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CONTENTS

FUNDAMENTAL DUTIES OF INDIAN CITIZEN

- 2 To abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- 2 To cherish and follow the noble ideals which inspired our national struggle for freedom;
- 2 To uphold and protect the sovereignty, unity and integrity of India;
- 2 To defend the country and render national service when called upon to do so;
- 2 To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- 2 To value and preserve the rich heritage of our composite culture;
- 2 To protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;
- 2 To develop the scientific temper, humanism and the spirit of inquiry and reform;
- 2 To safeguard public property and to abjure violence;
- 2 To strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavor and achievement.

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Influence of Adequacy of Physical Facilities on Quality of Youth Polytechnic Graduates in Kissii County

Mellen M. Obare*, Joseph Mworia Wamutitu & Mwangi Ndirangu*****

ABSTRACT

Education and training is important for economic growth since it increases labour productivity through skills, knowledge, values and attitudes gained during training. Vision 2030 aims at making Kenya a newly industrialized middle income level country by the year 2030. This will be achieved through relevant and high quality skilled personnel to reinvest the economic sectors. Youth Polytechnics (YPs) are among the avenues through which craft and artisan level personnel required in large numbers are developed. However, employers complain that graduates from YPs are not able to demonstrate quality and relevant skills. The paper investigated the influence of selected factors on the quality of Youth Polytechnic Graduates in Kissi County. The paper employed the correlation research design. Twenty nine Principals of Youth Polytechnics and 65 tutors were purposively selected and participated in providing data from the three areas studied; metal processing, garment making and motor vehicle technology. One hundred employers and 100 employed Youth Polytechnic Graduates participated in the study. Employers and employed YP graduates were selected through snowball technique while tutors were selected through stratified random sampling technique. Questionnaires for employers, tutors and graduates and interview schedules for principals were used to collect data. Face and content validity were determined through expert judgment by research experts drawn from the Department of Curriculum Instruction and Educational Management, Egerton University. Cronbach Alpha coefficient was used to estimate reliability. The analysed data from piloting resulted into a reliability coefficient of 0.81 for employers', 0.79 for tutors' and 0.78 for graduates' were estimated respectively. Descriptive and inferential statistics were used to analyze data. Descriptive statistics used were frequencies, means and percentages while inferential

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statistics were simple regression analysis. Based on the analysis there was a statistically significant influence of adequacy of physical facilities on quality of the youth polytechnic graduates in Kissii County (R = .343, R2 = .118, F(1, 94) = 12.544, p = .001). The paper recommends that the government should increase its funding to equip the institutions with adequate physical facilities.

Key words: Competence, Influence, Physical Facilities and Quality Graduate

Introduction

The development agenda in many countries is driven by the human capital development policies. Human capital development is the acquisition of skills, knowledge, attitudes, values and experiences that are useful in economic growth of a country (Adelakun, 2011). It also determines the ability of a nation to manage its factors of production and enhancement of required innovation. There seems to be a relationship between human capital development and economic growth. Thus, a country cannot achieve sustained economic growth and development without developing its human capital (Kanayo, 2013). Consequently, education and training fights poverty; reduces dependency ratio, opens job opportunities and networking as well as creating more interdisciplinary opportunities in the economy (Diebolt & Hippe, 2019).

Hawkes and Ugur (2012) contend that quality of education has a direct link to healthcare systems, crime rates and environmental protection laws and policies of a country. Sinnathurai (2013) observed that a country with low human capital development will have low economic growth, high dependency ratio, high unemployment and high poverty rates which might hinder the country's economic growth. Diebolt and Hippe (2019) further noted that increasing the education level of the labour force significantly increased economic growth in both developing and developed countries. It can therefore be argued that levels of skills are responsible for the differences in labour productivity and economic growth of nations globally.

Human capital development implies imparting relevant skills for job requirements for a country's labour force. There is need therefore to find out the most relevant training systems for developing human capital. Ngure (2013) observed that Technical, Vocational Education and Training (TVET) plays an important role in supplying requisite skills for improved workers' productivity, economic competitiveness, occupational integration, enhanced income levels and expanding opportunities for employment. Angel-Urdinola and Gukovas (2018) contends that the individuals of a society are highly likely to experience economic and social disengagement if the education system does not facilitate them in the acquisition and development of the market-based skills. Thus, TVET have a significant potential to facilitate governments in overcoming the economic challenges of meeting the required skills for industrial development. Countries like Singapore and Malaysia have embraced TVET by ensuring that relevant knowledge and skills are imparted leading to accelerated industrial and economic growth (Afeti, 2010). South Korea, Taiwan and Japan have invested

heavily in vocational school systems to address challenges of scarcity of skilled workers by introducing stringent quotas and entrance examinations to limit University enrolment and encourage enrolment in the TVET system (Marginson, 2017).

In Africa, TVET is back on the development agenda of many countries (Afeti, 2014). These include countries such as Chad, Ethiopia, Guinea, Senegal, Sierra Leone, Uganda, Zambia and Kenya. Dasmani (2011) noted that TVET in Sub Saharan Africa attracted increasing attention during the 1970s, because of the expectations that practical skill training offered by TVET institutions would address the need for skilled labour. The skills acquired were supposed to raise individual's job prospects and productivity. Consequently, countries like Zimbabwe, Egypt, South Africa, Ghana and Gambia have given Technical, Vocational Education and Training (TVET) serious attention (Kingombe, 2012). This has contributed to faster economic development in these countries. Technical and vocational training is therefore an important instrument that is available to governments to prepare individuals for a rapidly-changing and increasingly demanding world of work.

The objective of Kenya's Vision 2030 is to make the country a newly industrialized middle-income level country and provide a high quality life for all her citizens by the year 2030 (Republic of Kenya; [RoK] 2012). This requires that Kenya produces goods and services of industrial nature that can be sold internationally to generate real income for the country. Thus, Kenya can only be able to realize real progress if she has a critical mass of well qualified technologists and engineers (RoK, 2010). The engineering profession is typically considered to comprise of four cadres of staff, namely; engineers, technologists, technicians and crafts/artisans. For effective execution of the development projects in any economy, it is important that each of these cadres is represented in appropriate proportions. For most developed countries the ideal ratio for the four categories of professionals is 1:2:4:16 while for a typical developing country like Kenya, the more realistic ratios would be 1:3:12:60 (RoK, 2010). By the year 2030, Kenya shall be having an approximate population of 60 million people. At that point then, for industrial take-off by the year 2030, the economy will require the following; at least 7,500 engineers, 22,500 technologists, 90,000 technicians, and 450,000 craft/artisans (ROK, 2012). The artisan/craft skills required in large numbers are expected to be developed in Youth Polytechnic institutions which were the focus of this research.

The Government of Kenya has developed key policy documents over the last ten (18) years on the improvement of TVET. Some of these are; Poverty Reduction Strategy Plan (PRSP) of September 2002 and its successor the Economic Recovery Strategy Programme (ERSP) of 2003, the Bonn Resolution of October 2004 where Kenya was a participant. These policy documents noted that technical and vocational education and training (TVET) is the master key to socio economic development. Upon this realisation, Sessional Paper No. 5 of 2005 recommended the streamlining of the Youth Polytechnics into

the formal education system. This recommendation led to the development of the National Policy for Youth Polytechnics and Vocational Training (RoK, 2005). Vision 2030 of 2008 is also responsible for streamlining training in YPs. The Vision 2030 Medium Term Plan II (2013-2017) envisaged the establishment of a TVET Authority to play a key role towards institutionalisation of quality assurance and accreditation systems, monitoring, evaluation and reporting in the TVET system as well as undertaking surveys on employability of TVET graduates in partnership with industry. The TVET Bill of 2010 suggested that the government was to put in place an institution to assess competence of TVET training programmes and develop a responsive curriculum that was flexible and modular in nature to improve trainees' quality and participation (RoK, 2012).

The TVET Act (2013) stressed on quality Community Based Education and Training (CBET) programmes to be offered in the country to guarantee a strong link between skills learnt and the needs of the labour market, by producing graduates with superior employability potential. The Kenya Vision 2030 has further placed new demands on Technical and Vocational Education and Training (TVET) as a leading engine that the economy will rely upon to produce adequate levels of middle level work force that will be needed to drive the economy towards the attainment of the Vision goals (RoK, 2008).

The many claimed benefits attributed to TVET programmes depended on the quality of the skills acquired and a dynamic environment in which they can be applied(Lubasha&Tripathi 2012). Afeti (2010) underscored the fact that TVET training should equip students with the knowledge and skills they need for work. The training should also impart adequate language, literacy and numeracy skills, work, technological and the personality skills. These skills are required for further learning to enable workers to cope with changes to their existing work and for occupational placement. According to the RoK (2012), a properly trained worker should be competent in three skill categories; occupational, personal and interpersonal skills (Table 1).

Table-1: Marketable Skill Areas

Occupational skills	Personal skills	Interpersonal skills
• Using equipment safely	• Accepting authority	• Team player
• Using tools as required	• Performing supervisory roles	• Orderly
• Drawing / sketching	• Taking instruction	• Innovative/creative
• Manipulating numerical data	• Accepting assignments	• Good Communicator
• Taking care of tools & materials	• Working under pressure	• Assertiveness
• Using ICT facilities		• Good leadership
• Showing precision and accuracy		• Confident

Source: RoK (2012)

From Table 1, Kamau, Wamutitu and Mbugua (2013) contends that employers are mainly looking for employee with occupational skills. Other skills related to do with personal and interpersonal skills were found to enable an employee to carry out tasks efficiently, confidently as well as relating well with the employer and other workers.

Youth polytechnics currently called vocational training institutions are basic TVET institutions for the development of vocational skills in Kenya. The polytechnics too suffer from meeting the industrial skill needs mainly due to poor capacity to develop requisite skills demanded by labour market (Republic of Kenya 2011). Available literature on YPs (RoK 2012 & RoK 2018) recognizes YPs as important institutions in skills development. However, Yungungu, Maleche, Ndurumo and Ogolla, (2014) established that the polytechnics were not effective in providing required skills for labour market especially in use of modern equipment. They also lacked adequate trade skills, innovativeness, creativity and knowledge. This was attributed to limited practical sessions during the training process. A study that was conducted in Kissi County by the National Council for Population and Development (NCPD, 2017) revealed a similar situation. Thus, there was need for reformation, diversification of the curriculum and improvement on the educational infrastructure if YPs are to meet their mandates.

In Ghana for example, Adams (2010) observed that vocational programmes were not attractive to the youth due to lack of employment opportunities for the graduates from these institutions. It seems that the problem of skill training in TVET is universal. In Kenya, employers complain that the youth polytechnic graduates need at least six months to be integrated into the workplace and that the graduates had weaknesses in work attitude, behaviour and social skills (RoK, 2011). Further, Kamau, et. el. (2013) observed that Youth polytechnic graduates were not readily employable because they lacked appropriate skills necessary for employment.

Ngure, (2013) asserts that the quality of education and training provided by TVET institutions is determined by among others; the competence of instructors, the relevance of the curriculum, availability of teaching/learning facilities and the nature of learning environment in terms of safety and cleanliness. A study carried out on YPs institutions in Nakuru County by Oduor, Kubutha, Tabuche and Masese (2017) observed the following issues and constraints as facing TVET: mismatch between training offered by the institutions and the actual skill demands of industry and theoretical curriculum delivery in majority of the institutions as opposed to the desired combination of theoretical and practical approaches.

The Vision 2030 highlighted the mismatch between the quality of skills TVET provided and those needed by the industry (ROK, 2010). This must be corrected in order to achieve the goals of Vision 2030. This paper therefore looked at whether adequacy of physical facilities influences quality of skills produced by TVET in Kissii County, Kenya.

Objective of the Study

The objective of this paper was "to investigate the influence of adequacy of physical facilities on the quality of Youth Polytechnic graduates in Kissii County".

Hypothesis of the Study

The hypothesis of this paper was that "there is no statistically significant influence of adequacy of physical facilities on quality of Youth Polytechnic graduates in Kissii County".

Variables of the Study

The independent variable was adequacy of physical facilities while quality of YP graduates was the dependent variable. The dependent variable was expressed in terms of occupational, personality and interpersonal skills.

Methodology

This paper adopted a correlation research design. Correlational techniques are concerned with direction and magnitude of relationships and entail collection of data at one point in time using a sample

Population and sample of the Study

Participants in this study were 29 principals, 73 tutors from the three trade areas, an infinite number of Jua Kali Youth Polytechnic (JKYP) employers and Youth Polytechnic Graduates (YPG) employed in the 10 registered Jua Kali associations. Principles were selected through complete censures while tutors from three trade areas (MP, MVT and FDGM) were selected through stratified simple random sampling. Snowball technique was used to select 100 employers and 100 employed graduates in these trade areas trade areas.

Instrumentation

Data was collected using tutors 'employers' and employed youth polytechnic graduates' questionnaires. The questionnaire was preferred because it guarantees confidentiality and offers considerable advantages in administration (Koul, 2004).The principals' interview guide was used to provide supplementary information on objectives of the study.

Validity and reliability of the Instruments

Face and content validity of the questionnaires and interview guide were examined by five experts from the department of Curriculum, Instruction and Educational Management, Egerton University. The reliability coefficient was estimated using the Cronbach Alpha method. The reliability coefficients of the questionnaires were; employers, 0.081, tutors 0.79 and YPGs 0.78.

Analysis of Data

Physical facilities were examined in terms of its four components; classroom, workshops/tools, administrative, library and other learning infrastructures (Table 2).

Table-2: Overall Mean Index of Physical Facilities

Category of Facilities	Mean	SD
n-51		
Classroom Facilities	1.66	0.31
Workshop Facilities	1.47	0.29
Learning Facilities	1.29	0.38
Administrative Facilities	1.41	0.40
Overall Index	**1.48**	**0.18**

The low overall mean index of physical facilities of 1.48 show that the physical facilities in YPs studied were inadequate. This is because it was measured out of 5. The low value of SD=0.18 indicate that the inadequacy of physical facilities prevailed in all YPs studied and that the variations were comparable.

