly can be considered quite high thinking that students supposed to read almost every day. On average, students took less than one hour to read in a day, followed by 1-2 hours a day and very few students read more than 3 hours in a day.

- 2) How much Time They Spent In reading?

Even though the majority of students read almost every day, the number of those who were not reading regularly can be considered quite high thinking that students supposed to read almost every day. On average, students took less than one hour to read in a day, followed by 1-2 hours a day and very few students read more than 3 hours in a day.

- 3) Preference in reading newspapers, magazines and books among students?

They were allowed to choose more than one type of reading materials. The majority of students read magazines and books & other materials such as newspapers, novels, etc. and the least number was for journal. It is believed that journal reading was done merely for academic purposes.

- 4) In which medium they were more likely to reread? Why?

They like to read in Print Medium, because there are no distractions for a reader that is committed to finishing an article. Once they start reading, there are no other bits of news, auto-playing videos or pop-ups taking the spotlight off the article This means that a reader's full attention is oriented to the specific content.

- 5) Whether cost was a factor In their choice of reading platform?

More than four-fifths of the participants said that if cost were the same, they would choose to read in print rather than onscreen.

- 6) Whether text length influenced their platform choice?;

When the amount of text is short, participants displayed mixed preferences, both when reading academic works or for pleasure. However, with longer texts, preferred print for work and when reading for pleasure. Preference for reading longer works in print has been reported in multiple studies.

- 7) How likely they were to multitask when reading in each medium?

Students reported being more likely to multitask when reading onscreen than in print. We can reasonably infer that students who multitask while reading are less likely to be paying close attention to the text than those who don't.

3) In which medium they felt they concentrated best?

The most dramatic finding for this set of questions came in response to the query about the form on which students felt they concentrated best. Selecting from print, computer, tablet, e-reader or mobile phone, Most of the students near about 95% said it was easiest to concentrate when reading

9) Which Language they Preferred for reading.

Most of the students from Art faculty & they mostly preferred Marathi Language. But They told on Net E-resources mostly available in English language.

10) Why you use e-resources?

Digital is (commonly) less expensive. And users can access the collection any time of day and any where in the world with only an internet.

Findings

From answers from students it is found that

- B. Ed Student's favorite form of information is Print Media
- Even though the majority of students read almost every day
- On average, students took less than one hour to read in a day, followed by 1-2 hours a day and very few students read more than 3 hours in a day.
- They are like to read in Print Medium
- Cost is not Issue for them. More than four-fifths of the participants said that if cost were the same, they would choose to read in print rather than onscreen.
- Preference for reading longer works in print has been reported in multiple studies.
- Students reported being more likely to multitask when reading onscreen than in print.
- Most of the students from Art faculty & they mostly preferred Marathi Language.
- Most of the students near about 95% said it was easiest to concentrate when reading print.
- Digital is (commonly) less expensive. And users can access the collection any time of day and any where in the world with only an internet. Hence some time they prefer Digital media

Conclusion

The two forms of mass media, i.e. print media and electronic media, is proved helpful in implementing change in people's habits, beliefs and attitudes. It also makes people aware of different types of crimes and wrongdoings going on in the society, as well as it also helps people in getting updated about the various government policies and changes in the process. From study it is observed that students in Shri. Shivaji College of Education like print media more as compared to digital. After all, the end concluded that digital and print media both are better. But the students like Print media more as compared to Digital.

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ATTITUDE OF B.ED. TRAINEES TOWARDS FUNDAMENTAL VALUES

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ABSTRACT :-

Values are regarded as desirable, important and held in high esteem by a particular society in which Person lives. The Challenges of Sciences and technology necessitate a dynamic educational policy not merely to develop skills but to evolve fundamental values system that would be intrinsic laying strong foundations for its people. Environmental values can not be seen different than general fundamental values. It has a focus on interactions between human activities and biosphere and needs to study the impact of all kinds of human activities. The general purpose of the study was to measure the attitude of B.Ed. trainees towards fundamental values. The sample of 100 B.Ed. trainees was drawn from two B.Ed. colleges in Amravati district of Maharashtra state by applying random sampling method. The scale measuring attitudes towards three values (Respect for nature, solidarity and equality) that underlie sustainable development prepared by Tomas Torbjornsson, Lena Molin and Martin Karlberg 2008 was the tool used for collecting the data. Mean, S.D. and "t" test were used to analyze the data. The study inferred that, Female, First year students, private college Students and students of illiterate parents are more favorable than male, Second year Students, Government aided College students and Students of literate parents towards fundamental values.



KEYWORDS: Fundamental values, Environmental values, sustainable development.

INTRODUCTION

Life is Education is a process of transmission of certain values to help the learner to lead a good life a kind of life that is satisfying to the individual in accordance with the cherished ideals and values of society. Fundamental values impart significance and meaning. Without values, life becomes a series of meaningless events. Values not only help a man in self-evaluation but also in self-drive. The application of scientific and technological knowledge to comforts of man has reduced him to a mechanical being, resulting in degeneration of the value system. Technological advance has been seen largely as the measure of progress. In spite of the many achievements in quantity and quality, education stands at crossroads and our political and social life is threatened with erosion of the long-accepted values. The educational system has over emphasized the development of the mind and has used all the resources of the world to nourish it. Environmental values can not be seen different than general fundamental values. It has a focus on interactions between human activities and biosphere and needs to study the impact of all kinds of human activities. Also we need to develop, well accepted norms of behaviors for the conduct (fundamental values inclusive of environmental values) of individuals, societies, communities, nations and world all round. All

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human beings are projections of nature. Instead of being selfish and self-centred, if our sense of self is widened, care and concern to others would become an integral part of life. The need of the hour in the modernized society is to integrate fundamental values in their way of life to have quality of life.

OBJECTIVES OF THE STUDY :-

1. To find out the attitude of B.Ed trainees towards fundamental values.
2. To analyze the attitude of B.Ed trainees towards fundamental values with respect to their gender, class, management of the college, fathers educational qualification.

HYPOTHESES :-

1. Male and female B.Ed trainees do not differ significantly in their attitude towards fundamental values.
2. First year and Second year B.Ed trainees do not differ significantly in their attitude towards fundamental values.
3. Government aided and private college B.Ed trainees do not differ significantly in their attitude towards fundamental values.
4. B.Ed trainees of literate and illiterate parents do not differ significantly in their attitude towards fundamental values.

METHODOLOGY :-

Sample :-

A sample of 100 B.Ed. trainees (first year and second year) was drawn by applying random sampling method from two B.Ed colleges in Amravati district of Maharashtra State.

Tool -

The scale developed by Tomas Torbjornsson, Lena Molin and Martin Karlberg, 2008 was the tool used for collecting the relevant data.

Method of Study :-

Descriptive survey method was employed for the present study.

PROCEDURE :-

Tomas Torbjornsson, Lena Molin and Martin Karlberg Scale was administered to 100 B.Ed. trainees. The study focuses on three of the key values underlying the UN Millennium Declaration: Respect for nature, solidarity and equality. Respect for nature is related to the environmental dimension of sustainable development and is in the present study expressed by a combination of attitudes to the preservation (biocentric) and utilization (anthropocentric) of nature. The choice of solidarity and equality is based on their connection to the social and economic dimensions of sustainable development.

The scale comprises of 28 statements on four major dimensions Viz. bio-centric values, anthropocentric values, values of solidarity and values of equality. Each item in the scale was provided with responses such as strongly agree, agree, undecided, disagree and strongly disagree. 5,4,3,2 and 1 were assigned for positive statements and for the negative items the weightage was given in the reverse order. The reliability and validity of the tool were found to be 0.80 and 0.89 respectively. The summated score of all the 28 items provided the total attitude score of a student. The maximum possible score was 140 and the minimum score was 28. The data thus, collected were analyzed using appropriate descriptive and inferential statistical techniques.

STATISTICAL TECHNIQUES :-

Both descriptive and inferential statistics were employed for analysis of the data. The descriptive statistics such as mean and S.D. were used.

Inferential statistics such as t-test was employed. "t" value was calculated to know the significant difference between the variables.

Results:-

Table 1:- Attitude of B.Ed. trainees towards fundamental values with respect to their Gender

Gender	N	Mean	S.D	t value	Level of Significance
Male	42	131.52	7.23	5.46	significant
Female	58	124.87	10.25		

The above table shows that, at 98df 0.05 level of significance the calculated "t" value is greater than the table value 1.98

Therefore it is inferred that, Male and female B.Ed. trainees differ Significantly in their attitude towards fundamental values.