In collaboration to the findings of this paper, a survey carried out in Kenya in 2010 by Ministry of Youth Affairs [MOYA] (2010) established that the existing institutional capabilities, infrastructure, and equipment in most public YPs were inadequate to effectively produce high quality graduates for the achievement of Vision 2030. Further Njura (2013) established that teaching facilities were inadequate and of poor quality in workshops, libraries and classrooms. Principals' responses on the state of facilities available also revealed that the facilities were old, dilapidated and dysfunctional. Their responses on how they managed without adequate facilities revealed that some courses were offered in makeshift rooms partitioned by cardboards and combining of classes taking similar units or practical. by the findings of this paper. This may also make the youth polytechnics not to achieve their intended goal of equipping their graduates with practical skills.Suggestion on improvements of Physical Facilities are summarised as in (Table 3)

Table-3: Suggested Improvements on Physical Facilities in YPs

	F	%
n-51		
Put up additional facilities (libraries, offices)	32	62.7
Repairing available facilities	31	60.7
Proper management of facilities	22	43.1
Replace old equipment and tools	12	24

Table 3 indicates that majority of the respondents (62.7%) suggested that new facilities be put up. This suggestion is in agreement with MOYA (2010) findings that new physical facilities in public YPS needed to be added to enable the YPs graduates acquire quality skills which would help them contribute to Vision 2030. A further (60.7%) of the respondents suggested that the existing facilities be modernized by renovating them which also supports Kings (2005) assertion that the facilities in the vocational training institutions required renovation and modernization if they were to produce high quality graduates.

The means from the three quality dimensions tested were calculated to get the overall mean index on the quality of skills acquired by the YPs graduates (Table 4).

Table-4: Overall mean Index of Quality of Graduates

Category of Skills	Mean	S.D.
Occupational Skills	2.20	0.32
Personality Skills	2.24	0.40
Interpersonal Skills	2.27	0.40
Overall Index	**2.21**	**0.20**

From the results on Table 4, the overall mean quality index of the youth polytechnic graduates was 2. 21 (SD = 0.20). The entire item means in all the three skill areas were low as they were measured out of a mean score of 5.00. The low standard deviations (SD=0.20) indicate that the graduates from the institutions studied were comparable in quality. This implies that from the perspective of their employers the graduates from youth

polytechnics lacked adequate skills for effective work performance. These findings concur with those of Nyerere (2009), who noted that a large number of the TVET graduates were not effectively trained to offer what the labour market required. To solve this problem, Kigwilu, Akala, and Wambua (2016) suggested that there should be a close link between YPs and the Jua - Kali sector which could offer practical training in order to produce quality graduates.

The findings provide evidence that although the YPs program was expected to produce graduates who could help realize the Kenya's dream of becoming middle level industrialized nation by the year 2030, the skill levels produced are low. The finding concurs with Yungungu, et, al. (2014) observations that knowledge and skills acquired by YP graduates were to a great extent irrelevant to the job market. However, Metto (2016) was of the view that education and the industrial sector in Kenya work independently of each other, unlike in other countries like Germany where the industry and training institutions work together to produce quality and relevant skills.This calls for urgent action if the YPs training are to make the desired contributions to the labour market.

Further, the paper observed that poor occupational, personal and interpersonal skills among the graduates may be attributed to factors such as, low entry behaviour of students and inadequacy of physical facilities in YPs in Kissii County. This concurred with Onyara (2013) argument that adequacy of learning facilities significantly influenced learning outcomes. This is because effective teaching and learning largely depends on adequate physical facilities. Based on the findings of this paper, it is necessary that adequate facilities be provided to ensure quality of YPs institutions in Kissii is improved.

The regression test was further carried out on the physical facilities index and graduate quality index (Table 5).

Table-5: Regression Coefficients in Physical Facilities and Quality of YP Graduate Indices

Scale	Unstandardized Coefficients		Standardized Coefficients	t-value	p-value
	B	Std. Error	Beta		
Constant	1.629	.167		9.778	.000
Physical facilities	.503	.142	.343	3.542	.001
R = .343, R^2 = .118, F(1, 94) = 12.544, p = .001					

The results on Table 5 show that the relationship (r = .343) between physical facilities and quality of the youth polytechnic graduates was positive. The results also show that physical facilities significantly predicted quality of YP graduates (? = .343, t(97) = 3.542, p = .001). It explained a statistically significant proportion of variance in quality of YP graduates, (R2 = .118, F (1, 94) = 12.544, p = .001). This means that physical facilities

significantly influenced the quality of the youth polytechnic graduates. On the basis of the results, the hypothesis was rejected. The alternative hypothesis which stated that there is a statistically significant influence of adequacy of physical facilities on quality of YP graduates was accepted.

The significant influence of physical facilities on quality of the youth polytechnic graduates implies that if YPs were provided with adequate physical facilities, learning effectiveness would improve hence, quality of graduates would be enhanced. The findings concurs that inadequate investment in instructional equipment and other facilities may hinder development of desired outcomes among students since they have fewer opportunities to practice with tools and machines (Hicks, Kremer, Mbiti & Miguel, 2013). Therefore there is need to ensure that YPs are equipped with adequate physical facilities. Findings of this study agree with Ayoo (2002) who established that availability of facilities had a direct link with the performance of learners in examinations. Thus, there is a direct line between educational facilities and quality of teaching offered by the institutions.

Conclusion

The paper conclude that trainees need to be exposed to more practical sessions during training to get used to tools and equipment used in the place of work. Practical activities including industrial attachments and internships if taken seriously may expose the trainees to work experience and acquire skills on how to work with required tools and equipment. Practical work provides trainees with an opportunity to acquire and sharpen knowledge, skills and attitudes from a real work environment, hence strengthening the practical and occupational skills. Since the Youth polytechnics in Kissii County were found to lack critical resources such as classroom, learning/library, and administrative facilities, the paper recommends that Kissii County Government should look for ways of providing the critical needs of facilities in these institutions. They should for instance increase the County budgetary allocations for these YPs.

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The Environmental Influence as Determinants of Adolescents Attitude towards Science Stream

Ayona Chowdhury*

ABSTRACT

The investigation of students' attitudes towards studying science has been a substantive feature of the work of the science education research community for the past 30-40 years. The Environmental Awareness and school science as Determinants of Adolescents Attitude towards Science Stream. Environment is an external conditions or surroundings, especially those in which people live or work .The external surroundings in which a plant or animal lives, which tend to influence its development and behaviour the state of being environed; encirclement an operating system, program, or integrated suite of programs that provides all the facilities necessary for a particular application.
Key words: Environment, Attitude, Awareness, science

Introduction

The investigation of students' attitudes towards studying science has been a substantive feature of the work of the science education research community for the past 30-40 years. Worldwide studies have revealed an important issue in that an increasing percentage of students within the adolescence age group are not interested in science. Many students, especially females, have negative feelings and attitudes toward science, which discourages them from continuing with scientific inquiries. There are limited studies related to the factors predicting school students' attitude toward science; therefore, the purpose of this study is to determine the relationships among the environmental influence and achievement toward science, their learning approaches, motivational goals, science achievement and students' nature of science views.

Each country has its own challenges for Science education. The challenges for learners are identified based on the evidence collected by international or domestic surveys. To overcome these challenges, new school curriculum is planned and implemented. School-based lesson study contributes to the realization of the intended curriculum as the implemented one. It is important that students today understand that Science is more than what they read in a text book. As educators, parents and mentors it is our responsibility to take Science beyond the pages of a book. (Nasr, 2011) by developing creative and

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innovative lesson plans that demonstrate the cause and effect of Science, we have the opportunity to bring Science to life for our children. Academic achievement in Science has been in focus for those who are interested in dealing with the practical problems of under development in order to bring about greater work efficiency and institution building. The need for achievement in Science has been greatly felt in every field because it is the main key for academic growth. Academic achievement in Science tries to seek some standard of excellence and may be shown either in competing with others, surfing one's own level of performance, unique accomplishment or an involvement in all possible walks of life. There is a great need for the development and achievement of Science. All the accomplishments are based on it and it has a direct bearing on the occupational choice and the success of the students laying more trust in their own ability and effort. (Soltani, 2011) Every school should organize Science fairs at least once a year and this should include the exhibits of the students as well as demonstration talks by experts, film shows on scientific topics, debates and declamation magic. Schools, scientific plays, etc. Teacher and the pupils should collaborate towards the success of the fair, it should be mainly an activity of the scientific work in practical; it can make an appeal to visitors which the academic type of activities may fail to provide.

For schools to be effective and make a difference in student learning, they must hold teaching and learning at the center of their work. Additionally, realizing teachers have a significant impact on student learning, teachers should strive to ensure that students are at the center of learning and that classroom instruction provides rich and meaningful curriculum for the full range of students in schools. (Nasr, 2011)

In practice, Science as a process involves an integration of knowledge, skills, and attitudes to develop scientific understanding. Practical work in Science can include experiencing phenomena, developing practical skills or techniques, and carrying out investigations. Investigations provide key opportunities for students to extend their understanding in Science. They also enable students to develop the scientific skills and attitudes required to enhance their ability to explore phenomena and events and to solve problems. It can be expected that, as they learn, students will show an increasing sophistication in the skills they use in their investigations.

To conclude, the present study has shown that there is a relationship between attitude toward learning of Science and academic achievement in Science of secondary school students. The present study also revealed that gender, type of school, the management and the medium of instruction has significant bearing of achievement in Science and attitude to learning of Science of secondary school. (Soltani, 2011) The boys and girls among the secondary school section studying in the different types of school have a definite influence on the attitude towards Science. Thus it could be concluded that a positive attitude towards learning of Science would enhance the achievement in Science. Keeping in mind the importance of learning Science, it becomes very important for schools and families in particular and society at large to

foster good attitude toward learning, intelligence, learning skills among students and provide good socio-economic conditions for their effective learning and performance in Science.

Statement of the Problem

The Environmental Awareness and school science as Determinants of Adolescents Attitude towards Science Stream. Environment is an external conditions or surroundings, especially those in which people live or work. The external surroundings in which a plant or animal lives, which tend to influence its development and behaviour the state of being environed; encirclement an operating system, program, or integrated suite of programs that provides all the facilities necessary for a particular application. Environment has a great impact on the development of scientific attitude of adolescence student. Achievement is the result of what an individual has learned from some educational experiences. Achievement is the expectancy of finding satisfaction in mastering challenging and difficult performances. Achievement as the successfulness of individual. Achievement is to do one's best, to be successful, to accomplish tasks requiring skill and effort and to be recognized by authority. Proper environment creates great influence towards the achievement of scientific skill. Aptitudeis a component of a competence to do a certain kind of work at a certain level. Outstanding aptitude can be considered "talent". Attitudes may be physical or mental. Attitude is inborn potential to do certain kinds of work whether developed or undeveloped. Ability is developed knowledge, understanding, learned or acquired abilities (skills) or attitude.

The innate nature of attitude is in contrast to skills and achievement, which represent knowledge or ability that is gained through learning. This study emphasize on to assess adolescent students' attitude towards science and to find out the environmental and academic factors that influenced their attitude towards science. The dependent variable is attitude toward science, and three categories of independent variables are environmental influence measured by parental education, income and socio-economic status, influence of teachers and peers and vocational value of science; achievement in physical science, Life science, and mathematics; and scientific aptitude measured by numerical ability mechanical reasoning and space relation.

Objectives of the Study

The study was aimed at the following objectives:

1. To find out the level of environmental awareness among adolescence students.
2. To investigate if there is any significant difference in attitude toward learning of science among rural and urban locality students of secondary school.
3. To investigate if there is any significant difference in attitude toward learning of science among boys and girls at secondary school.
4. To investigate the impact of environmental awareness on the adolescence students' attitude towards science stream.

Hypotheses

The present study was conducted to test the following hypothesis

H01 There is no significant difference in interest toward learning of science among adolescence boys and girls at secondary schools.

H02 There is no significant difference in interest toward learning of science among Rural Area & Urban Area secondary school students.

H03 There is no significant difference between boys and girls of secondary schools on environmental awareness as determinants of adolescence attitude toward science stream.

H04 There is no significant difference between Rural & Urban areas' secondary school students on environmental awareness as determinants of adolescence attitude toward science stream.

H05 There is no significant correlation between scientific attitude and environmental awareness of adolescence students of higher secondary standard.

Operational Definition of the Terms

Scientific Attitude: With global scientific and technological growth occurring rapidly, declining student interest in science courses and careers is a worldwide concern that has prompted science education reform efforts on an international scale. Since student attitudes toward science effect course and career choices, measuring the impact of reform efforts on student attitudes is important (Owenet al, 2008). Attitudinal studies in science education area are mostly pertinent to elementary, middle and high school students', and in some cases college students' attitudes towards science (Turkmen, 2007). As science has become ever more deeply embedded in our everyday life, how ordinary people perceive science has attracted Growing attention not only from the scientific community, but also from social scientists (Bak, 2001). A significant amount of research in science education is devoted to understanding ways we can improve the quality of science education and increase enrolment in science courses and degrees. One of the key factors in learning science is students' attitudes and the development of positive attitudes toward science can motivate student interest in science education and science-related careers (George, 2006). attitude is concept that defines emotional trends in response to affaires, persons, locations, events or ideas Therefore phrases as "I like science" or "I enjoy science courses" enumerate as attitude(Simpson and Oliver, 1990).

Environmental Awareness: associated with parental background and family environment. Other factors relate to individual characteristics such as self-concept, locus of control, and achievement motivation. Still other variables are associated with schools influences such as class climate, teachers, and administrative styles (Talton and Simpson, 1985).According to Osborne et al (2003), Studies have incorporated a range of components in their measures of attitudes to science including: the perception of the science teacher; anxiety toward science; the value of science; self-esteem at science; motivation towards science; enjoyment of science; attitudes of peers and friends towards science; attitudes of parents towards science; the nature of the classroom environment; achievement in science and fear of failure on course.

Academic Achievement: Gardner's research (1995) offered little support for any strong relationship between attitude and achievement, Schibeci (1984) draws a stronger link between the two. However, he also cites studies that show no relationship. The current position is best articulated by Shrigley (1990), who argues that attitude and ability scores can be expected to correlate moderately. Likewise, the measures used in the TIMSS study, albeit somewhat unsophisticated, have found a consistent relationship between attitude and achievement (Beaton et al., 1996). Weinberg's (1995) meta-analysis of the research suggests that there is only a moderate correlation between attitude towards science and achievement. Longitudinal study of Oliver and Simpson (1988) shows a strong relationship between the three affective variables - attitude towards science, motivation to achieve and the self-concept that the individual has of their own ability - and their achievement in science. Though many of researches on attitude towards science have dealt with science in general, but there are some researches that examine this concept in specific science courses as physics or chemistry and so on.

Population of the Study

The study has been conducted at Gangadharpur block in Howrah district and Baguihati area in Kolkata. The population of the study is the adolescence school students of the age group of 13-15 years of rural and urban area. There are 3 schools in Gangadharpur and 2 schools in Baguihati including total 200 students both secondary school boys and girls students are considered as population.

Sample of the Study

200 school students of Gangadhapur and Baguihati have been selected among 5 secondary school students who are in adolescence age group. The sample division according to different region schools both rural and urban and according to gender both boys and girl. The samples are stratified into two stratum Boys-Girls, Rural-Urban.

Sample distribution according to categorical variation

Boys (109)		Girls (91)	
Rural	**Urban**	**Rural**	**Urban**
60	49	61	30

Tools & Techniques

A self developed four scale questionnaire consisting of 30 questions on scientific attitude and environmental factor in developing scientific attitude has been used for data collection. The questionnaire has been formed from a standardised tool on Scientific Attitude of adolescence students named ROSE -The Relevance of Science Education. The validity test of this questionnaire has been performed by 3 educationists. After that reliability test has been conducted among selected 30 students from the 200 adolescence students at the interval of two weeks.

Analysis and Interpretation: The collected data and information of scientific attitude of adolescence students and how environmental factor influence it with the help of self developed questionnaire, has been tabulated and with the help of this tabulated data "t" test and "correlation" has been done by using MS EXCEL 2007 and graphical representation has been done by bar and pie chart.

Analysis and Results

Hypothesis 1: There is no significant difference in interest towards learning of science among adolescence boys and girls at secondary schools.

Table 1: Null Hypothesis 1

Particular	No. of students	Scientific Attitude		Mean difference	t Critical two-tail	t Stat Value	Level of significance
		Mean	SD				
GIRLS	109	46.560	13.44	4.458	1.972017432	-.272498501	Significant
BOYS	91	51.018	14.11				

Table-1 is clearly demonstrated the hypothesis 1, where the critical value of "t" with 198 degree of freedom at 0.05 levels of significance is 1.972017432 which is less than the "t stat" value, i.e. -2.272498501.So it is statistically significant at 0.05 levels. This means there is a significant difference in scientific attitude between boys and girls in secondary schools. According to this result males have higher averages than the females. So Null hypothesis is rejected.

Mohammad (2012, February) & Narmadha, U. (2013, June 15) studied on Students' attitude towards science and technology. According to their study there is a significant difference between male and female points of views in attitude towards sciences & technology.

It is very unfortunate that in our society still boys get much attention and care in home and sometimes in school from teachers than girls. There is very much discrimination between two genders. The family and society instigate the boys to select science stream rather girls are forced to get arts stream. Due to lack of encouragement and motivation the performance and interest in science stream getting lower in girl students.

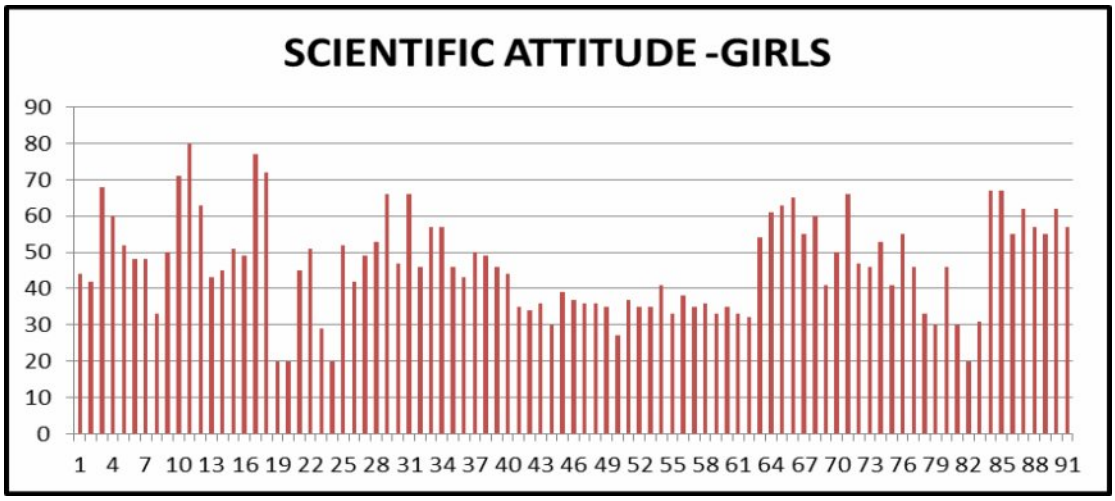

Fig 1 : Responses of girls on interest in school science

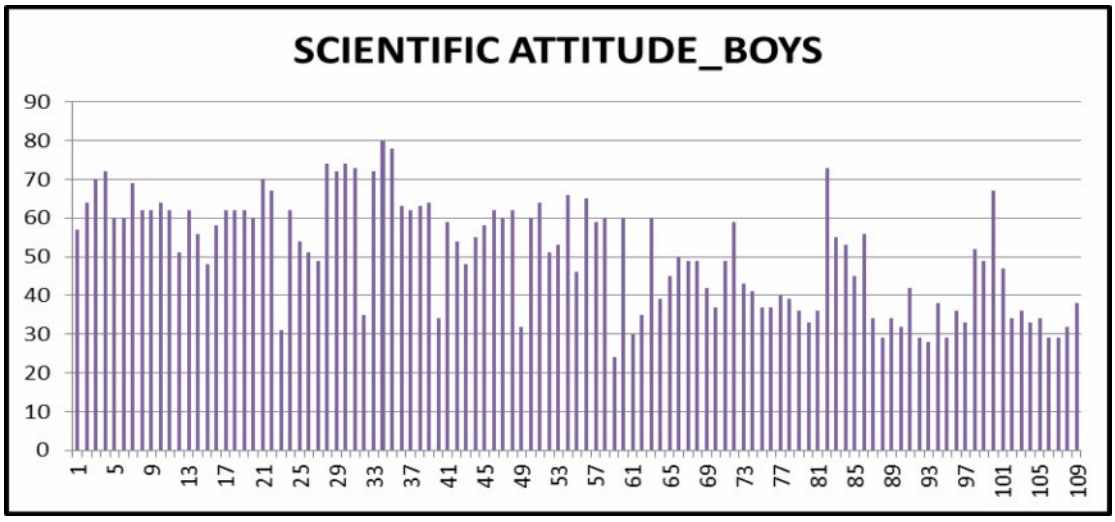

Fig 2: Responses of boys On interest in school science

Hypothesis 2: There is no significant difference in interest toward learning of science among Rural Area & Urban Area secondary school students.

Table -2: Null Hypothesis 2

Particular	No. of students	Scientific Attitude		Mean difference	t Critical two-tail	t Stat Value	Level of significance
		Mean	SD				
RURAL	121	51.89	14.29	7.35	1.972017432	3.757463361	Significant
URBAN	79	44.54	12.23				

Table-2 is clearly demonstrated the hypothesis 2, where the critical value of "t" with 198 degree of freedom at 0.05 levels of significance is 1.972017432 which is less than the "t stat" value, i.e.3.757463361.So it is statistically significant at 0.05 levels.This means there is a significant difference in scientific attitude between rural and urban adolescence students in secondary schools. According to this result Rural school students have higher averages than the Urban school students. So Null hypothesis is rejected.

Dr. Urmil Sethi (2015),studied on Study Of Attitude Of The Students Towards Science In Relation To Certain Non-School Factors. According to her study there is a significant difference in scientific attitude between Rural school students and Urban school students.

Due to the excessive growth of English medium schools in urban area there is now a days a common tendency of all the parents irrespective of their economic background and status to admit their children into English medium schools rather than Bengali medium. For this reason the Bengali medium secondary schools of urban area are not getting quality students in their schools. So the quality result of these schools are degraded tremendously and so the interest in school science.

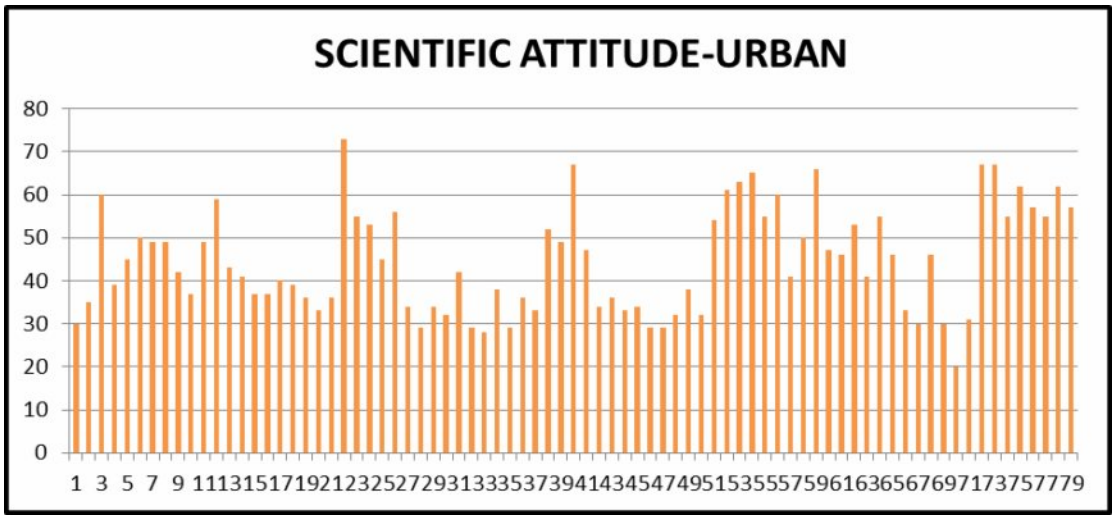

Fig 3: Responses of Urban school students on interest in school science

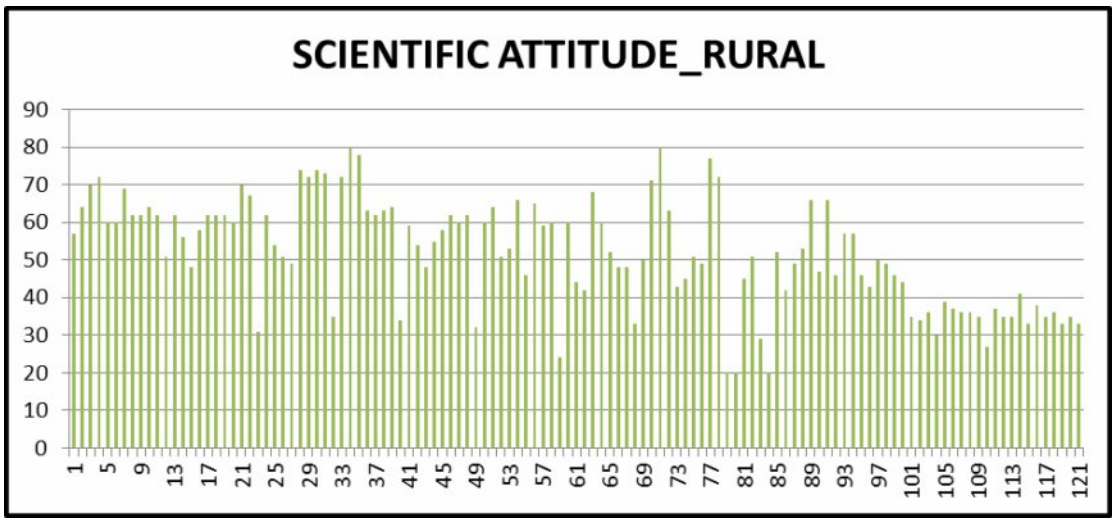

Fig 4: Responses of Rural school students on interest in school science

Hypothesis 3: There is no significant difference between boys and girls of secondary schools on environmental awareness as determinants of adolescence attitude toward science stream.

Table -3: Null Hypothesis 3

Particular	No. of students	Environmental Awareness		Mean difference	t Critical two-tail	t Stat Value	Level of significance
		Mean	SD				
GIRLS	91	22.65	7.01	2.07	1.972017432	-1.991145342	Significant
BOYS	109	24.72	7.53				

Table-3 is clearly demonstrated the hypothesis 3, where the critical value of "t" with 198 degree of freedom at 0.05 levels of significance is 1.972017432 which is less than the "t stat" value, i.e.-1.991145342.So it is statistically significant at 0.05 levels.This means there is a significant difference on impact of environmental factor between boys and girls adolescence students in secondary schools. According to this result boys have higher averages than girls'. So Null hypothesis is rejected.

Joseph Chimombo (2000, December) studied on Classroom, School And Home Factors That Negatively Affect Girls Education In Malawi .According to his study there is a significant difference between boys and girls of secondary schools on the impact of environmental factor.

In our society still girls get less importance in family and school. They are forcefully engaged in household work rather than going school and completing her education. So environment factor create less impact on them than the boys.