Hence it is concluded that, there is a significant difference in the attitude of male and female B.Ed. trainees towards fundamental values.

Table 2:- Attitude of B.Ed. trainees towards fundamental values with respect to their class

Class	N	Mean	S.D	t value	Level of Significance
First year	50	127.35	7.76	1.95	Not Significant
Second year	50	123.99	9.68		

The above table shows that, at 98df 0.05 level of significance the calculated "t" value is less than the table value 1.98

Therefore it is inferred that, First and Second year B.Ed. trainees do not differ significantly in their attitude towards fundamental values.

Hence it is concluded that, there is no significant difference in the attitude of First and Second year B.Ed. trainees towards fundamental values with respect to their class.

Table 3:- Attitude of B.Ed. trainees towards fundamental values with respect to Management of the College

Management of the College	N	Mean	S.D	t value	Level of Significance
Govt. aided	46	122.65	7.89	7.87	Significant
Private	54	126.97	8.21		

The above table shows that, at 98df 0.05 level of significance the calculated "t" value is greater than the table value 1.98

Therefore it is inferred that, Government aided and Private college B.Ed. trainees differ Significantly in their attitude towards fundamental values.

Hence it is concluded that, there is a significant difference in the attitude of Government aided and Private college B.Ed. trainees towards fundamental values.

Table 4:- Attitude of B.Ed. trainees towards fundamental values with respect to their Father's educational qualification

Father's educational qualification	N	Mean	S.D	t value	Level of Significance
Literate	52	125.14	8.60	1.82	not Significant
Illiterate	48	126.29	8.06		

The above table shows that, at 98df 0.05 level of significance the calculated "t" value is less than the table value 1.98

Therefore it is inferred that, B.Ed. trainees of Literate and Illiterate parents do not differ significantly in their attitude towards fundamental values.

Hence it is concluded that, there is no significant difference in the attitude of B.Ed. trainees of Literate and Illiterate parents towards fundamental values.

FINDINGS :-

1. Male and Female B.Ed trainees differ significantly in their attitude towards fundamental values.
2. First and Second year B.Ed. trainees do not differ significantly in their attitude towards fundamental values.
3. Government aided and private college B.Ed. trainees differ significantly in their attitude towards fundamental values.
4. B.Ed. trainees of literate and illiterate parents do not differ significantly in their attitude towards fundamental values.

EDUCATIONAL IMPLICATIONS :-

1. Making fundamental values education an integral part of school and college curriculum.
2. Monitoring the practices of teachers and administrator in the educational institutions regarding the implementation as designed in the textbooks
3. Not treating fundamental values education as a theory paper rather for changing the mindset of the people towards fundamental values.
4. Design and development of dramatic activities, exhibition on fundamental values education, posters for promoting education on fundamental values and arranging intercollegiate competitions.

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'शिक्षण प्रशिक्षण अभ्यासकम सदयस्थिती समस्या आणि अभ्यासकमाची अंगलबजावणी'

प्रा.डॉ. संजय भि. खड्डसे

श्री. शिवाजी महाविद्यालय, अमरावती

श्री. शिवाजी महाविद्यालय, अमरावती

शिक्षण प्रशिक्षण अभ्यासकम

सन 1993-94 या शैक्षणिक वर्षात कार्यान्वित केलेला शिक्षणशास्त्र अभ्यासकम गेली 10 वर्षे चालू आहे. या 10 वर्षात अनेक घडामोडी राज्यत, देशात आणि जगात विशेषतः शिक्षणक्षेत्रात घडून गेल्या आहेत. या सा-या घटनांचा शिक्षण व्यवस्थेवर परिणाम होत असल्याचे दिसत आहे. शिक्षणव्यवस्था ही एकंदरीत समाजप्रणालीची एक उपप्रणाली असून उपप्रणाली शिक्षणावर आणि शिक्षण अन्य उपप्रणालीवर परिणाम करीत असते.

आपल्या अभ्यासकमाद्वारे तयार होणारे मावी शिक्षक पुढील 30-35 वर्षे शालेय स्तरावर मुलांना घडविण्याचे, फुलविण्याचे काम करीत राहणार आहेत. या 30-35 वर्षात अन्य उपप्रणालीत कोणते बदल होतील व शिक्षणावर त्याचे कोणते परिणाम होतील याबद्दलचे भविष्य कथन करणे कठीण आहे. बदलांचा वेग प्रचंड आहे. त्यात अनपेक्षितताही असणारच आहे. परंतु गेल्या 20-25 वर्षात झालेल्या बदलाकडे दृष्टी टाकता काही अंदाज बांधता येतात व त्यानुसार अभ्यासकमाची रचना करतात. त्यानुसार अभ्यासकमात बदल करतात.



'अभ्यासकमाचा अर्थ व व्याख्या :-

प्रत्येक वर्गात काय शिकायचे, काय शिकवायचे, कशासाठी शिकवायचे याचे नियोजन करून त्याचे संघटन केल्या जाते आणि अशा संघटीत नियोजनपूर्वक दिलेले स्वरूप म्हणजे अभ्यासकम होय.

अभ्यासकम म्हणजेच न्यततपबनसन हा लॅटीन शब्द आहे. लॅटीनमध्ये त्याचा अर्थ त्वंभ्रबनतेम असा होतो. याला मराठीत 'शर्यतीचे मैदान' म्हणतात. ज्यामध्ये विषयाच्या आखलेल्या मार्गावरून सर्वांगीण विकासाच्या उद्दिष्टांप्रत धावत जाणे हे विद्यार्थ्यांचे कर्तव्य आहे.

१. रेमर्सच्या मते :- "Curriculum is now being defined as all the experiences of the learner that and under the control of the school."

अर्थात शाळेत नियंत्रणाखाली शिकण्यातून प्राप्त होणा-या सर्व अनुभवांचा साठा म्हणजे अभ्यासकम होय.

२. वाल्टरच्या मते :-

अभ्यासकम म्हणजे विद्यार्थ्यांना शाळेच्या नेतृत्वाखाली मिळणारे सगळेच अनुभव त्याच वर्गातील कृतीच्या कामाचा त्याचप्रमाणे किडांचाही समावेश होईल.

"Policies and Prospects of Teacher Education - 2019 (NCPTE-2019)"



Principal
Principal
Shri Shivaji College of Education
Amravati.

3. मन्त्रेच्या मते :-

हेतुबलित ध्येये साध्यकरुन घेण्यासाठी शाळेत उपयोगात आणल्या जाणा-या सर्व प्रकारच्या अनुभववाचा अभ्यासक्रमात समावेश होतो. शिक्षकावर संस्कार करण्याच्या सर्व अनुभव व कृती याचा अभ्यासक्रमात समावेश होतो. विविध विषय, त्यातील ज्ञान, त्याचप्रमाणे विषय ज्ञानव्यतिरिक्त अन्य प्रकारच्या अभ्यासपूरक कार्यक्रमापासून शिक्षण - विद्यार्थी व विद्यार्थी -विद्यार्थी संबंधातून येणारे अनुभव या सर्वांचा अभ्यासक्रमात समावेश होतो.

होबक :

शिक्षण प्रशिक्षण अभ्यासक्रम सदयस्थिती समस्या आणि अभ्यासक्रमाची अंमलबजावणी

संशोधनाची उद्दिष्टे :

1. शिक्षण प्रशिक्षण अभ्यासक्रमाचा अभ्यास करणे.
2. शिक्षण प्रशिक्षण अभ्यासक्रम अंमलबजावणीचा अभ्यास करणे.

शिक्षण प्रशिक्षण अभ्यासक्रमाचे महत्व :-

अभ्यासक्रमाच्या व्याख्या पहिल्यावर व्यक्तीच्या जीवनात अभ्यासक्रमाचे किती महत्व आहे हे लक्षात येते.

1. अध्यापन - अध्यापन करण्यास शक्य मदत मिळते :-

अभ्यासक्रमांमुळे अध्यापन करण्यास एक निश्चित मदत मिळते. काय, कसे शिकवायचे या संदर्भात संपूर्ण ज्ञान अभ्यासक्रमात असते. तसेच विद्यार्थ्यांची शारीरिक व मानसिक क्षमता लक्षात घेऊ योग्य अभ्यासक्रमाची निवड करणे सोपे जाते. तसेच विद्यार्थ्यांना सुध्दा अध्ययन करण्यास मदत मिळते. विद्यार्थ्यांना आपला भाविक, शारीरिक पातळीचा अभ्यास अभ्यासक्रमाद्वारे शिक्षक विद्यार्थ्यांना देवू शकतात.

2. अध्ययन व अध्यापनाचा दर्जा अभ्यासक्रमांमुळे उरता जातो :-

अभ्यासक्रमांमुळे विद्यार्थ्यांचे अध्ययन हे कोणत्या दर्जाचे असावे व शिक्षकाने अध्यापन करताना कोणत्या दर्जाचे शिक्षण घ्यावे हे अभ्यासक्रमांमुळे कळते. बौद्धिक स्तर, मानसिक स्तर आणि शारीरिक स्तरानुसार विद्यार्थ्यांत वयानुसार भिन्नता आढळते. सर्वांना एकच प्रकारचा अभ्यासक्रम दिला गेला असता तर विद्यार्थ्यांचे अध्ययन हे नीट झाले नसते. म्हणून अभ्यासक्रमांमुळे विद्यार्थ्यांचा स्तर लक्षात घेवून विद्यार्थ्यांची प्रगती करणे शक्य होते.

3. अध्ययन - अध्यापनाचे वेळापत्रक नक्की करता येते :-

अध्ययन अध्यापनाचे वेळापत्रक अभ्यासक्रमांमुळे निश्चित करणे शक्य होते कारण विद्यार्थ्यांना केवळ काय शिकवायचे, कोणत्या पद्धतीने शिकवायचे यांचे संपूर्ण नियोजन अभ्यासक्रमांमुळे करणे शक्य होते म्हणजेच अगदी वर्षाच्या सुरुवातीलाच यांचे नियोजन करून संपूर्ण उत्तर त्यानुसार अंमलबजावणी करता येते.

4. परिक्षा पद्धती मूल्यमापन पद्धती ठरविता येते :-

विद्यार्थ्यांच्या शारीरिक व मानसिक, बौद्धिक क्षमतेनुसार विद्यार्थ्यांना अभ्यासक्रम देता येतो. त्यामुळे त्या अभ्यासक्रमाच्या आधारे परिक्षा पद्धती म्हणजे कशा प्रकारची परिक्षा घ्यायची हे ठरविता येते. नंतर त्याचे मूल्यमापन कसे करायचे हे सुध्दा अभ्यासक्रमाद्वारे ठरविते जाते.

5. शिक्षकांची उद्दिष्टे साध्य करता येतात :-

जुन्यांच्या संपूर्ण व्यक्तीमत्त्वाचा विकास करणे, किर्यात्मक, बोधात्मक आणि शारीरिक दृष्टीकोनातून विद्यार्थ्यांचा विकास करणे हे शिक्षकांचे उद्दिष्टे अभ्यासक्रमाच्या माध्यमातून पूर्ण करता येते. बालक जर आपले प्राथमिक शिक्षण घेत असेल तर तेव्हा त्याला कोणत्या प्रकारचे शिक्षण द्यायचे हे अभ्यासक्रमांमुळे शक्य होते. तसेच तो जसाजसा आपले शिक्षण घेत पुढे जातो तसा तशी त्याची वाढ होईल.

अभ्यासकामाच्या अन्वयासकम त्याचा अभ्यासकामाच्या माध्यमातून विकास करता येतो व त्याच्या संपूर्ण व्यक्तिमत्त्वाचा विकास अभ्यासकामामुळे करता येतो. जेणे करिता शिक्षणाचे ध्येय आहे.

६. शिक्षकांचे नेमणूक करण्यास मदत होते :-

शिक्षकांची नेमणूक करतांना त्याला कोणत्या निकषांवर नियुक्त करावे हे अभ्यासकामामुळे

कळते.

उद्दे- शिक्षण अभ्यासकामाचे ध्येय :-

तत्वापूर्व अभ्यासक शिक्षणाद्वारे एक सर्वसामान्य व्यक्तीची अध्यापन क्षेत्रातील व्यावसायिकता म्हणून पूर्वतयारी करून घेतली जाते. या शिक्षणक्रम (course) तात्विक (Theoretical) आणि प्रात्यक्षिक (Practical) दोन्ही अंगांचा समावेश दिसून येतो. जेणे करिता कधी तात्विक तर कधी प्रात्यक्षिक भागावर जास्त भर दिल्याचे दिसून येते. असे ज्या ज्या वेळी घडले आहे त्या-त्या वेळी या शिक्षणक्रमात असंतुलन निर्माण झाल्याचे आढळून आले आहे.

सन १९९५ मध्ये एनसीटीई वैधानिक संस्था (Statutory Body) म्हणून अस्तित्वात आल्यावर प्रथम हाती घेतलेल्या कामात अभ्यासक शिक्षण शिक्षणक्रमांनी पुनर्रचना या विषयांचा समावेश होणे अपरिहार्यच होते. नामवंत शिक्षण तज्ञांच्या दोन-अडीच वर्षे झालेल्या विद्वत् व देशव्यापी विचार मंथनाचे नवनीत म्हणून Competency based and commitment oriented Teacher Education वित्त Quality School Education आणि Curriculum Frame work for Quality Teacher Education या सन १९९८ साली झालेल्या पुस्तकांचा आवर्जून उल्लेख करायला लागेल. राज्यस्तरावर काम करण्या-या अभ्यासकाम पुनर्रचना समितीने त्यांचाच आधार घेतला आहे व राज्याची परिस्थिती लक्षात घेऊन इष्ट ते बदल केले आहेत. एनसीटीई त्महसंजपवद.२०१४नुसार पायामुल अशा या विचारधारणेनुसार अभ्यासकामाच्या व्यावसायिक व्यक्तिमत्त्वाची तीन अंगे कल्पिलेली आहेत.

१. क्षमता युक्त
 २. बर्हीलकीयुक्त
 ३. कामगिरी युक्त
- या दृष्टिकोनाची ओळख पुढील प्रमाणे.

१. क्षमता (Competencies) :-

कोणतेही काम यशस्वीपणे पार पाडायचे तर त्या व्यक्तीच्या ठिकाणी जन्मजात (innate) आणि संपादित (acquired) क्षमता असावी लागतात. अभ्यासकामाच्या ठिकाणी काही निश्चित क्षमतांची अपेक्षा असतेच. या क्षमता म्हणजे आंतरिक शक्ती शिक्षणाद्वारे जन्मल्या बौद्धिक क्षमता विकसीत होतात त्या क्षमता जितक्या प्रमाणात विकसित होतील तितक्या प्रमाणात व्यक्तीची यशस्वी व्यावसायिक कामगिरी शक्यता अधिक, म्हणून काही क्षमता क्षेत्रे निश्चित करण्यात आली आहे.

१. संदर्भ क्षमता क्षेत्र
२. संबंध क्षमता क्षेत्र
३. आशय क्षमता क्षेत्र
४. अध्यापन क्षमता क्षेत्र
५. उच्च शैक्षणिक कृती संदर्भातील क्षमता क्षेत्र
६. शैक्षणिक साहित्य विषयक क्षमता क्षेत्र
७. मूल्यमापन क्षमता क्षेत्र
८. व्यवस्थापन क्षमता क्षेत्र
९. मूलक सहकार्यविषय क्षमता क्षेत्र
१०. समूह सहकार्यविषय क्षमता क्षेत्र

२. कामगिरी : (Performance)

वेळीत निर्माण होणा-या आणि विकास पावणा-या क्षमता प्रकट होतात. त्या अध्यापकाच्या वर्गातील वा वर्गाबाहेरील वर्तनातून त्याच्या / तिच्या कामगिरीतून, पंडिताची व्याख्याच मुळी 'जो क्रियाशील तोच खरा पंडित (सं. क्रियाचान् स पण्डितः।) अशी केली आहे. **अशा अध्यापकाच्या बाह्य वर्तनावर सर्वांचे लक्ष असणे हे योग्य आहे.** अध्यापकाची कामगिरी पाच प्रकारांत विभागलेली आहे.