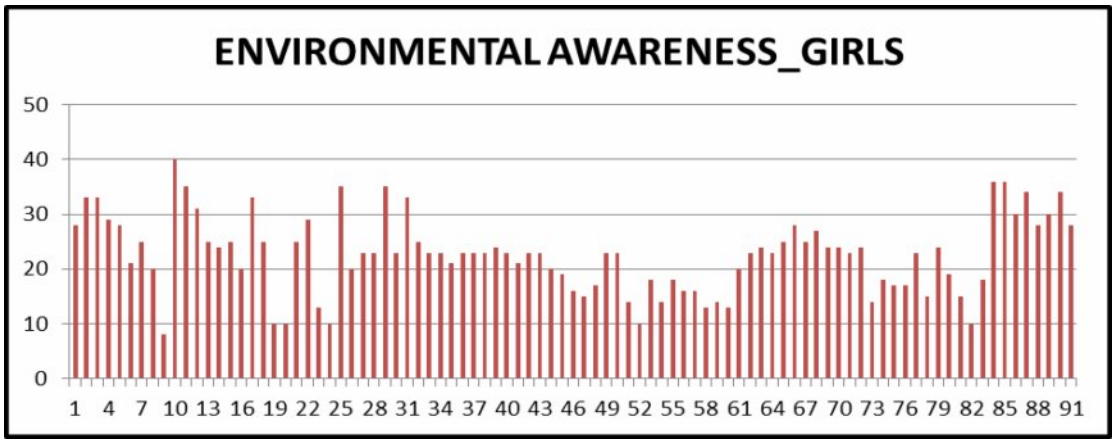

Fig 5: Responses of Girls on Environmental Awareness

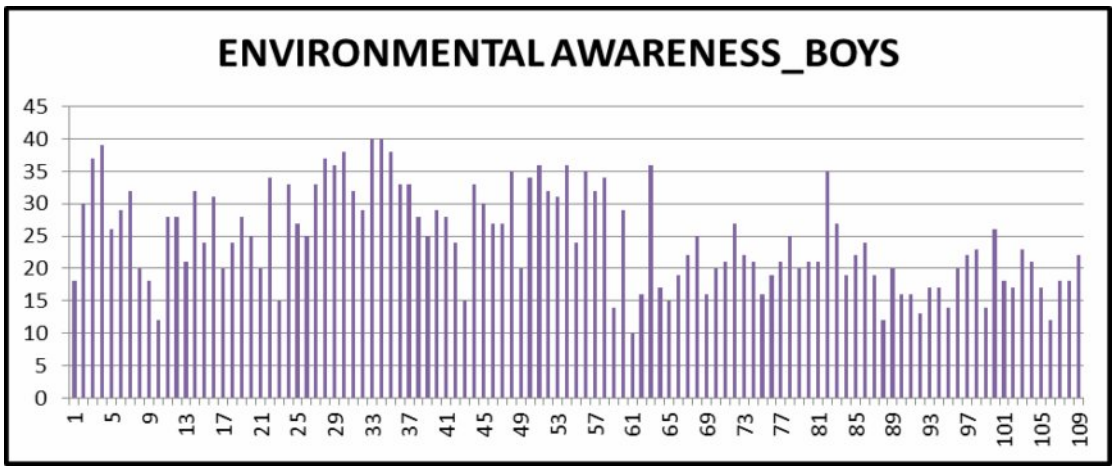

Fig 6: Responses of Boys on Environmental Awareness

Hypothesis 4: There is no significant difference between Rural & Urban areas' secondary school students on environmental awareness as determinants of adolescence attitude toward science stream.

Table 4: Hypothesis 4

Particular	No. of students	Environmental factor		Mean difference	t Critical two-tail	t Stat Value	Level of significance
		Mean	SD				
RURAL	121	25.36	7.74	4	1.972017432	3.885056651	Significant
URBAN	79	21.36	6.00				

Table-4 is clearly demonstrated the hypothesis 4, where the critical value of "t" with 198 degree of freedom at 0.05 levels of significance is 1.972017432 which is less than the "t stat" value, i.e.3.885056651.So it is statistically significant at 0.05 levels. This means there is a significant difference in impact of environmental factor between rural and urban adolescence students in secondary schools. According to this result rural school students have higher averages than the Urban school students. So Null hypothesis is rejected.

J. David McCracken & Jeff David T. Studied on Differences between Rural and Urban Schools, Student Characteristics, and Student Aspirations. According to their study there is a significant difference between rural and urban secondary schools students on the impact of environmental factor.

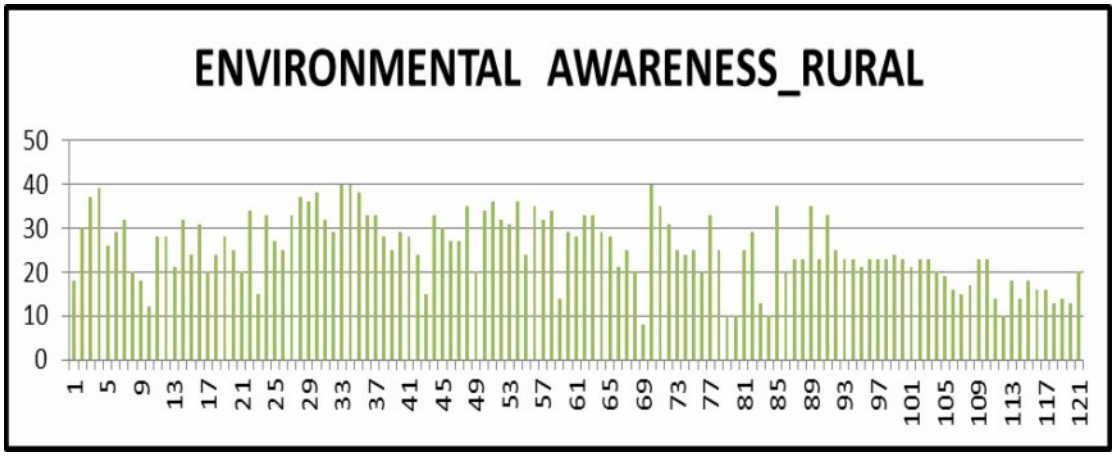

Fig 7: Responses of rural school students on Environmental awareness

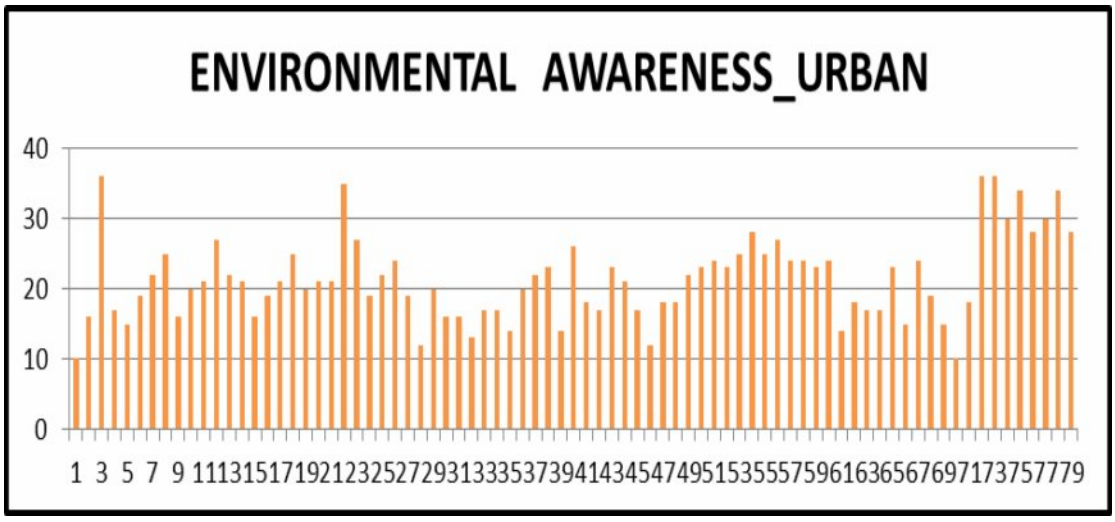

Fig 8: Responses of urban school students on Environmental Awareness

Hypothesis 5: There is a significant correlation between scientific attitude and environmental awareness of adolescence students of higher secondary standard.

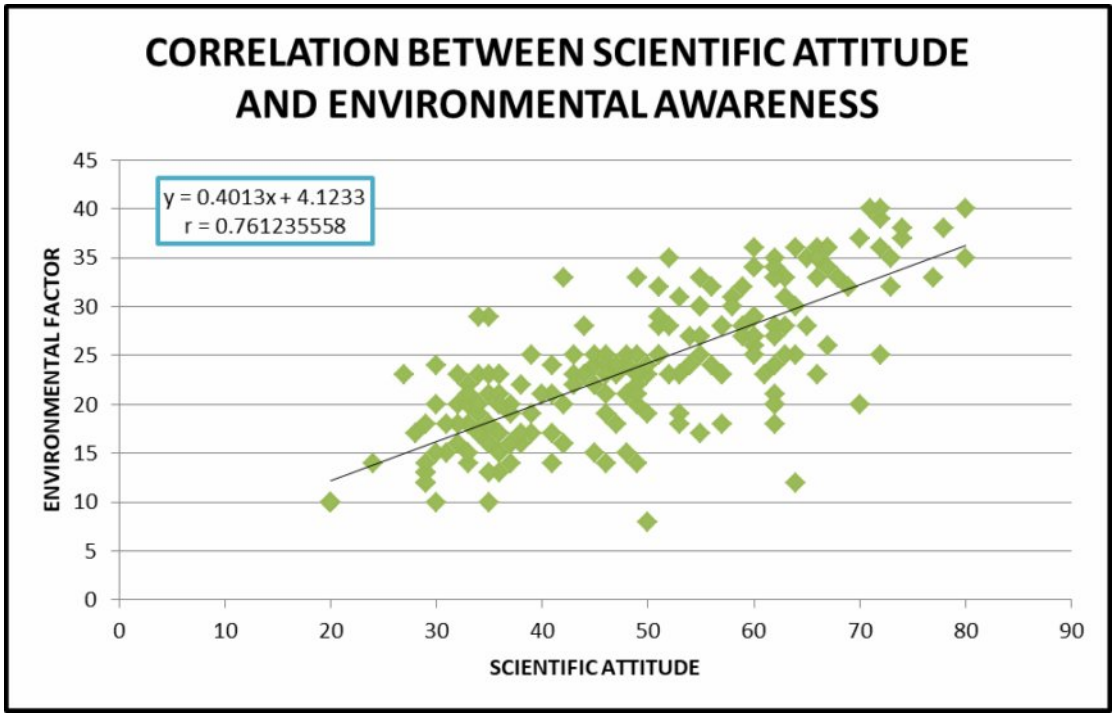

Fig 9: Significant correlation between scientific attitude of the students and environmental awareness

From the figure 9 it can be stated that there is a correlation between environmental awareness and scientific attitude of the students. According to the range of computes correlation coefficient table our computed r value is 0.76 which falls in between 0.71 - 0.90 rang which is a very high correlation and quite dependable relationship.

From the above analysis we found that there is a significant difference in scientific attitude of boys and girls and rural and urban school students.

And there is also a significant difference between boys and girls, rural and urban students on environmental awareness. There is a strong correlation between scientific attitude and environmental awareness and a quite dependable relationship has been found between two.

Findings

The present investigation reveals the significant difference in science attitude and interest in school science of adolescent secondary students with respect to the gender, locality of school and Environmental factor. However, science attitude is a vital factor in determining the students' day-to-day life and future carrier. Hence, a positive attitude towards science need to be developed among secondary students and the initiation should start from the beginning of the school education. Therefore, teachers and teacher educators need to inculcate the science attitude among student community, as it is very much essential for the present-day scientific and technological world.

The findings of this study are as follows:

* Boys and girls differ significantly in their scientific attitude and interest in school science. Boys have high level of scientific attitude and interest than girls.
* There is significant difference in the scientific attitude of students according to the locality of the school. Rural students have high level of scientific attitude than urban students.
* Boys and girls of adolescence age group differ significantly on the impact of environmental awareness as determinants of adolescence attitude toward science stream.
* There is a significant difference between Rural & Urban locality secondary school students on environmental awareness as determinants of adolescence attitude toward science stream.
* There is a high correlation between environmental awareness and scientific attitude of the adolescence students. These two variables are very much dependent on each other

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A Comparative Study of Teaching Competencies of B.Ed. Student of Self-financed and Government Aided Teacher Education Institutions

Harendra Singh*

ABSTRACT

The present study will be helpful for the B.Ed. students and research scholars to explore their problems and solve them amicably by knowing their problems. Objective of the study is compare teaching competencies of the B.Ed. Student of self-financed and Govt. aided teacher education Institutions. For the present study the investigator had selected 600 B.Ed. students (300 from Govt. Aided and 300 from Self finance Institutions) have been selected from the population. The researcher administered the fixed response Questionnaires (for Teaching Competencies). Researcher concluded that teaching competency (Lesson Planning, Introduction, Evaluating) of B.Ed. Student of Self-financed Institutions were similar to Govt. aided colleges but B.Ed. Students of Self-financed Institutions is superior of Home Assignment, Class Room Management of teaching competency.

Key words: Teaching Competency, B.Ed. Student, Self Finance and Govt. Aided Teacher Education Institutions

Introduction

Development of a country in General and of a man in particular depends on the quality of Education, rather professional education of the country. Developed countries have means of quality professional education whereas developing countries are striving in this direction. One major problem of developing nation is population explosion. They do not have sufficient resources to meet challenges of education in general and professional education in particular. Financial crunches forced nations to withdraw them self from the higher education and professional education.

India is one of such countries facing problem of resources regarding professional and higher education. With best of her efforts, she could bring 7% its population under umbrella of higher education and professional education, whereas, developed countries have facilities of higher education and professional education for 57% of their population. At the same, literacy rate of India is 65%. Policy makers of the country thus give priority to elementary education in stead of higher education. Mill Gradually they are shifting responsibility of higher and professional education to private partners.

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Teaching process is determined by knowledge, a set of abilities, attitudes and skills (Presage variables), which is turn determine pupil outcomes. Thus, the terms 'teaching' can be defined as a set of observable teacher behaviour that facilitate or bring about pupil learning and 'teaching competency' means an effective performance of all the observable teachers behaviours that bring about desired pupil out comes. Based on the micro-criteria approach to study 'teaching', teaching is perceived as a set of teaching behaviours that facilitate or bring about a specific instructional objective. In order words, teaching competency involves effective use of various teaching skills.

According to Rana (1979) "Teaching competency as the ability of a teacher manifested through a set of overt teacher class-room behaviors' which is a resultant of the interaction between the presage and the product variables of teaching with in a social setting"

The definition of teaching competence given by B.K. Passi & M.S. Lalitha has been adopted for this research.

Teaching competence mean the effective performance of all the observable teacher behavior that bring about desired pupil out comes. They are related to five major aspects of teaching namely, planning, presentation, closing, evaluation and managerial.