1. **कर्मक्षेत्रातील कामगिरी**
2. **शालेय प्रतटीवरील कामगिरी**
3. **शालेय प्रतटीवरील कामगिरी**
4. **शालेय प्रतटीवरील कामगिरी**
5. **शालेय प्रतटीवरील कामगिरी**

1. **बद्धतेची (Commitment) :-**

अध्यापन ही सामाजिक महत्वाचा व्यवसाय असल्याने अध्यापकाच्या कामगिरीकडे सगळ्यांचेच लक्ष असते. विद्यार्थ्यांचे तर असतेच जस्त्याच्याकडून अध्यापकाच्या कामगिरीचे मूल्यमापनही होत असते. आपण स्वतःलाच प्रश्न विचारला की कोणते अध्यापक त्यांच्या कर्मक्षेत्रात आपल्या लक्षात राहिले आहेत. तर लक्षात राहिलेल्या 10 पैकी 8 जण असे असतील की त्यांच्या कामगिरीला निष्ठेची, बद्धतेची बंदक होती. भावनेचा ओलावा होता. मानवी जीवनात भावनेला तसे असामान्य महत्व आहेच. उगाच नाही मॅगडुगलने भावनिक अनुभूती सहज प्रकृतीचा गमा म्हाटले आहे. यशस्वी अध्यापक होण्यासाठी आपल्या कामाचे नेमके आकलन जसे हवे आहे, त्या आकलनाचे जस्त्याच्याकडे जसे प्रत्यक्ष वर्तनातून दिसायला हवे आहे. त्याप्रमाणे नीतिमत्ता (ethics) मूल्ये (values) आणि तत्वे (Principles) यांच्याशी त्याची / तिची बांधीलकी हवी. अर्थात म्हणणे सोपे पण, (करणे) वर्तनात उतरविणे तितकेच कठिण आहे जस्त्याच्याकडे नाही. 'असाध्य ते साध्य करिता सायास ते संतवचन खरे आहे. बांधीलकी ही हक्कहूळ विकसित जाणारी प्रक्रिया आहे. सेवापूर्व कर्मक्षेत्रात तेच दर्शन फारच अस्पष्ट असेल. पण सेवा संपता संपता ते सुस्पष्ट व्हावयास पाहिजे.' अशी पाच बांधीलकी क्षेत्र शिक्षणज्ञांनी निष्ठेच्या इंग्लेती आहे.

1. **विद्यार्थ्यांशी बांधीलकी**
2. **सामाजिकांशी बांधीलकी**
3. **व्यवसायाशी बांधीलकी**
4. **व्यवसायाशी बांधीलकी**
5. **व्यवसायाशी बांधीलकी**

शिक्षण प्रविष्टि अभ्यासक्रमाची सर्वसाधारण उद्दिष्ट्ये

अभ्यासक्रमाची ध्येये हा व्यावसायीक पूर्वतयारी प्रवासाचा अखेरचा बिंदू झाला. परंतु तिथे पोहोचण्यात अनेक टप्पे पार करावयाचे आहेत. अनेक व्यावसायीक वैशिष्ट्ये आत्मसात करावयाची आहेत. त्यांनाच या अभ्यासक्रमाची सर्व साधारण उद्दिष्ट्ये म्हणता येतील जस्त्याच्याकडे जसे पुढील प्रमाणे.

1. **अभ्यास विषयक :-**

1. **म्हणजेच असलेल्या आणि तरीही सातत्याने बदलणा-या भारतीय समाजाच्या घडणीतील शिक्षण आणि अध्यापकाची भूमिका समजून घेण्याचे उद्दिष्ट्ये**
2. **विद्यार्थ्यांच्या शैक्षणिक संवेद्यतेत आणि उपपत्ती यांच्या मदतीने आपले विद्यार्थी समजून घेण्यास सहाय्य करणे.**
3. **शालेय वेळापत्राच्या संरचनांना परिचय करून घेण्यास त्यांची इयत्तावर उद्दिष्ट्ये, पाठ्यक्रम आणि पद्धती यांच्याशी नाते शोधण्यास उद्दिष्ट्ये**
4. **अभ्यासक्रमाच्या तयारी करताना अध्ययनातून निश्चिती संबंधी विकसित करणे वा निर्णय घेण्याची संधी उपलब्ध करून देणे.**
5. **अभ्यासक्रमाच्या साधनांची निवड वा निर्मिती आणि उपचारात्मक अध्यापनाची निश्चिती यांमार्गील कार्यकारणभाव स्पष्ट करण्याचा सराव देणे**

2. कामगिरीविषयक :-

- अ. विविध पध्दती व तंत्रे तसेच उचित शैक्षणिक साधने वापरून अध्यापन करण्याचा सराव देणे.
- ब. संगणकाच्या सहाय्याने चाचण्यांचे निकालपत्र तयार करण्याची व सादरीकरणाची संधी प्राप्त करून देणे.
- क. शालेय उमेदवारीच्या काळात अध्यापनेतर जबाबदा-या पार पाडण्याचा अनुभव देणे.
- ड. वचित मुलांच्या व्यक्ती-अभ्यासाच्या अनुभव कार्यक्रमाद्वारे पालकांच्या समस्या समजावून घेण्याची संधी देणे.

3. बांधीलकी विषयक :-

- अ. समाजसेवा कार्यक्रमातर्गत एखाद्या शिक्षण विषयक अथवा विकास विषयक प्रकल्पात सहभाग घेण्याची संधी उपलब्ध करून देणे.
- ब. अंतरजालद्वारे (Internet) आपल्या आवडीच्या विषयात अदययावत माहिती मिळवायची संधी उपलब्ध करून देणे.

‘शिक्षण प्रशिक्षण अभ्यासक्रम :-

शिक्षणशास्त्र पदविका अभ्यासक्रम सन 1993-94 पासून आमलात आहे. दरम्यानच्या काळात देश तथा राज्य पातळीवर शिक्षणक्षेत्रातील बदलत्या प्रवाहानुसार अभ्यासक्रम सुधारीत होणे कमप्राप्त होते. राज्यात क्षमताधिष्ठीत शिक्षण अभ्यासक्रमांची 3.1 ते 5 मध्ये अंमलबजावणी सन 1997-98 पासून टप्प्याटप्प्याने सुरू झाली याला अनुसरून शिक्षणशास्त्र अभ्यासक्रमाची पुनर्रचना करणे आवश्यक होते. शासनाने शिक्षणशास्त्र अभ्यासक्रम समितीची पूर्तगणन केले व त्यांच्या मदतीने सुधारीत अभ्यासक्रम मसुदायाचे समीक्षण करण्यात आले. त्यानंतर अभ्यासक्रम निश्चित करून शासन नियुक्त अभ्यासक्रम समिती व राज्यशिक्षक प्रशिक्षण मंडळाच्या मान्यतेवर हा मसुदा शासनास सादर करण्यात आला. या नविन अभ्यासक्रमामध्ये प्रात्यक्षिक कार्यावर साधारणतः 50: भारांश विषयांतर्गत प्रात्यक्षिकाची योजना, पाठांसाठी वार्षिक परिक्षेचे नियोजन, आशययुक्त अध्यापन समावेश, माहिती संप्रेषण तंत्रज्ञान विषयाचा नव्याने समावेश, कृतीसंशोधन, पर्यावरण, शिक्षणविषयक उपक्रम, शालेय व्यवस्थापन या नव्या विषयांचा समावेश आणि Intership एकूण आठवडे 16 इ. या सुधारीत अभ्यासक्रमाची समक्ष शिक्षक तयार व्हावा हेच उद्दिष्ट्ये या शिक्षणशास्त्र अभ्यासक्रमाचे आहे.

अभ्यासक्रमाची अंमलबजावणी करताना येणा-या अडचणी :-

1. उशीरा होणारे प्रवेश :-

अनेक विद्यार्थ्यांचे प्रवेश हे उशीरा होत आहे. काही विद्यार्थी तर दिवाळीनंतरयामध्ये प्रवेश घेतात. उशीरा प्रवेश घेण्यात आल्यामुळे त्यांना कमी कालावधीत हा अभ्यासक्रम पूर्ण करावा लागतो.

2. खाजगी महाविद्यालयाची मूिमका :-

खाजगी महाविद्यालयांची वाढती संख्या लक्षात घेता, अनेक महाविद्यालयांनाप्रशिक्षितव अनुभवी शिक्षकवर्ग मिळत नसल्याने यामधील अभ्यासक्रम ते योग्यपध्दतीने विद्यार्थ्यांना समजावून सांगू शकत नाहीत.

3. व्यक्तिनिती आढळून येते :-

अभ्यासक्रमांमध्ये प्रात्यक्षिक गुणांचा समावेश असल्याने शिक्षकांच्याजवळचे विद्यार्थी, मर्जीतील विद्यार्थी त्यांना जास्त गुण दिल्या जातात. शिक्षकांनाआपल्या व्यवसायात व्यक्तिनिष्ठता निर्माण होण्यास हा अभ्यासकारणीमूत ठरतो.