There were the times when it was believed that teacher are inborn and nothing can be done to improve the teaching abilities of a persons. But the technology of teaching as altered this belief and has presented a clear cut possibility of further development in the teaching abilities of any person of any teaching ability level considering the possibilities of further development in the teaching training institutions were established, who are producing a large number of trained teacher. But inspite of all these attempts, the teacher training institutions could not meet to desired end of producing affective teachers. (Buch 1975, Sharma & Malhotra 1979, Sansanwal & Jorial 1980) Similarly the report of the Education commission, 1966 says "the quality of training institutions reminds, with a few exceptions, either mediocre or poor competent staff are not attracted, vitality and realism are lacking in the curriculum and programmers of work which continue to be largely traditional and set pattern and rigid technique are followed in practice, with a disregard for present day needs and objectives"

However, regarding the concept definition and scope of teaching competency, there has been a little agreement amongst concerned researchers. The reason for this agreement appears to tem from two reasons. First, 'confusion' has resulted due to interchangeable use ability of a large variety of terms. For example, teacher competence teacher effectiveness, teachers efficiency teaching success characteristics of a teacher. Criteria of competence ability to teach and host of other terms have been used to mean the some concept. Secondly there is a disagreement as of which criteria of teaching competency are essential ones. For example should the teacher be expected to produce immediate effects or long range consequences.

Should they exhibit similar components in all situations in respect of different kinds of schools pupil, subjects, and grades and so on? The problem becomes more complex because of the verities of outcome that may result from teaching.

The concept of teaching competency emerged form competency based teacher Education (CBTE) Programmed.

Statement of the Problem

A Comparative Study of Teaching Competencies of B.Ed. Student of Self-financed and Government Aided Teacher Education Institutions.

Objective of the Study

Present study will be attempts to achieve following objective:

1. To compare teaching competencies of the B.Ed. Student of self-financed and Govt. aided teacher education Institutions.
2. To compare teaching competencies of the B.Ed. Student of self-financed and Govt. aided teacher education Institutions in terms of Lesson Planning.
3. To compare teaching competencies of the B.Ed. Student of self-financed and Govt. aided teacher education Institutions in terms of Introduction.
4. To compare teaching competencies of the B.Ed. Student of self-financed and Govt. aided teacher education Institutions in terms of Home Assignment.
5. To compare teaching competencies of the B.Ed. Student of self-financed and Govt. aided teacher education Institutions in terms of Evaluation.
6. To compare teaching competencies of the B.Ed. Student of self-financed and Govt. aided teacher education Institutions in terms of Classroom Management.

This objective divided into 16 sub-objectives of 16 dimensions.

Hypotheses of the Study

To achieve the objectives of the study following hypothesis will be formulated tested.

1. B.Ed. Student studying in self-financed and govt. aided teacher education institutions do not differ significantly on their teaching competencies.
2. B.Ed. Student studying in self-financed and govt. aided teacher education institutions do not differ significantly on their teaching competencies in terms of Lesson Planning.
3. B.Ed. Student studying in self-financed and govt. aided teacher education institutions do not differ significantly on their Introduction.
4. B.Ed. Student studying in self-financed and govt. aided teacher education institutions do not differ significantly on their Home Assignment.
5. B.Ed. Student studying in self-financed and govt. aided teacher education institutions do not differ significantly on their Evaluation.
6. B.Ed. Student studying in self-financed and govt. aided teacher education institutions do not differ significantly on their Classroom Management.

Delimitations of the Study

The study has delimitated to:

1. Teacher Education Institutions affiliated to Ch. Charan Singh University, Meerut
2. Teaching competencies of the B.Ed. Student of secondary teacher education institution.
3. Present study will be delimited to teaching competency variables only.

Method of the Study

The researcher will be used survey method of research for the present study.

Population of the Study

All the teacher educators and B.Ed. Student of Govt. aided and Self-financed teacher Education Institutions affiliated to Ch. Charan Singh University, Meerut constituted population of the study

Sample of the Study

The sample of the study has been selected from total number of B.Ed. Student who are studied for the development of their competencies in teaching was in govt. aided colleges was 300. On the contrary from self-financed institutions 20 students were again selected from each institution (15 self-financed institutions) through lottery method. Thus, the total number of B.Ed. Student came out is 300

Sampling Technique

Random Cluster sampling method will be used to select sample units of the study.

Tools to be Used

The research selected the fixed response questionnaire General Teaching Competency Scale constructed by B.K. Passi and Mrs. M.S. Lalitha (1994). This provides a measure of teaching competency.

Statistical Techniques to be used

The researcher will used mean, SD and t-test as statistical techniques to analyze data of the study.

Analysis and Interpretation of Data

Table-1: Comparison of Teaching Competency (Lesson Planning) of B.Ed. Student of Govt. Aided and Self-financed Teacher Education Institutions

Sl. No.	Name of Group	N	Mean	S.D.	't'	Level of Significance
1.	B.Ed. Student of Govt. aided Institutions	300	14.833	1.901	0.022	Not Significant
2.	B.Ed. Student of Self-financed Institutions	300	14.837	1.752		

Interpretation: Comparison of teaching competency (lesson Planning) of B.Ed. Student belonging to Govt. aided and self financed teacher education institutions has been displayed in terms of 't' value in table No. 1 test of significance shows not significant 't' value 0.022 for df of 598. It is obvious from 't' value shown in table 1 that B.Ed. Student of self financed institutions are as competent as B.Ed. Student are Govt. aided institutions in their skills of lesson planning.

Equal competency in lesson Planning of the B.Ed. Student of Govt. aided and self financed institution have also been Proved by their mean competency score equality in score, is up to 2 digit of decimal, shows neck to neck effort made by two group of B.Ed. Student.

Table-2: Comparison of Teaching Competency (Introduction) of B.Ed. Student of Govt. Aided and Self-financed Teacher Education Institutions

Sl. No.	Name of Group	N	Mean	S.D.	't'	Level of Significance
1.	B.Ed. Student of Govt. aided Institutions	300	3.683	0.506	1.477	Not Significant
2.	B.Ed. Student of Self-financed Institutions	300	3.613	0.646		

Interpretation: Comparison of teaching competency (Introduction) of B.Ed. Student belonging to Govt. aided and self financed teacher education institutions has been displayed in terms of 't' value in table No. 2 test of significance shows not significant 't' value 1.477 for df of 598. It is obvious from 't' value shown in table 2 that B.Ed. Student of self financed institutions are as competent as B.Ed. Student are Govt. aided institutions in their skills of introduction.

Equal competency in Introduction of the B.Ed. Student of Govt. aided and self financed institution have also been Proved by their mean competency score equality in score, is up to one digit of decimal, shows neck to neck effort made by two group of B.Ed. Student.

Table-3: Comparison of Teaching Competency (Home Assignment) of B.Ed. Student of Govt. Aided and Self-financed Teacher Education Institutions

Sl. No.	Name of Group	N	Mean	S.D.	't'	Level of Significance
1.	B.Ed. Student of Govt. aided Institutions	300	3.220	0.515	8.766	**
2.	B.Ed. Student of Self-financed Institutions	300	3.640	0.651		

Interpretation: Table 3 displaced statistically treated data regarding Teaching Competency Home Assignment skills of B.Ed. Student of Govt. aided and self financed Teacher Education institutions. Obtained 't' value 8.766 is significant at .01 level of confidence. It shows rejection of null hypotheses, which reads B.Ed. Student of Govt. aided and self financed teacher education colleges differ significantly on their teaching competency particularly Home Assignment skills of teaching.

Mean competency score of B.Ed. Student are self financed institutions is higher than mean competency score of their counter Part of B.Ed. Student studying in Govt. aided teacher education institutions. On the basis of result shown in the table it can be concluded safely that B.Ed. Student of self financed institutions are superior to B.Ed. Student of Govt. aided institution in teaching competency particularly Home Assignment skills.

Table-4: Comparison of Teaching Competency (Evaluating) of B.Ed. Student of Govt. Aided and Self-financed Teacher Education Institutions

Sl. No.	Name of Group	N	Mean	S.D.	't'	Level of Significance
1.	B.Ed. Student of Govt. aided Institutions	300	3.220	0.515	8.766	**
2.	B.Ed. Student of Self-financed Institutions	300	3.640	0.651		

Interpretation: Comparison of teaching Competency (Evaluating) of B.Ed. Student belonging to Govt. aided and self financed teacher education institutions has been displayed in terms of 't' value in table No. 4 test of significance shows not - significant 't' value 0.039 for df of 598. It is obvious from 't' value explains in table 4 that B.Ed. Student of self financed institutions are as competent as B.Ed. Student are Govt. aided institutions in their skills of Stimulus Variation.

Equal competency in Stimulus Variation of the B.Ed. Student of Govt. aided and self financed institution have also been Proved by their mean competency score equality in score is up to One digit of decimal, shows neck to neck effort made by two group of B.Ed. Student.

Table-5: Comparison of Teaching Competency (Classroom Management) of B.Ed. Student of Govt. Aided and Self-financed Teacher Education Institutions

Sl. No.	Name of Group	N	Mean	S.D.	't'	Level of Significance
1.	B.Ed. Student of Govt. aided Institutions	300	7.123	0.689	4.124	.01
2.	B.Ed. Student of Self-financed Institutions	300	7.407	0.970		

Interpretation: TTable 5 displaced statistically treated data regarding Teaching Competency classroom management skills of B.Ed. Student of Govt. aided and self financed Teacher Education institutions. Obtained 't' value 4.124 is significant at .01 level of confidence. It shows rejection of null hypotheses, which reads B.Ed. Student of Govt. aided and self financed teacher education colleges differ significantly on their teaching competency particularly classroom management skills of teaching.

Mean competency score of B.Ed. Student are self financed institutions is higher than mean competency score of their counter Part of B.Ed. Student studying in Govt. aided teacher education institutions. On the basis of result shown in the table it can be concluded safely that B.Ed. Student of self financed institutions are superior to B.Ed. Student of Govt. aided institution in teaching competency particularly classroom management skills

Table-6: Comparison of Teaching Competency of B.Ed. Student of Govt. Aided and Self-financed Teacher Education Institutions

Sl. No.	Name of Group	N	Mean	S.D.	't'	Level of Significance
1.	B.Ed. Student of Govt. aided Institutions	300	74.697	7.668	2.264	.05
2.	B.Ed. Student of Self-financed Institutions	300	76.053	6.992		

Interpretation: Table 6 shows the analysis of data regarding comparison of teaching competency, as a whole of B.Ed. Student belonging to Govt. aided and self-financed teacher training institutions. The obtained 't' value 2.264 is significant at .05 level of confidence. The significance of 't' value leads to the rejection of null hypotheses which further explains that two groups of B.Ed. Student teaching in Govt. aided colleges and self-financed institutions differ significantly in their teaching competency as a whole.

Since mean competency score of B.Ed. Student belonging to self-financed institutions is higher than the mean competency score of B.Ed. Student of Govt.-aided institutions. Therefore, it can be concluded that on the whole, B.Ed. Student of self-financed institutions are found to be more competent in the use of teaching skills.

Conclusion

On the basis of validation of Hypotheses following conclusion were drawn:

1. In teaching competency (Lesson Planning, Introduction, Evaluating) of B.Ed. Student of Self-financed Institutions were similar to Govt. aided colleges.
2. In teaching competency (Home Assignment, Class Room Management) of B.Ed. Student of Self-financed Institutions were superior to Govt. aided colleges.

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Study of the Effectiveness of the Teaching Program Conducted through YouTube Video to Create Understanding of Statistical problems in B.Ed. Trainees

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ABSTRACT

The corona virus outbreak is the biggest crisis facing the post-World War II world. The crisis has affected all aspects of human life. Currently, coronary heart disease is considered to be the only health problem. But this crisis has its side of educational problems. This is also important to note. This brought the researcher's attention to the subject. The researcher presented the following objectives for the presented research. 1 Check the understanding of statistical problems among B.Ed. students before the teaching program through YouTube video. 2. To develop teaching programs through YouTube videos to create an understanding of statistical mathematics. 3 Implementing teaching programs through YouTube videos developed for students. 4. To check the effectiveness of the teaching program done through YouTube video. The research presented included a video teaching program designed to determine the content of statistics in course number 104 of the B.Ed. degree course. The research presented uses product research methods to develop YouTube's video teaching program. It also used experimental research methods to test the effectiveness of video teaching programs. The following research used the following tools for data collection. 1. YouTube video teaching program, 2. Researcher created test, 3. Rating Scale. According to the research objectives, some of the main conclusions are as follows: The difference in the mean score of the marks in the pre- and post-test shows that the understanding of statistical problems among the post-teaching B.Ed. students has increased. The correlation between the pre- and post-test is a good one and it can be said that the teaching program through YouTube video was useful and effective.

Key words: YouTube videos, statistics, teaching programs, median, median quartile deviations and standard deviations

Introduction

Coronavirus outbreak is the biggest crisis facing the post-World War II world. The crisis has affected all aspects of human life. The disease should not be caused by the lack of antibiotics, so the only option now is to take preventive measures. Therefore, efforts are being made in all countries to control the disease, depending on the policy of lockdown.

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The uncertainty created by this situation has created an atmosphere of fear around the world. The global and national economies are reeling from the recession, the recession and the unemployment cycle. Due to the stagnant economy, the poorest of the poor have migrated from the city to the villages and starved to death, or because of the corona; This working class is stuck in this dilemma. The world is gripped by fears that the Sino-US economic power struggle could take the form of a 'biological war'. The centers of global power are shifting from Europe to the Americas to Asia. The forced emptiness and loneliness caused by the lockdown has led to family-social-mental health problems. Many countries have also closed educational institutions to curb carona. As of April 2020, 154 crore students in 188 countries are at home, according to a UNESCO report. 1.5 million schools are closed in India. As a result, 26 crore students and 89 lakh teachers are sitting at home, while 50,000 institutions of higher learning are closed and 3.70 crore students and 15 lakh college teachers are sitting at home. Currently coronary heart disease is considered to be the only health problem; But it is also important to note that this crisis is on the side of educational problems. Against this background, the researcher had some questions as follows:

1. Can we make YouTube videos of teaching mathematics in statistics?
2. Teaching programs can be created by broadcasting YouTube videos?
3. By implementing video teaching programs created on YouTube, students will be able to understand the concepts of mathematics in the subject of statistics?

This research question focused the researcher's attention on this topic.

Need & Significance of the Study

According to the TRAI report, the number of Internet users in India in 2020 is 68.45 crore. The number of mobile phone users is 48.82 crore. The number of smartphone users with internet is 40.72 crore. The number of TV viewers is 76 crores. Although this information technology seems to have expanded, there is a huge disparity. In India, 52% of the population uses the Internet. This means that half of India is deprived of the benefits of the Internet. In rural areas 36 per cent of the population and in urban areas 64 per cent of the population use the internet, while 67 per cent of men and 38 per cent of women in India use the internet. Information technology is currently being monopolized by the urban, affluent and men. Therefore, 'National Digital Library', 'Swayam', Shodh-ganga etc. The benefits of government projects are being limited. In the online education of this project, the cost of computer, internet cost, power supply etc. There are major difficulties. So online education is affordable for the affluent class in the city! The situation is similar in many underdeveloped countries. So those countries have started using TV medium more during school closures. In India, however, no such simple scheme has been discussed. There are more than nine hundred channels in India and how to use this channel for students sitting at home. Some steps need to be taken by the education department in this regard. The lockdown has created a lot of problems for Indian students and their parents who have gone abroad for education. Some foreign universities are trying to use the technology, artificial intelligence, robotics of the Chaitya Industrial Revolution as an alternative during

this period. Against this background the researcher selected the presented research problem from a constructive and constructive point of view.

Importance of the Study

1. This research work was important in order to create awareness among the students about statistical mathematics by giving practical guidance on the steps to be taken in solving statistical mathematics in the subject of academic statistics.
2. This research work was important in that the YouTube video created through the presented research would also be a guide to other B.Ed. college students.
3. Creating an online teaching program in case of emergency will definitely benefit the student professors. This research work was important in this regard.
4. On April 5, HRD Minister Pokhriyal has assured that care will be taken to ensure that the educational loss of students does not occur during this lockdown. But the academic disadvantage is not to postpone the exams, but to make sure that the students' studies are not interrupted. The research work was important in terms of the YouTube video teaching program, which provides a plan for how children's education can continue uninterrupted.

Statement of the Problem

The statement of this problem is to "Study of the effectiveness of the teaching program conducted through YouTube video to create understanding of statistical problems in B.Ed. trainees".

Terms Used in the Study

YouTube Video- A social site that interacts with people by uploading videos to social media sites.

There are a number of things that can be done to help you get the most out of your business, and you need to be able to get the most out of your life.

B.Ed. Trainees- B.Ed. trainees are the students who have taken admission in the B.Ed. degree course in the academic year 2019-2020 at the Shikshan Prasarak Sanstha.

Understanding- To solve statistical problems, proper understanding is required. This type of definite knowledge is called understanding by the researcher. It has to do with two factors.

(a) Cognitive Understanding- This includes information on statistical formulas.

(b) Functional Understanding- The development of expected skills in students after completion of the teaching program through YouTube video is expected to develop the understanding of statistical skills to solve the mathematics of median and median as well as quadrant deviation and standard deviation from the scale of central tendency.

Teaching program through YouTube video: Teaching program through YouTube video is a limited period of time for teaching and uploading on social media to teach B.Ed. degree students to develop an understanding of the steps to be taken to solve the calculation of the central tendency and the consequences of deviation step by step. Event Yes.

Study of Effectiveness- The effect on the performance of students after the implementation of the teaching program through YouTube video.

Research Objectives

The researcher presented the following objectives for the presented research

1. To check the understanding of statistical problems among B.Ed. students before the teaching program through YouTube video.
2. To develop teaching programs through YouTube videos to create an understanding of statistical problems.
3. Implementing teaching programs through YouTube videos developed for students.
4. To check the effectiveness of the teaching program done through YouTube video.

Research Assumptions

1. Video teaching clarifies the learner's own concepts.
2. Online learning reaches as many people as possible in less time.

Research Hypothesis

The hypothesis of this research is "The YouTube video teaching program does not make a significant difference in the mean of the B.Ed. students' pre-program and post-program final test scores".

Scope of Research: The research presented consisted of a video teaching program designed to determine the content of Course No. 104 of the B.Ed. degree course.

Research Limits & Delimitations

Delimitations of Research

1. The video teaching program in the presented research was delimited to 40 students in the academic year 2019-2020 in the B.Ed. College of Shikshan Prasarak Sanstha.
2. The research presented was delimited to the statistical mathematics of median, median, quartile deviation and standard deviation in statistics.

Limitation of Research

1. In the present research, the sponsor has no control over the factors related to the students' self-study ability, interest in the teaching program, positive, negative or neutral attitude towards it, comprehension ability, physical and mental condition, financial situation etc.
2. The researcher could not control the information received by the students through media and other factors in the environment during the lockdown period or online teaching.

Research Procedures

Confirmation of the content of the YouTube video teaching program: Course No. 104 in the first year B.Ed. course.

Product Development: Researcher completed the YouTube video teaching program from 13 steps in product making in the 15th 'Research through product' published by Yashwantrao Chavan Maharashtra Open University and developed a proven tool for research.

YouTube Video Teaching Program Development

Objectives of Online YouTube Video Teaching:

1. To acquaint the students with the formulas of statistical problems.
2. Understand the process for solving statistical calculations.
3. To provide the method of solving

statistical problems in a systematic manner.

Table-1: YouTube Video Teaching Program

Teaching Details	Methods and Materials	Expert Instructor	Video Duration
Central Tendency - Median	Lecture, Demonstration	Self-Researcher	Clock 1 Hour
Central Tendency – Mean (Assumed Mean Method	Lecture, Demonstration	Self-Researcher	Clock 1 Hour
Measures of Variability – Quartet Deviation	Lecture, Demonstration	Self-Researcher	Clock 1 Hour
Measures of Variability – Standard Deviation	Lecture, Demonstration	Self-Researcher	Clock 1 Hour
Feedback and Practice	Interactions	Self-Researcher	Clock 3 Hour

The relationship between YouTube's video teaching program and the theories-

The YouTube video teaching program developed by the researcher is related to the principles of. According to Aristotle, the researcher has directed the process of systematic solving of mathematical mathematics on the principle that the subject to be taught to the child should be directed and told in such a way that the student will acquire knowledge.

Research Methods

The present research uses product research methods to develop YouTube's video teaching program as well as experimental research methods to test the effectiveness of the video teaching program.

Experimental Design

For the presented research, the researcher has selected a single grouppre-post test design.

Research Variables

Independent Variables: Online YouTube Video Teaching Program

Dependent variables: Students' edited marks

Population and Sampling

Population

All students pursuing B.Ed. degree in Maharashtra

Sampling

College Selection: The B.Ed. College of Shikshan Prasarak Sanstha at Sangamner was selected on the basis of improbability judging method.

Selection of Students: Selection of 40 students from B.Ed. colleges of Shikshan

Prasarak Sanstha who can be available online was done in a deliberate manner.

Data Collection and Statistical Tools

A) The following tools were used for data collection in the present research:

1. YouTube video teaching program
2. Researcher made test
3. Rating Scale

B) The researcher used the following statistical tools in the presented research.

In the present research, the researcher used statistical tools like percentage, mean, standard deviation, correlation coefficient, t value etc. and performed statistical analysis of the information collected on that basis.

(A) Test Analysis

Statistical Analysis

Table-2: Statistical analysis of pretest and post test

Sr.	Particular	Pre-Test	Post Test
1	Sample	40	40
2	Mean	$M_1 = 17.75$	$M_2 = 35.625$
3	SD	$\sigma_1 = 6.51$	$\sigma_2 = 7.24$
4	Correlation	r = 0.68	
5	t value	t = 20.405	

Table-3: Analysis of Null Hypothesis

Sr.	Significant level	Comparison of t value	T value significant	Accept/Refuse of Null Hypothesis
1	0.01	Compute value = 20.405 t Value; = 2.71 20.405 > 2.71	Significant	Reject
2	0.05	20.405 > 2.02	Significant	Reject

As can be seen from the table above, since the value of the value obtained exceeds the value of the value obtained, the value obtained at the levels of 0.05 and 0.01 is found to be meaningful in the degree of independence. So the null hypothesis had to be abandoned and the research hypothesis had to be accepted. It can be stated as follows. The difference between the video program implemented by the researcher can be said to be due to the increase in the average of the B.Ed. students' pre-program and post-program test scores due to YouTube's video teaching.

Analysis of Rating Scale of First Year Teaching Course 104 Unit 4 Taught You Tube Video

1	2	3	4	5
Unsatisfactory	**Fair**	**Satisfactory**	**Very Good**	**Excellent**

Table-4

Performance	Percentage
Introduction given of self and topic	100% Excellent
Dress neatness and appearance	100% Excellent
Use of classroom language	88% Very Good
Writing on the board table figure	93% Excellent
Eye contact	90% Very Good
Spoke loudly and fluency in explanation	95% Very Good
Encouraged students	100% Excellent
Communication language	85% Very Good
Create interest in students	96% Excellent
Proper steps for example solving	100% Excellent
Summarization	100% Excellent
Video voice quality	93% Very Good
Video material presentation clarity	93% Very Good
Video material presentation clarity	96% Excellent
Video instruction helpful	100% Excellent
Video course content met your expectation	100% Excellent
Video lecture sequence was well planned	100% Excellent
This video exposed new knowledge of course 104-unit 4	95% Excellent
You able to learn statistical problem	100% Excellent
Will you recommend this video to your friends	100% Excellent

Interpretation: This leads to the conclusion that,

1. 95 percent of the students responded that the teaching performance in the YouTube video was excellent.
2. Performance of YouTube video presentation quality was excellent: 97 students responded.

Interpretation: More than 95% of the students have given Mgbamsasmadaj grade to the components of Padanishyan category. From this, it can be said that the quality of teaching and YouTube videos in YouTube videos is excellent.

Conclusion

Following are some of the main objective findings of the research objectives

Objective no. 1. To check the understanding of statistical problems among B.Ed. students before the teaching program through YouTube video.

Pretest results

Conclusion no. 1. The average of the pre-test scores shows that the students have less understanding of statistical problemss than the B.Ed. students through the YouTube video.

Objective no. 2. To develop teaching

programs through YouTube videos to create an understanding of statistical problemss.

B) The researcher developed the YouTube video teaching program from 12 different stages of tool development, based on the findings.

Conclusion no. 2. Teaching program can be developed through YouTube video which is useful and practical for secondary level students and can be implemented in a limited period of time.

Objective no. 3. Implementation of teaching program through YouTube video developed for students.

Conclusion no. 3. The teaching program can be implemented for a limited period of time through the YouTube video developed for the students.

Objective no. 4. To check the effectiveness of the teaching program done through YouTube video.

A) Conclusions from the post-test

Conclusion no. 4. The difference in the mean score of the marks in the pre- and post-test shows that the understanding of statistical problems among the post-teaching B.Ed. students has increased. (Ref. Table No. 02)

Conclusion no. 5. It can be said that the teaching program was useful and effective through YouTube video as the correlation between pre and answer test is rich and good. (Ref. Table No. 02)

B) Conclusions from the response to the Rating Scale -

Conclusion no. 6. More than 95 per cent students have given Excellent grade to the components of the rating scale. From this, it can be said that the quality of teaching and YouTube videos in YouTube videos is excellent. (Ref. Co. 04)

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A Study of Value of Spirit of Nationality of Secondary School Student

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ABSTRACT

The present study related with Value of sprit of nationality of secondary School Students. Objective of the study is comparing the value of spirit of nationality of boys and girls on the level of secondary school. For the present study the investigator had selected 100 students of secondary school (50 boys and 50 girls) have been selected from the population. The researcher administered the standardized tool for studying the value of sprit. Researcher concludes that there is no significant difference between boys and girls of UP Board and CBSE School.

Key words: Value, Spirit of Nationality, Secondary Students

Introduction

India known for its 'unity in diversity', all the major religions of the world such as Hinduism, Islam, Christian, Sikh, Parsi, Jews, Zoroastrian, Buddhism are practised here. Variety of cultures so, varieties in costumes, food habits and social customs. There is great diversity in Geographical area and amazing climate difference also. Despite all these differences in India, there is a political entity, every part of which is government under the same constitution. According to that we have to co-exist with each other peacefully respect the culture of other and religion of fellow Indians.

But from last three four decades there are many forces that come in the way of national integration. Every person in thinking about him self only, whether it is for employment or economical development.

Now-a-days in India apart from world there is no peace, human have not only forgotten human values but all kind of values.

In India there is major change in social, political and family value, moral value. Today's students will be vigilant citizens of the country if they are taught how to live and behave in the society and how to perform their responsibilities towards their country or nation in which they are born & live with that identity.

In India schools are still following British pattern of education so Indian values are declining some where. Emphasis on value education and practical knowledge of life is minimum. All round development is minimizing.

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In Indian scenario to protect our culture, our values, feeling of integration whether it is emotional or national they need to educate about our democratic value, nation value and human value to make unity in diversity.

When people have strong feelings about their own religion and oppose of others, such feelings lead to clashes. Communalism is one of them that posses a great danger to our country's unity. Some minorities institutions sowing the seed of communal educational regional education, giving priorities to castism, that kind of occurrences damage national value of children. If we give more importance to our religion or region rather than nation. No one could contribute to its progress and in development.

To prepare good citizen, there is a thought of to check their value of spirit of nationality. They have to develop tolerance and understanding for other's feeling and belief, languages etc. Not let such feelings destroy our unity or create problem's for the country.

Values have measure influences on a person's behaviour and attitude and serve as broad guidelines in all situation.

The National Curriculum frame work (2005) NCERT, echoes the vision of integrating values in every aspect of schooling, seeking guidance from the contributional vision of India as secular, egalitarian and pluralistic society founded on the values of social justice and equality. The values enshrined in the constitution assume permanent significance (NCF 2005). The inculcation of values among educants would be possible through education in school or family.

In present scenario challenge of value crisis among young generation which may elapse of the future society, which is why researcher wants to inculcate value of national spirit to prepare good and valuable citizens of India. Sample is of adolescence age, in this age children are emotional, they understand what is wrong and right for their nation. And what they learn in this age that is permanent on their mind. For the nations identity their citizen should have strong feelings for nations culture, history and for communities.

Statement of the Problem

Statement of problem which studied by research is **"A Study of Value of Spirit of Nationality of Secondary School Student"**.

Objectives of the Study

The objectives of the study is as follow:

1. To compare the value of spirit of nationality of boys and girls on the level of secondary school.
2. To study the value of spirit of Hindi and English medium students.
3. To compare the U.P. Board which are run by U.P. State Government and C.B.S.E. Board which are run by Central Govt. school's student.
4. To study of Boys and Girls value of spirit of Nationality of U.P. Board and boys and Girls of C.B.S.E. Board boys and girls.