4. विद्यार्थी स्वातंत्र्यावर गदा :-

शिक्षण अभ्यासक्रमात विद्यार्थी आपल्याला आवडेल असे योग्य निर्णय स्वतः घेऊ शकत नाहीत. त्यांना शिक्षकांची मर्जी सांभाळणे आवश्यक असते.

5. अधिक कालावधी :-

अभ्यासक्रमाचा कालावधी अधिक वाढवल्यामुळे अभ्यासक्रम हा लांबवल्या जातो. विद्यार्थ्यांना हा अभ्यासक्रम कंटाळवाणा वाटून यासाठी अधिक वेळ द्यावा लागतो. अश्या प्रकारे “शिक्षणशास्त्र पदवि” हा दोन वर्षांचा अभ्यासक्रम पूर्ण करणारे प्रशिक्षणार्थी इयत्ता 5 वी ते 12 वी प्रौढशिक्षण वर्ग गटांसाठी चालवल्या जाणा-या अनौपचारिक शिक्षणाच्या वर्गांना शिकवण्यासाठी सक्षम होतात

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ATTITUDE OF TEACHER TRAINEES TOWARDS YOGA EDUCATION

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ABSTRACT :-

Yoga is basically the most important ancient art that aims towards the building up of a healthy mind within a healthy body. For that reason it is considered to be the harmonizing system that rejuvenates the body, mind as well as the soul. The great saints, therefore have mentioned yoga to be a universal attribute of mind which enhances the physical, Spiritual and mental status of the human body.

The balanced development of these three specifications led the condition where the individual will enhance the positive feeling towards life. On the whole, the yoga in daily life is practiced based on technique to control the mind as well as body. The purpose of the study was to study the attitude of teacher trainees towards yoga education. The sample of 300 teacher trainees selected randomly from the training colleges of Amravati University. Investigator made attitude scale towards yoga education was used as a tool for data collection. The study concludes that both male and female teacher trainees are much similar in respect of their attitudes towards yoga education.

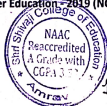


KEYWORDS: Teacher Trainee, yoga education.

INTRODUCTION

Life is full of challenges that are there only to make us stronger and better. The challenges should be understand as opportunities for change and faced with confidence. Meditation and yoga brings a positive vibes among the students and if they do it regularly it will help in bringing positive outcomes which is advantageous for the scholars. There are variety of positive outcomes of yoga for learners and various other peoples. Student faces a lot of depression and stress due to a variety of reasons such as family pressure, financial pressure or any other depression, Yoga is one of best way to eliminate all. Yoga keeps all depression away and keeps mind fresh. Yoga helps in increasing the sharpness of brain and concentration power. It helps in relaxing the mind and provide more peace of mind. Strength is required by body to fulfill all daily activities appropriately, Especially young students need a lot of strength, as they are overloaded with lots of task. Yoga helps in building strength and gives power. A lot of diseases can be improved by doing yoga daily. It helps to reduce a great hypertension among students. Flexibility of the body is another advantage of doing yoga daily. Practicing yoga asana muscles are stretched thereby increases the flexibility of body. Due to high calories drinks and food intake, students have to face many types of problems, With practicing yoga regularly they can help their weight management. Doing yoga regularly helps in advancing

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brain muscles and helps students to score the highest grades. Hence yoga helps learners to stay relaxed and stress free from all depress and academic tensions which is beneficial in academic advancement.

Yoga is the power for all the students that helps in enhancing their memory and provides them more energy and power. Students can enhance their focus and concentration with the help of yoga.

NEED AND SIGNIFICANCE OF THE STUDY

The modern world is facing a pandemic of lifestyle disorders that requires changes to be made consciously by individuals themselves and as yoga is the best lifestyle ever designed, it has potential in the prevention management and rehabilitation of prevalent lifestyle disorders. Yogic lifestyle, Yogic diet, Yogic attitude and various yogic practices help humans to strengthen themselves and develop positive health, thus enabling them to withstand stress better.

An adult faces endless emotional and physical disorders due to unhealthy lifestyle choices. Unfortunately today children and youth are also victims of stress, anxiety, digestive disorders, insomnia etc due to highly competitive environment and work culture, Peer- pressure, examination pressure, long working hours, Irregular eating habits are a few other causes of a stressful lifestyle.

Teenage is the time period of students when they are stucked between variety of work load and pressures. They need to perfectly accomplish their school or college task, prepare for variety of exams or test, need to score excellent marks, work better in their workplace and improve their performance and many other tension. In several school, colleges and universities around the world several programs and courses have been made compulsory for the students to Join.

From first graders to college seniors are under pressure. Hours a day sitting at desk or computer monitor and more hours doing homework cause a young body to tense up. Social and family pressures and unfortunately anxiety, abuse and bullying also take their toll. It is therefore educators are becoming increasingly interested in providing yoga in school and colleges.

Student life is a very crucial period of one's life, these years can make or break a person, There is always so much to do and so many distractions at the same time, especially in a world like today's where Face book and gaming takes up more time than anything else. Their minds wander while they sit to study and everything else seems way more exciting than the book open right in front of them. Yoga will help the students in focusing on the more important things.

A teacher is called as a second parent to a pupil. Teacher is placed after the parent and before God. So teaching and teacher has got its prime position in Education. Evidence exists that teacher attitudes are strongly influential in the success of any curriculum they present. Teacher characteristics, attitudes, conceptions of self, intellectual and interpersonal dispositions can influence both the explicit and the hidden curriculum in the class room. Teachers have the opportunity to leave an indelible impression on their students lives. The effective attitudes and actions employed by teachers ultimately can make a positive impact on students. So taking into consideration the importance of yoga education and role of teacher in imparting the knowledge about yoga education to develop the positive attitude towards it, the investigator made an attempt to study the attitude of teacher trainees towards yoga education.

OBJECTIVES OF THE STUDY

- To study the attitude of teacher trainees towards yoga education
- To find out where there is any influence of sex, management and locality of teacher trainees on their attitude towards yoga education.

HYPOTHESES.

- There would be no significant difference between the attitude scores of male and female teacher trainees towards yoga education.

- There would be no significant difference between the attitude score of private management and government aided college teacher trainees
- There would be no significant difference between the attitude score of rural and urban teacher trainees towards yoga education,

Sample

The sample comprises of 300 teacher trainees who were studying in private management and government aided colleges in Amravati university. The sample selection was done by random sampling technique

Tool

The investigator made attitude scale towards yoga education was used to assess the attitude of teacher trainees towards yoga education

Statistical Technique

Both descriptive and inferential statistics were employed for analysis of data. The descriptive statistics such as Mean and Standard deviation were used. Inferential statistics such as 't' test was employed.

ANALYSIS OF THE DATA

Table 1. Table showing the comparison between the attitude scores of male and female teacher trainees towards yoga education

Sr.No	Gender	No of teacher trainees	Mean	S.D	Calculated 't' value	Level of significance
1	Male	150	204.20	41.19	0.67	0.05
2	Female	150	207.52	44.05		Not Significant

The above table shows that at 298 df; 0.05 level of significance the calculated 't' value is 0.67 which is less than the table value 1.97

Therefore it is inferred that no significant difference was found in between the attitude scores of male and female trainees towards yoga education

Hence it is concluded that both male and female teacher trainees are much similar in respect of their attitude towards yoga education

Table 2. Table showing the comparison between the attitude scores of private management and government aided colleges teacher trainees towards yoga education

Sr. No	Management of College	No of teacher trainees	Mean	S. D	Calculated 't' Value	Level of significant
1	Private	150	200.12	42.08	2.35	0.05
2	Government aided	150	211.60	42.49		Significant

The above table shows that at 298 df ; 0.05 level of significance the calculated 't' value is 2.35 which is more than the table value 1.97

Therefore It is inferred that significant difference was found in between the attitude scores of private management and government aided college teacher trainees towards yoga education.

Hence it is concluded that Government aided college teacher trainees (m= 211.60) have more positive attitude towards yoga education than private management college teacher trainees.

Table 3 : Table showing the comparison between the attitude scores of rural and urban teacher trainees towards yoga education

Sr. No	Group	No of Teacher Trainees	Mean	S.D	Calculated 't' Value	Level of significant
1	Rural	150	235.5	19	4.47	0.05
2	Urban	150	246.5	23.5		Significant

The above table shows that at 298 df; 0.05 level of significance the calculated 't' value is 4.47 which is more than the table value 1.97

Therefore it is inferred that significant difference was found in between the attitude scores of Rural and Urban teacher trainees towards yoga education

Hence it is concluded that Urban teacher trainees (m=246.5) have more positive attitude towards yoga education than rural teacher trainees

CONCLUSIONS

1. Male and female teacher trainees did not differ in respect of their attitudes towards yoga education
2. Government aided college teacher trainees have more positive attitude towards yoga education than private management college teacher trainees
3. Urban teacher trainees have more positive attitude towards yoga education than rural teacher trainees

SUMMARY

The role of teacher has always been a challenging and dynamic one. A performance of the teacher is correlated to a great extent on his attitudes, values and belief. A positive attitude towards the task undergone by the teacher makes it satisfying and rewarding. The national policy of Education 1986 has rightly observed that the status of the teacher reflects the socio-cultural ethics of the society, it is said that no nation rise above the level of its teacher.

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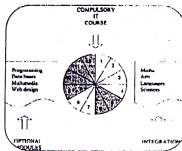
A STUDY ON THE PERCEPTION OF JUNIOR COLLEGE STUDENTS TOWARDS INTEGRATED COURSES IN EDUCATION

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ABSTRACT :-

The 2-year course for Bachelor of Education might soon be dropped in favour of a 4-year integrated teacher training programme. The government had changed the one-year B.Ed course for a 2-year alternative only three years ago. Now the National Council for Teacher Education (NCTE) has been asked to start work on the four-year integrated BA-BEd and BSc-BEd course and three year BEd-MEd integrated course. Being teacher educator researcher was interested to check awareness of students about teaching profession and their passion of carrier choices in competitive era. So the purpose of this study was to analyze what is happening in the mind of Junior college students about four year integrated course in education and perceptions about what teaching and learning processes can be improved through the use of four year integrated course in education.



A sample of 300 Junior college students from Arts and Science of Nagpur and Amravati board were selected from seven campuses through convenient sampling techniques. Self-administrated questionnaires and carrier were used as a tool for data collection. Data were analyzed by using excel applying mean score. Results of the research study confirmed that Junior college students are not aware about four year integrated course in education. This study in which survey design was utilized sought to determine junior college students perception of pursuing teaching as a career; and to determine those factors responsible for their perceptions. Four research questions were postulated to guide the study and a research instrument tagged Student Teaching Career Questionnaire was designed to collect data from 300 students who constituted the study sample.

KEYWORDS: BSc-BEd, BA-BEd Integrated Course In Education, Junior College Student, Perception.

INTRODUCTION

Education plays a vital role in the empowerment and development of the human resource in a nation. Education is essential in imparting values, knowledge and developing skills so as to increase the growth and productivity of the nation. An educational institution performs a significant function of providing learning experiences to lead their students from the darkness of ignorance to the light of knowledge. The key personnel in the institutions who play an important role to bring about this transformation are teachers. It is felt that a teacher to be a truly professional practitioner requires a conceptual understanding and appreciation of the above domains of knowledge and also the competence to implement the knowledge in specific contexts of teaching. In order that the teacher education programme to become a professional

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preparation programme, it should have a fair combination of theory and practice. Too much of theory would push the teacher education programme towards liberal-arts orientation and hence prepare a disciplinarian rather than an efficient and effective practitioner. What the country needs today is sound practitioner teacher rather than those who merely verbalize theoretical knowledge. One way of achieving this would be to have a proper blending of reflections on theoretical basis and sufficient opportunities for practice followed by feedback. So now focus is on integrated B.Ed. course for efficient professional development. Now some universities are running these integrated B.Ed. courses. The programme is designed to provide opportunities for the prospective Teacher Educators to extend and deepen their horizontal of knowledge and understanding of education and teacher education, develop research capacities, specialized in select areas etc. The course includes both critical comprehension of theory as well as hands-on and field based reflective practices, skills and competences. Teaching skills would include providing training and practice in the different techniques, approaches and strategies that would help the teachers to plan and impart instruction, provide appropriate reinforcement and conduct effective assessment. It includes effective classroom management skills, preparation and use of instructional materials and communication skills. Pedagogical theory includes the philosophical, sociological and psychological considerations that would enable the teachers to have a sound basis for practicing the teaching skills in the classroom. The theory is stage specific and is based on the needs and requirements that are characteristic of that stage. Professional skills include the techniques, strategies and approaches that would help teachers to grow in the profession and also work towards the growth of the profession. It includes soft skills, counseling skills, interpersonal skills, computer skills, information retrieving and management skills and above all lifelong learning skills. An amalgamation of teaching skills, pedagogical theory and professional skills would serve to create the right knowledge, attitude and skills in teachers, thus promoting holistic development. Various integrated B.Ed. courses are the Integrated B.Ed.- M.Ed. Programme is a three-year full-time professional programme in education, without any option of intermediate exit before completing the three- years study. It aims at preparing teacher educators and other professionals in education, including curriculum developers, educational policy analysts, educational planners and administrators, school principals, supervisors and researchers in the field of education. The completion of the programme shall lead to integrated B.Ed. – M.Ed. degree with specialization in either elementary education (upto class VIII) or secondary education and senior secondary education (upto class XII). The 3-year Integrated B.Ed.-M.Ed. Course is a professional programme in the field of Teacher Education which aims at preparing Teacher Educators and other professionals including curriculum developers, educational policy analysts, planners, administrators, supervisors, school Principals and researchers. The completion of the programme shall lead to B.Ed.- M.Ed. Degree with specialization in selected areas focusing on both elementary and secondary education. The three years M.Sc. B. Ed. Curriculum is meant for preparing teachers specifically for the senior secondary stage of school education. Hence, it can only include the knowledge domains appropriate for teaching at the senior secondary stage of education. There exist two main models of teacher education programmes in India. The long duration integrated model wherein the subject matter knowledge is learnt alongside professional education courses and the short duration model in which the student would have already acquired a degree in the subject to be taught by him/her. The four-year composite courses are B.A (B.Ed), B.Sc (B.Ed) . Those who want to become teachers can apply for these courses after Class 12.

OBJECTIVES OF THE STUDY:

The following were major objectives of the study:

- i) To find out the conceptions of Junior college students regarding the four year integrated course in education.
- ii) To find out response of Junior college students towards carrier choices.
- iii) To study awareness of Junior college students about various integrated courses available in education .

iv) To make useful suggestions for the improvement of four year integrated course in education .
To achieve these objectives the following Research Questions will guide the study:

1. Is Education the first choice for course of study of Junior college students?
2. Are male and female Junior college students interested in being professional teachers after graduation that B.Ed.-M.Ed. integrated course?
3. Are Junior college students aware about various integrated courses available in education ?
4. Are male and female Junior college students interested in being professional teachers after post graduation M.Sc.-B.Ed.?

METHODS

The survey research design was adopted for this study aimed at determining Junior college students perception of teaching as a career. The study involved the two district Junior college students located in Nagpure and Amravati Board.

The population for the study comprised all registered Junior college students of Amravati and Nagpure district board of science arts and commerce colleges. A sample of 300 Junior college students from Arts Commerce and Science of Nagpur and Amravati board were selected from seven campuses through convenient sampling techniques. Instrument for data collection was researcher-constructed questionnaire tagged Students Teaching Career Questionnaire which was face validated by two educational researchers. Section A of the research instrument sought demographic information such as gender and stream of course. Face-to-face hand delivery method was utilized for the administration of the questionnaire. Out of the 300 respondents, 150 were males while 150 were females. Data was analyzed using simple percentages.

RESULTS AND DISCUSSION

The findings as regards research questions 1, 2, 3, and 4 are presented in paper .

Research Question 1: Is Education the first choice for course of study for Junior college students of 12th standard in arts and science faculty?

Frequency shows that out of the 150 respondents of arts faculty only 93 (62%) actually wanted to study education while 57 (38%) indicated that education was not their first choice for course of study. Frequency shows that out of the 150 respondents of science faculty only 24 (16%) actually wanted to study education while 126 (84%) indicated that education was not their first choice for course of study. From the collected data Arts faculty Junior college students are more interested in the four year integrated course in education.

Research Question 2: Are male and female Junior college students interested in being professional teachers after graduation that B.Ed.-M.Ed. integrated course?

Data of frequency table shows that greater percentages of females (62.2%) are favourably disposed to making teaching their career than (51.1%) for males after graduation that B.Ed.-M.Ed. integrated course. It equally shows that (32.2%) males were not willing to becoming teachers while (22.4%) of females were not willing. Also (16.7%) were not sure of being teachers while (15.4%) were not sure.

Research Question 3: Are Junior college students aware about various integrated courses available in education ?

From data collected science faculty students percentage regarding awareness of various integrated courses in education was 57% and those from arts faculty it was very poor to 8% only.