Hypotheses of the Study

Researcher has formulated the following hypotheses for the present study:

1. There is no significant difference between boys and girls value of spirit of nationality.
2. There is no significant difference between students of CBSE Board and students of U.P. Board's value of spirit of nationality.
3. There is no significant difference between Hindi medium boys and girls and English medium boys and girls towards value of spirit of nationality.
4. There is no significant difference between public school and state government aided school's students towards value of spirit of nationality.

Operational Definitions

Key words used in problem statement value, spirit of nationality, secondary school and student.

Value: Here value means worth of feeling, worth of spirit, priceless sentiments towards country.

Spirit of Nationality: Awareness of a common identity amongst the citizen of a country. It means that though we belong to different castes, religions and regions and speak different language we recognise the fact that we all are one. It is very important in the building of a strong and prosperous nation.

Secondary School: Here secondary school means tenth standard in 10+2+3 system of education.

Students: Students (boys and girls) both studying in 10th standard.

Delimitations of the Study

Due to time limitation; delimitation in research refers to choices that the researcher makes for the study that are under control of the researcher. It includes the population of a study and focus of the research.

1. The study delimited with 100 students of 6 schools 3 schools of CBSE and 3 schools of U.P. Board of Meerut City.
2. The study delimited with Non-probability method of sampling is used. Standardized tool is used. It was a questionnaire. After using tool quantitative data collected after that organized, analysed and interpreted.
3. This research related to secondary school student who are studying in schools of Meerut city.

Method of the Study

The researcher will be used survey method of research for the present study.

Population of the Study

In this study population selected for research of secondary school students of Meerut city schools are C.B.S.E. affiliated and U.P. Board Allahabad affiliated.

Sample of the Study

Researcher selects 100 students for the study in which 50 boys and 50 girls have taken from different schools.

Sampling Technique

Random sampling method will be used to select sample units of the study.

Tools to be Used

For present study researcher used VSN-RSJ standardized tool constructed by Dr. Vinaya Ransingh, Lecturer in Priyadarshini College of Education, Nagpur, Dr. Jyoti Shiwalkar (Reader, Department of Statistics

Hislop College Nagpur) and Dr. Vrinda Joglekar (Reader, Department of Statistics, Hislop Nagpur)

Statistical Techniques to be used

The researcher will used mean, SD and t-test as statistical techniques to analyze data of the study.

Analysis &Interpretation of Data

First Objective: Compare study of value of spirit of nationality between boys and girls scoring mean.

Null Hypothesis: There is no significant difference between boys and girls in terms of obtained mean score of value of spirit of nationality.

Results of data analysis in the context of above objective are given below:

Mean, Standard Deviation and t-value of spirit of nationality according to Gender are

Gender	No. of Student	Mean	S.D.	t-value	Level of significance
Girls	50	152.7	23.13	1.65	Not Significant
Boys	50	145.1	23.69		

Since, mean value of boys spirit of nationality is 145.1, standard deviation 23.69 and girls mean 152.7, standard deviation is 23.13 on the significant level of 0.05 and 0.01 calculated value is 1.65 which is less than 1.96 on 0.05 significant level and also less than 2.58 at 0.01 significant level. So, null hypothesis is accepted on both the significant levels. It is clear that there is no significant difference between value of spirit of nationality of boys and girls.

Second Objective: Compare study of Hindi medium and English medium student in terms of value of spirit of nationality in the Meerut city Secondary Schools students.

Null Hypothesis: There is no significant difference between Hindi medium secondary school students and English medium students of Meerut city regarding value of spirit of nationality.

After data analysis in the context of above objective given below:

Mean, Standard Deviation and t-value on the basis of teaching medium are:

Teaching Medium	N	Mean	S.D.	t-value
Hindi (U.P. + C.B.S.E. Boards)	45	152.5	20.63	1.43
English (C.B.S.E. Board) + U.P. Board	55	145.7	26.89	

Since calculated value of t is 1.43 where is t= 1.43 < 2.58 at 0.01 significant level and 1.43 < 1.96 at 0.05 significant level. Because calculated value is less than table value of 't'. So null hypothesis is accepted at the both levels of significant.

Thus, result is, there is no significant difference between Hindi medium secondary school boys and girls and English medium boys and girls.

Third Objective: To check the value of spirit of nationality between U.P. Board Secondary School students and C.B.S.E. Board Secondary School students.

Null Hypothesis: There is no significant difference between C.B.S.E. Board and U.P. board boys and girls value of spirit of nationality.

After analysis the data in the context of above objective result given below:

Mean, Standard Deviation and t-value on the basis of Board are:

Board	N	Mean	S.D.	t-value
U.P. Boards (Boys and Girls)	50	152.5	18.36	1.46
C.B.S.E. Board (Boys and Girls)	50	145.7	27.12	

Since calculated value of t is 1.46 which is less than table value of t on the significant level 0.01 and 0.05 i.e., 1.46 < 1.96 at 0.05 significant level, so null hypothesis is accepted on both the significant levels.

Result is, there is no significant difference between students (boys and girls) of C.B.S.E. board and students of U.P. Board in terms of value of spirit of nationality.

Fourth Objective: To check the significant difference between private school and state govt. management secondary school students value of spirit.

Null Hypothesis: There is no significant difference between private school and state govt. aided secondary school student's value of spirit of nationality.

After doing analysis of data Mean, Standard Deviation and t-value is obtained which are given below

Data on the basis of School Management

Management	N	Mean	S.D.	t-value
State Govt. Aided School	50	151.7	20.02	1.28
Private School or Non-Govt. School	50	145.7	26.20	

Since calculated value of t is 1.28 which is less than table value i.e. 1.28 < 1.96 at 0.05 significant level. Because calculated value is less than table value of t. So null hypothesis is accepted on both the significance level.

So, result is, there is no significant difference between private school's students and state govt. aided secondary schools student's value of spirit of nationality.

Conclusion

Study of the value of spirit of nationality at secondary school level students is the main

objective, in Meerut city, obtained scores from measuring instrument of value of spirit of nationality and data analysis by statistics got result. Following conclusion are drawn from that result:

1. There is no difference between boys and girls value of spirit of nationality at secondary school level. In relation to the obtained scores it is concluded that boys and girls both are aware similarly about their country's environment. If it is social environment or political environment, it can be one of the reason that girls and boys both studying same curriculum in school i.e. no discrimination between them both have equal rights as a citizen.
2. There is no significant difference between Hindi medium student and English medium students in relation to the obtained scores it is concluded that statistically no difference is found between Hindi medium and English medium students towards value of spirit of nationality. Awareness of national symbols, national leaders, national events and movements is present in curriculum of schools, whether English medium or Hindi medium. On the basis of this study, no evidence of difference was found between the English medium schools and Hindi medium schools students.
3. There is no significant difference between C.B.S.E. Board and U.P. Board secondary school students towards value spirit of nationality. In relation to the obtained scores it is concluded that no difference found in the spirit of students towards nationality, whether C.B.S.E. board or U.P. board. All have similar spirit for their nation. Might be reason of this result is that students see the news of all states, cultural activities, live telecast of programmes from different areas of India through television, and internet. So, result on the basis of this study, that no difference was found between student of C.B.S.E. board and U.P. Board student at secondary school level in Meerut city.
4. There is no significant difference between students of private school and students of state govt. aided schools towards value of spirit of nationality. In relation to the obtained scores it is concluded that no difference found between students of those school whether they have private management or state govt. management. Reason of this result could be more awareness in teachers of private management school. Private school include social and cultural activities and debates on national issues. In state govt. aided school cultural activities programmes planned on national days national song and about national personalities included in their text books. National anthem student sings daily in morning assembly. Main reason is today girls and boys get equal opportunity of getting education in the city.

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A Study of Effective Learning Strategies In Relation To Achievement across the Science and Arts Academic Streams of Secondary Level

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ABSTRACT

Learning is an important psychological construct in academics. Various learning strategies are used and applied by the students and teachers so as to have effective learning and create effective teaching situations learning strategies are organized plans of action for learning. Learning strategies are the thoughts and/or actions that students use to complete learning tasks. Learning tasks, however, are the tools that students themselves can employ independently to complete a task. Learning strategies seem to be "tricks" learners how to help them remember things better off to do tasks more efficiently. In this paper research was focused to investigate the effective learning strategies in relation to achievement. The present study is done a secondary level and across science and arts stream.

Key words: : Learning, Strategy, Achievement, learning strategies

Introduction

Academic achievement in a traditional classroom is often solitary individual endeavor praise when they perform regardless of how their classmate is performing. A student performance is evaluated with the performance of classmates. Yet in some cultures neither individual achievements nor competitive achievements is appreciated but rather group achievement is appreciated. The students may therefore resist when asked to compete against their classmate. They may be confused, also when teacher scold for helping one another for sharing answers. They feel uncomfortable when their individual achievement is publicly acknowledged. Therefore, there will emerge a need for considering diversities in high-level classroom teaching process. There must be variety of examples in opportunities for practices learning material for students. The question occurs how then students nurture, develop and transfer learned material for better understanding of concept and for better achievement.

The classroom for a child is a challenge that helps maximum absorption of students' initiative attitude, interest and interaction in classroom. The complicities of classroom may be reduced by mutual, effective and interactive participation of teacher and learners. Classroom teaching learning situation are designed in a manner where they shifts from

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blackboard to keyboard, from audio to video, from competitiveness to collaboration, from instruction to shaping, have to take place if the classroom challenges have to be faced. Individualized progress of a child results into a socially useful relevant segment of knowledge.

Concept of Learning

H.J. Klausmeier stated learning as a process whereby a change in behavior as a result from some form of experience, activity, training, observation and the like. Sartain et al. defined learning as the process by which a relatively enduring change in behavior occurs as a result of experience and behavior. According to Morgan et al., learning can be defined as any relatively permanent change in behavior that occurs as a result of practice and experience.

Concept of Strategy

The word strategy in its etymological derivation owes its origin from a Greek word 'strategia' and may be defined as plans and specific ways devised and employed for the realization of a goal. Strategy, a word of military origin, refers to a plan of action designed to achieve a particular goal. Strategy is perspective, position, plan and pattern. In short we can say, strategy is a term that refers to a complex web of thoughts, ideas, insights, experiences, goals, expertise, memories, perceptions, and expectations that provides general guidance for specific actions in pursuits of particular ends. B.H. Liddell Hart, in his book 'Strategy' defined as, "the art of the employment of battles as a means to gain the object of war." Concluding his review of wars, policy, strategy and tactics he arrives at this short definition of strategy - "the art of distributing and applying military means to fulfill the ends of policy.' Oxford continues to expand on this definition by stating that learning strategies are specific actions taken by the learner to make learning easier, faster, more enjoyable, more self- directed, more effective, and more transferable to new situations. O'Malley and Chamot, (1990) said that learning strategies are the special thought or behaviors that individuals use to help them comprehend, learn or retain new information. Masters et al. (1993) moved towards a definition of cognitive strategies rather than the term learning strategies. They refer to a definition of cognitive strategies coined by Alley and Deshler (1979, in Masters et al.) as techniques, principles, or rules that will facilitate the acquisition, manipulation, integration, storage, and retrieval of information across situations and settings. They go on to say that cognitive strategies are a fundamental part of the process of acquiring knowledge as well as the took skills of reading, writing, speaking, listening, note taking, questioning, vocabulary acquisition, time management, reasoning, problem solving, and memorization. From reading through the definitions coined by researchers in the area of learning strategies, it would be appropriate to state that learning strategies, in essence, are actions taken by the learner to assist in learning more effectively. Strichart and Mangrum (1993) also state reasons why students need to learn strategic practices for learning. They contend that for learning to occur, students must be able to remember newly acquired information so that they can retrieve the information and use it whenever necessary. Information that is not remembered is of no value to students for dealing with current requirements in or out

of school. Since it is virtually impossible for students to remember all the information. Therefore, it is the contention of Oxford (199) that teachers will now have to take on a different role, as one of an instructor of learning strategies. She states that "the new teaching capacities also include identifying students learning strategies, conducting training on learning strategies, and helping learners become more independent. Thus, the teaching learning strategies seem to be a challenge for today's teacher.

Concept of Achievement

Achievement

The concept of achievement has several referents. "It usually denotes activity and mastery, making an impact on the environment rather than fatalistically accepting it and competing against some standard of excellence". (Dreeban, 1968) According to the Dictionary of Education (Carter, 1965) academic achievement means "the knowledge attained or skills developed in the school subjects, usually designated by test scores, or by marks assigned by teachers or both."

Learning Strategies

Learning strategies have been identified by several scholars. Before starting the work on learning strategies, the researchers have discussed with supervisor, concern teachers and peers a lot. In the present research following seven learning strategies, identified by J.E. Ormord (2000) that lead to the process of effective learning are used by researcher as independent variable for the present work.

* Identifying important information: Focus on specific information, structures, key words, phrases, or ideas, words in italics or boldface.
* Taking Notes: In general, note taking is associated with more successful classroom learning. In fact, when students have no opportunity either to take or review notes, they may recall very little of what they hear in lecture.
* Retrieving relevant prior knowledge: Students should think about and use what they already know to help them do the task. They should try and make associations.
* Organizing: Students should plan the task or content sequence and set goals for themselves. They should organize the from it or consider its implications.
* Elaborating: In order to perform better students should try and elaborate the course material, draw inferences from it or consider its implications.
* Summarizing: Effective summarizing entails separating important information from unimportant, condensing details into more general ideas and identifying important relationship among those general ideas.
* Monitoring Comprehension: Periodically checking should be done by students to make sure that they understood what they were reading or hearing as well as correction should be made by them when students are unable to comprehend.

Review of Literature

Review of literature helped to investigate the various studied undertaken in relation to the same. McWhaw and Abrami (2001) confirmed that students with high level of

interest use more strategies than those with low level of interest in a learning area. This is consistent with the result that students have more power or control over the use of strategies than teachers (Eshel & Kohavi, 2003).