Research Question 4: Are male and female Junior college students interested in being professional teachers after post graduation M.Sc.-B.Ed. integrated courses?

Data shows that greater percentages of females (62.2%) are favourably disposed to making teaching their career than (51.1%) for males after post graduation.

It equally shows that (32.2%) males were not willing to becoming teachers while (22.4%) of females were not willing. Again (16.7%) males were not sure of being teachers while (15.4%) females were not sure. This finding indicates that women (females) are more favourably disposed to making teaching a career than their

male counterparts. This finding is in agreement with the commonly held notion that teaching is a female profession. Justifying their decisions of becoming professional teachers after graduation, the 135 (57.9%) gave reasons such as opportunity to teach others, recognition of teacher as nation builders, acquisition of more knowledge, contribution to the nation's educational development and so on as the reasons fuelling their desires to be professional teachers after graduation. The 61 (26.2%) that had no intention of becoming teachers cited reasons such as not getting admission into area of interest, low societal regard for teachers, low income earned by teachers etc as reasons for not wanting to be teachers after graduation. The 37 (15.9%) that were not sure of joining the teaching profession after graduation gave reasons such as intention to be self employed, unpalatable treatment of teachers in India, intention to pursue other careers and the stressful nature of teaching as being responsible for their decision..

CONCLUSION:

The following conclusions are drawn from the findings of this study:

1. Education was not the first choice of Science faculty junior college students. From the collected data Arts faculty Junior college students are more interested in the four year integrated course in education BA-BEd
2. From data collected science faculty students percentage regarding awareness of various integrated courses in education was 57% and those from arts faculty it was very poor to 8% only.
3. More females are favourably disposed to making teaching their career after graduation than males.
4. Opportunity to teach others, love teaching, enhancement or acquisition of more knowledge and contribute to the nation's educational development are some of the reasons for students interest in making teaching their career.
5. Low societal regard for teachers, low remuneration and allowing of non-trained teachers into the teaching profession are among the factors responsible for students' lack of interest in joining the teaching profession.
6. There is no statistical difference between the perception of students of Junior college towards integrated B.Ed. district wise.
7. There is statistical difference between the perception of students of Junior college towards integrated B.Ed. faculty wise.

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ANOMALIES IN UGC REGULATIONS, 2018 WITH REFERENCE TO NCTE REGULATIONS, 2014

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ABSTRACT :-

In exercise of the powers conferred under article 246; University Grants Commission act 1956 has been passed and UGC was formally established in November 1956 as a statutory body of the Government of India for the coordination, determination and maintenance of standards of university education in India. NCTE came into existence in pursuance of the National Council for Teacher Education Act, 1993 (No. 73 of 1993) on the 17th August, 1995 for the regulation and proper maintenance of Norms and Standards in the teacher education system. This research article try to identify the anomalies in the regulations passed by these two statutory bodies, the problems associated with it and overcome the peril faced by the teacher education institution in near future.



KEYWORDS: NCTE Regulation, Anomalies in UGC Regulation.

INTRODUCTION

"Coordination and determination of standards in institutions for higher education or research and scientific and technical institution" is an item enumerated at serial no. 66 of list 1 of the seventh schedule (i.e. Union List) of the Indian constitution. According to the article 246 of the Indian constitution, ".....

Parliament has exclusive power to make laws with respect to any of the matters enumerated in the list 1 of the seventh schedule (in this constitution referred to as the "Union List")".

In exercise of the powers conferred under article 246; University Grants Commission Act 1956 has been passed to look into all the cases pertaining to the allocation of grants-in-aid from public funds to the Central Universities, other Universities and Institutions of higher learning. The UGC has been vested with two responsibilities: that of providing funds and that of coordination, determination and maintenance of standards in institutions of higher education.

Whereas, since 1973 NCTE was an advisory body for the Central and State Governments on all matters pertaining to teacher education, with its Secretariat in the Department of Teacher Education of the National Council of Educational Research and Training (NCERT). Despite its commendable work in the academic fields, it could not perform essential regulatory functions, to ensure maintenance of standards in teacher education and preventing proliferation of substandard teacher education institutions. The National Policy on Education (NPE) 1986 and the Programme of Action there under, envisaged a National Council for Teacher Education with statutory status and necessary resources as a first step for overhauling the system of

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teacher education. Accordingly The Act (National Council for Teacher Education Act, 1993 (No. 73 of 1993) of Parliament received the assent of the President on the 29th December, 1993 and The National Council for

Teacher Education as a statutory body came into existence in pursuance of the this act on the 17th August, 1995 with a view to achieving planned and coordinated development of the teacher education system throughout the country, the regulation and proper maintenance of norms and standards in the teacher education system and for matters connected therewith.

Hence it is very clear that NCTE has the power to laid down the norms and standards in the teacher education system. Hence this research article try to identify the incongruity in the regulations passed by these two statutory bodies and, the problems associated with it and overcome the peril faced by the teacher education institution in near future.

Scope and Limitation:

This paper covers anomalies in UGC regulation 2018 with respect to appendix - 4 and 7 of the NCTE Regulation 2014 this consist the scope of the paper and it is limited to the anomaly in the qualification laid down by NCTE and UGC for the post of Principal in the institution which runs Bachelor of Education or Physical education programme.

REVIEWING UGC REGULATIONS, 2010 AND NCTE REGULATIONS, 2009:

UGC regulations (2010) on minimum qualifications for appointment of teachers and other Academic Staff in Universities and colleges and measures for the maintenance of standards in higher education 2010 dated 28 June, 2010 Consider teacher education courses recognised by NCTE as separate entity then other disciplines viz. Arts, Commerce, Humanities, Sciences etc. and NCTE had brought National Council for Teacher Education (Recognition Norms & Procedure) Regulations, 2009 wherein Qualification for the appointment of Principal in B.Ed. colleges is given which was incorporated by UGC indistinguishably in UGC's Regulation 2010. Accordingly, suggested qualification in toto as prescribed in the NCTE regulation 2009.

REVIEWING NCTE REGULATIONS, 2014:

On December 1, 2014 NCTE introduced a new regulation consisting of 15 appendices in supersession of the NCTE regulation 2009. Out of these 15 appendices appendix -4 is the Norms and Standards for bachelor of education programme leading to Bachelor of Education Degree (B.Ed.) This regulation had lead down the qualification for the post of Principal in the institution which runs Bachelor of Education programme. Where in the qualification prescribed viz., P.G. Degree in arts, science, social sciences humanities, commerce with minimum 55% of marks, M.Ed. with minimum 55% of marks, Ph.D. in Education or in any Pedagogic Subject offer in the institution and 8 years of teaching experience in a secondary teacher education institution. The unavailability of the qualified and experienced Principal is the reason why NCTE has cut down the criteria of experience.

Again Appendix-7 is the Norms and Standards for Bachelor of Physical Education programme leading to Bachelor of Physical Education Degree (B.Ed.) This regulation had laid down the qualification for the post of Principal in the institution which runs Bachelor of physical Education programme. Wherein the qualification prescribed viz., P.G. Degree in Physical Education (M.P.Ed./M.P.E.) with minimum 55% of marks....., Ph.D. in the field of Physical Education and 8 years of teaching experience out of which five years experience in an institute/college/Department of physical education. Any other stipulation prescribed by UGC/affiliating body/State Govt. from time to time for the position of principal shall be mandatory.

NCTE while prescribing the qualification for the post of Principal of the college of Physical Education accorded and anticipated the expectations of UGC in addition to NCTE's prospects which has not been done in case of UGC Regulations 2018.

REVIEWING UGC REGULATIONS, 2018:

The UGC regulations on minimum qualification for appointment of teachers and other Academic Staff in Universities and colleges and measures for the maintenance of standards in higher education, 2018 embodies college of Education (B.Ed.) and physical Education (B.P.Ed.) with all other discipline stating the same qualification for the appointment of Principal in the colleges of Education viz. Ph.D. degree, Professor/Associate Professor with a total service/ experience of at least fifteen years of teaching/research in Universities, Colleges and other institutions of higher education, A minimum of 10 research publications, a minimum of 110 Research Score.

In the coverage of the UGC Regulations, 2018 it is very clearly said that, "For the purposes of direct recruitment to teaching posts in disciplines relating to university and collegiate education, inter alia in the fields of health, medicine, special education, agriculture, veterinary and allied fields, technical education, teacher education, norms or standards laid down by authorities established by the relevant Act of Parliament under article 246 of the Constitution for the purpose of co-ordination and determination of standards in institutions for higher education or research and scientific and technical institutions, shall prevail"

Considering B.Ed. courses alike other disciplines and prescribing qualification for appointment of Principal in accordance with other academic colleges (Arts, commerce, Science etc.) would lead to an anomaly in the administration and governance of the institution.

CONCLUSION:

1. Associate professor from any academic college not possessing qualification expected in NCTE regulation 2014 could be the Principal of College of Education (B.Ed.).
2. Associate professor from any academic college not possessing qualification expected in NCTE regulation 2014 could be the Principal of College of Physical Education (B.P.Ed.).
3. A formally untrained and one having "No Experience" in Teacher training would be the captain (Principal) of the Team (TEI).
4. This would lead great administrative problem and chaos in governance of the Teacher training institution.

SUGGESTION:

UGC should remove this anomaly from its regulation on minimum qualification for appointment of teachers and other Academic Staff in Universities and colleges and measures for the maintenance of standards in higher education, 2018 by considering teacher education courses recognised by NCTE as separate entity then other disciplines viz. Arts, Commerce, Humanities, Sciences etc. and come up with a solution that shall indistinguishably incorporate the condition of Qualification and especially teaching experience in UGC Regulations, 2018 with respect to the post of Principal in colleges of education and physical education prescribed in NCTE notification 2014.

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Comparative Study of Balance and Coordination of Female Athletes

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Abstract

The purpose of the study was to comparative Balance and Coordination of various levels of Female Athletes. For this study Sixty (60) female athletes, 20 from each participated in the Maharashtra State Tournaments (20), Inter Collegiate Tournaments of Sant Gadge Baba Amravati University, Amravati (20) and Inter University Tournaments (20) with the help of purposive sampling method were selected from Sant Gadge Baba Amravati University, Amravati. The age of the athletes were ranged between 18 to 25 years. Subjects did not use any ergogenic aids or supplementations and also they were all free from any injuries during the collection of data. The following tools were used to collect the data on:- Balance was measured by Stork Balance Stand Test and Coordination was measured by Alternate Hand Wall Toss Test. In order to find out the significant difference between personality traits of different level of achievement of female athletes the analysis of variance (ANOVA) was applied at 0.05 level of significance. Result shows that significant difference were found in balance and coordination ability among State, Inter Collegiate and Inter University Players as obtained F-ratio was 3.45 & 3.80 which was greater than that of required tabulated 'F' value of 3.158 at .05 level of significance with (2, 57) degree of freedom.

Keyword: Balance, Coordination, Female Athletes, etc.

Introduction

Motor fitness, or motor physical fitness, refers to how an athlete can perform at his or her sport, and involves a mixture of agility, coordination, balance, power, and reaction time. Improving this form of fitness is an indirect result of training in any of these attributes. All five components of fitness are essential for competing at high levels, which is why the concept is seen as an essential part of any athlete's training regime. Motor fitness is a term that describes an athlete's ability to perform effectively during sports or other physical activity. Each components is essential for high levels of performance.

Balance

Balance is the ability to stabilize your body, whether standing still or maintaining motion. Ice-skating, skiing and bicycle riding are balance exercises. There are two types of balance – static and dynamic. Static balance refers to remaining upright while staying still, standing on one leg, for example. Dynamic balance deals with stability in motion. Test your balance by holding a stationary position as long as you can, without wobbling, after moving around.

Balance is involved with all motor performances to some degree but some performances heavily depend upon balance. As quoted by Singh, Dynamics and stability both are of great importance in all body contact sports such as athletics, football, soccer, baseball, basketball and hockey.

Balance is the main factor of fitness competences for success in sports. Good balance plays an important role in skill development and the overall fitness profile of the players. There are two types of balance in sports. First is static balance, which maintains the body's centre of mass and second is dynamic balance which moves outside the body base of support.

Coordination

Coordination describes the synchronization of your senses and your body parts in a way that enhances motor skills. Volleying a table tennis ball is an example of hand-eye coordination. A variety of tests measure coordination, including juggling or hitting a ball.

"Co-ordination is the ability to integrate muscles movements into an efficient pattern of movement". Co-ordination makes the difference between good performance and poor performance. The efficiency of skill patterns depends upon the interrelation of speed, agility, balance and muscle movements into as well co-ordinate pattern.

It is the good advice to the performer and is necessary for judging such variables factor as speed, distance, direction, and size. Countless skills involve co-ordination of the eyes with hands. The players in Cricket, Volleyball, Basketball and handball do require eye- hand co-ordination when they exhibit their skills for successful performance. As there is lack of research available on important of eye-hand co-ordination for games. Where accuracy is more needed, the research worker was interested to conduct the study on Cricket, volleyball, Basketball and Handball players. The Nero-



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muscular co-ordination of the individual which includes his ability to learn new skill and finally achieve competency in physical activities as essential to all phase of physical education. Activities for developing such co-ordination, therefore, should be considered.

Materials and Methods

Subject

Sixty (60) female athletes, 20 from each participated in the Maharashtra State Tournaments (20), Inter Collegiate Tournaments of Sant Gadge Baba Amravati University, Amravati (20) and Inter University Tournaments (20) with the help of purposive sampling method were selected from Sant Gadge Baba Amravati University, Amravati. The age of the athletes were ranged between 18 to 25 years. Subjects did not use any ergogenic aids or supplementations and also they were all free from any injuries during the collection of data.

Administration of the test

The following tools were used to collect the data on:-

- Balance was measured by Stork Balance Stand Test
- Coordination was measured by Alternate Hand Wall Toss Test

Statistical Analysis:

In order to find out the significant difference between personality traits of different level of achievement of female athletes the analysis of variance (ANOVA) was applied at 0.05 level of significance.

Table-1
Analysis Of Variance of Balance and Coordination among State, Inter Collegiate and Inter University Players

Variables	SV	SS	df	MS	F
Balance	between	108.93	2	54.46	3.45*
	error	895	57	15.7	
Coordination	between	36.23	2	18.11	3.80*
	error	271.7	57	4.76	

*Significant at 0.05 level

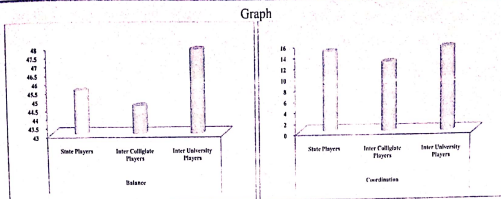
Tabulated 'F' 0.05_(2, 57) = 3.158

Table-2
Post Hoc Test

Variables	State Players	Inter Coll. Players	Inter Uni. Players	MD	CD
Balance	45.5	44.6		0.9	3.96
	45.5		47.8	3.3	
		44.6	47.8	3.2	
Coordination	14.7	13.65		1.05	2.18
	14.7		15.55	0.85	
		13.65	15.55	1.9	

*Significant at 0.05 level

Above table revealed that there was significant difference were found in balance and coordination ability among State, Inter Collegiate and Inter University Players as obtained F-ratio was 3.45 & 3.80 which was greater than that of required tabulated 'F' value of 3.158 at .05 level of significance with (2, 57) degree of freedom. Hence, Post Hoc test was to see the Mean Difference in balance and coordination ability among State, Inter Collegiate and Inter University Players. The significant difference were found among state players and inter university players in reference to balance whereas significant difference were found among state players and inter collegiate players as well as inter collegiate players and inter university players in reference to coordination.



Conclusion

Result shows that significant difference were found in balance and coordination ability among State, Inter Collegiate and Inter University Players. In reference to balance, the reason may be attributed that everyday tasks such as bending, reaching and maneuvering around objects require the skill of balance. Any minor upset which affects our body system can have a negative effect on balance and create difficulties with movement. Several body systems are involved in the balance process, including the musculoskeletal system, inner ear, eyes and skin. Good balance relies on all of these systems and processes functioning perfectly. As inter university player's possess typically stereotyped with hardworking, strenuous and strong musculature body with great amount of energetic as compared state and inter collegiate players. And in reference to coordination, the reason may be attributed that coordination is the ability to repeatedly execute a sequence of movements smoothly and accurately. This may involve the senses, muscular contractions and joint movements. Everything that we participate in requires the ability to coordinate our limbs to achieve a successful outcome - from walking to the more complex movements of athletic events like the pole vault. Inter university players go under various training program and their more participation more conditioning more practice makes them more fit. Their body becomes more conditioned and able to bear and have more stress and hard work due to their better playing environment and participation in game as compared to state and inter university players.

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