Age Diseth, Therese Kobbeitvedt (2010) "A mediation analysis of achievement motives, goals, learning strategies and academic achievement." Previous research is in conclusive regarding antecedents and consequences of achievement goals and there is a need for more research in order to examine the joint effects of different types of motives and learning strategies as predictors of academic achievements with meta-cognition. Meta-cognition positively affected the use of the four study strategies. The strategy pathway involved positive effects of mastery and performance-approach goals on the use of meta-cognitive and deep cognitive strategies. Further, performance-approach goals positively affected the use of surface cognitive and resource management strategies. The use of meta-cognitive and resource management strategies had a positive and the use of surface cognitive strategies had a negative effect on exams cores.

O. Patrick Ajaja (2010) "Effects of Cooperative Learning Strategy on Junior Secondary School Students Achievement in Integrated Science." The purpose of this study was to determine how the adoption of cooperative learning as an instructional strategy for teaching 'Integrated Science' influences students' achievement and attitude towards studies. The study also determined how moderating variables like sex and ability affect students' achievements in 'Integrated Science' when cooperative learning is used as an instructional strategy. To guide this study, five hypotheses were stated and tested at 0.05 level of significance. The major findings of the study included - a significant higher achievement test scores of students in cooperative learning group than those in traditional classroom, a significant higher attitude scores of students in cooperative learning group than those in traditional classroom, a significant higher achievement test scores of all students of varying abilities in cooperative learning group than those in traditional classroom, a non-significant difference in achievement test scores between the male and female students in the cooperative learning group and non-significant interaction effect between sex and ability, sex and method, ability and method and among method, sex and ability on achievement.

Ahmad, Jamaludin and et al. (2010), "The Relationship between Self Concept and Response Towards Student's Academic Achievement Among Students Leaders in University Putra Malaysia." This is a quantitative research using correlational method. The purpose of this research is to study the relationship between self-concept and ability to handle stress on academic achievement of student leaders in University Putra Malaysia. The sample size consists of 106 respondents who are the student supreme council and student Representative Committee. Tennessee Self Concept Scale (TSCS) was used to evaluate respondents' self-concept and for respondents' responses strategy the 'Response Strategy Questionnaire were used. The respondents' CGPA is used to evaluate their academic achievements. Correlation between self-concept and

academic achievement is not significant (r=0.06, p=0.950). Meanwhile, there is a significant relationship between respondents' response strategies and academic achievements. The value of frequency contingency, 0.396 illustrate that the relationship is positive and low. The findings from this research will provide information to those who intend to plan beneficial programs for the university or the community in general.

Simsek (2011), "Learning Strategies of Successful and Unsuccessful University Students. "The purpose of this study was to assess the most commonly used learning strategies of undergraduate students and how these strategies were related to their academic performance. Results showed that successful students used more, varied and better learning strategies than unsuccessful students. Female students were more effective in of study students of fine arts used the strategies least, while students of sports used them the most. The most preferred group of strategies was meta-cognitive strategies, whereas the least preferred group was organization strategies. The same pattern was found for the level of success, gender and field of study. The results overall imply that certain strategies contribute to student performance more than other strategies and majority of university students are aware of this situation.

Research Objectives

The study was aimed at the following objectives:

1. To study the effective learning strategies of high and low achievement of science students.
2. To study the effective learning strategies of high and low achievement of arts stream students.

Hypotheses of the study

The present research was conducted to test the following hypotheses:-

1. There is no significant difference in high and low achievement of science students in terms of effective learning strategies.
2. There is no significant difference between the high and low achievement of science student in terms of 'identifying important information' dimension of effective learning strategies.
3. There is no significant difference between the high and achievement of science students in terms of taking notes dimension of effect learning strategies.
4. There is no significant difference between the high and low achievement of science students in terms of retrieving relevant prior knowledge dimension of effective learning strategies.
5. There is no significant difference between the high and achievement of science students in terms of organizing dimension of effective learning strategies.
6. There is no significant difference between the high and achievement of science students in terms of elaborating dimension of effective learning strategies.
7. There is no significant difference between the high and achievement of science students in terms of summarizing dimension of effective learning strategies.

8. There is no significant difference between the high and achievement of science students in terms of monitoring comprehension dimension of effective learning strategies.
9. There are no significant difference in the high and low achievement of arts students in terms of effective learning strategies.
10. There is no significant difference between the high and achievement of arts students in terms of taking notes dimension of effective learning strategies.
11. There is no significant difference between the high and achievement of arts students in terms of retrieving relevant prior knowledge dimension of effective learning strategies.
12. There is no significant difference between the high and achievement of arts students in terms of organizing dimension of effective learning strategies.
13. There is no significant difference between the high and achievement of arts students in terms of elaborating dimension of effective learning strategies.
14. There is no significant difference between the high and achievement students of arts stream in terms of summarizing dimension of effective learning strategies.
15. There is no significant difference between the high and low achievement of arts students in terms of monitoring comprehension dimension of effective learning strategies.

Research Methodology

The descriptive survey method was used in this study.

Sample and Sampling Technique

The population for the present study comprises all the XI class students (boys and girls) of science and arts stream of secondary level public schools of Meerut commissionary. In the present study, twelve secondary public school of Ghaziabad and Meerut District out of five districts of Meerut commissionery were surveyed. These school were selected using random sampling method. A sample of 400 students (200 boys and 200 girls) of science and arts stream was selected from twelve secondary public schools of the Ghaziabad and Meerut district. The sample comprised 200 male (100 science and 100 arts streams) and 200 female (100 science and 100 arts streams) students of class XI (refer table1).

Tools Used

The following tools were applied to study:

Effective learning strategy scale (ELSS) was constructed and standardized by the researcher, herself. In the present study the Effective Learning Strategy scale (ELSS) was constructed and standardized by the researcher's themselves because no appropriate tool was available to collect the information regarding the learning strategies adopted by the students across the science and arts streams at secondary school level.

Statistical Techniques Used

In the present study parametric statistical techniques were used for analysis of data. The Mean, S.D., T-test were applied to analyze the data.

Table-1: The T Value Of ELS Between High And Low Achievement of Student of Science Stream

S.N	ELS	Students of science stream	N	Mean on ELS	S.D. on ELS	t-value	Significance level
1.	Identifying important information	High achievement	50	6.933	1.072	10.080	.01=2.617
		Low achievement	50	5.440	1.022		.05=1.980
2.	Taking Notes	High achievement	50	6.717	2.799	0.6114	.01=2.617
		Low achievement	50	6.515	1.755		.05=1.980
3.	Retrieving relevant prior knowledge	High achievement	50	7.605	1.270	7.1754	.01=2.617
		Low achievement	50	6.050	1.756		.05=1.980
4.	Organizing	High achievement	50	7.145	2.501	1.0188	.01=2.617
		Low achievement	50	6.831	1.801		.05=1.980
5.	Elaborating	High achievement	50	6.224	1.045	2.6914	.01=2.617
		Low achievement	50	5.773	1.310		.05=1.980
6.	Summarizing	High achievement	50	6.912	1.001	2.697	.01=2.617
		Low achievement	50	6.361	1.781		.05=1.980
7.	Monitoring Comprehension	High achievement	50	6.399	1.450	2.047	.01=2.617
		Low achievement	50	5.985	1.410		.05=1.980

Table-2: The T Value Of ELS Between High And Low Achievement of Student of Arts Stream

S.N	ELS	Students of science stream	N	Mean on ELS	S.D. on ELS	t-value	Significance level
1.	Identifying important information	High achievement	50	6.415	1.025	6.821	.01=2.617
		Low achievement	50	5.433	1.011		.05=1.980
2.	Taking Notes	High achievement	50	6.207	2.551	6.5661	.01=2.617
		Low achievement	50	4.245	1.556		.05=1.980
3.	Retrieving relevant prior knowledge	High achievement	50	6.780	2.339	2.9302	.01=2.617
		Low achievement	50	5.915	1.801		.05=1.980
4.	Organizing	High achievement	50	7.914	1.019	4.0444	.01=2617
		Low achievement	50	7.081	1.790		.05=1.980
5.	Elaborating	High achievement	50	7.301	2.101	.6469	.01=2.617
		Low achievement	50	7.105	2.183		.05=1.980
6.	Summarizing	High achievement	50	7.001	2.015	7.4728	.01=2.617
		Low achievement	50	4.903	1.955		.05=1.980
7.	Monitoring Comprehension	High achievement	50	6.310	1.555	7.727	.01=2.617
		Low achievement	50	4.417	1.893		.05=1.980

Discussion of the Result

The research proceeds from observation to the conclusions and suggests the implications of the finding to other settings. The present research was focused to investigate the effective learning strategies in relation to achievement across the science and arts academic streams at secondary level. The objectives were formulated then analyzed and hypothesis wise results are being discussed below-

Science students belonging to high achievement have shown their preferences in favour of all the effective learning strategies. The reason being the highly achievement students are expected to possess greater insight and interest in their learning as compare to student of low achievement level. Science students of high achievement have more systematic, more particular, and more conscious in their performance. Therefore, they prefer to organize the study materials properly that will lead to preference for effective learning strategies as identifying important information, taking notes, retrieving relevant prior knowledge, organizing, elaborating, summarizing and monitoring comprehension. When students engage in study activities that help them organize information, they learn more effectively.

* After calculation of significance difference between two means, the 't' value 10.080 was found significant at both levels of significance (01. and .05 level). It means that high and low achievement level students of science stream have significant differences in their preference for 'identifying important notes' dimension of effective learning strategy.
* After calculation of significance difference between two means, the 't' value 0.6114 was not found significant at both levels of significance (.01 and .05 level). It means that high and low achievement level students of science have no significant differences in their preference for 'Taking notes' dimension of effective learning strategy.
* After calculation of significance difference between two means, the 't' value 7.1754 was found significant at both levels of significance (.01 and .05 level). It means that high and low achievement level students of science have significant differences in their preference for 'Retrieving relevant prior knowledge' dimension of effective learning strategy.
* After calculation of significance difference between two means, the 't' value 1.0188 was not found significant at both levels of significance (.01 and .05 level). It means the high and low achievement level students of science have no significant differences in their preference for 'Organizing' dimension of effective learning strategy.
* After calculation of significance difference between two means, the 't' value 2.6914 was found significant at both levels of significance (.01 and .05 level). It means that high and low achievement level students of science have significant differences in their presence for 'Elaborating' dimension of effective learning strategy.
* After calculation of significance difference between two means, the 't' value 2.697 was found significant at both levels of significance (.01 and .05 level).

It means that high and low achievement level students of science have significant differences in their presence for 'Summarizing' dimension of effective learning strategy.

* After calculation of significance difference between two means, the 't' value 2.047 was found significant at both levels of significance (.01and.05level). It means that high and low achievement level students of science have significant differences in their presence for 'Monitoring Comprehension' dimension of effective learning strategy.

* After calculation of significance difference between two means, the 't' value 6.821 was found significant at both levels of significance (.01 and .05 level). It means that high and low achievement level students of science have significant differences in their presence for 'Identifying Important Notes' dimension of effective learning strategy.

* After calculation of significance difference between two means, the 't' value 6.5661 was found significant at both levels of significance (.01 and .05 level). It means that high and low achievement level students of science have significant differences in their presence for 'Taking notes' dimension of effective learning strategy.

* After calculation of significance difference between two means, the 't' value 2.9302 was found significant at both levels of significance (.01 and .05 level). It means that high and low achievement level students of science have significant differences in their presence for 'Retrieving relevant prior knowledge' dimension of effective learning strategy.

* After calculation of significance difference between two means, the 't' value 4.0444 was found significant at both levels of significance (.01 and .05 level). It means that high and low achievement level students of science have significant differences in their presence for 'Organizing' dimension of effective learning strategy.

* After calculation of significance difference between two means, the 't' value .6469 was not found significant at both levels of significance (.01 and .05 level). It means that high and low achievement level students of science have no significant differences in their presence for 'Elaborating' dimension of effective learning strategy.

* After calculation of significance difference between two means, the 't' value 7.4728 was found significant at both levels of significance (.01 and .05 level). It means that high and low achievement level students of science have significant differences in their presence for 'Summarizing' dimension of effective learning strategy.

* After calculation of significance difference between two means, the 't' value 7.727 was found significant at both levels of significance (.01 and .05 level). It means that high and low achievement level students of science have significant differences in their presence for 'Monitoring Comprehension' dimension of effective learning strategy.

Conclusions of the Study

Conclusions regarding effective learning

strategies and achievement of science students.

* High and low achievement level students of science stream have significant differences in their preference for 'Identifying important notes' dimension of effective learning strategy.
* High and low achievement level students of science stream have no significant differences in their preference for 'Taking notes' dimension of effective learning strategy.
* High and low achievement level students of science stream have significant differences in their preference for 'Retrieving relevant prior knowledge' dimension of effective learning strategy.
* High and low achievement level students of science stream have no significant differences in their preference for 'Organizing' dimension of effective learning strategy.
* High and low achievement level students of science stream have significant differences in their preference for 'Elaborating' dimension of effective learning strategy.
* High and low achievement level students of science stream have significant differences in their preference for 'Summarizing' dimension of effective learning strategy.
* High and low achievement level students of science stream have significant differences in their preference for 'Monitoring comprehension' dimension of effective learning strategy.

Conclusions regarding effective learning strategies and achievement of arts students

* High and low achievement level students of science stream have significant differences in their preference for 'identifying important notes' dimension of effective learning strategy.
* High and low achievement level students of science stream have significant differences in their preference for 'Taking notes' dimension of effective learning strategy.
* High and low achievement level students of science stream have significant differences in their preference for 'Retrieving relevant prior knowledge' dimension of effective learning strategy.
* High and low achievement level students of science stream have significant differences in their preference for 'Organizing' dimension of effective learning strategy.
* High and low achievement level students of science stream have no significant differences in their preference for 'Elaborating' dimension of effective learning strategy.
* High and low achievement level students of science stream have significant differences in their preference for 'Summarizing' dimension of effective learning strategy.
* High and low achievement level students of science stream have significant differences in their preference for 'Monitoring Comprehension' dimension of effective learning strategy.

Limitations of the Study

In considering the results emerging from the analyses of our data it is important to mention that one is dealing with the inference

from the empirical data and therefore, the generalization appropriate only when made to population which it seems reasonably similar to one employed in the study. All the inferences are approximate, as all inferences are based on empirical data which by their very nature are characterized by some degree of unreliability and depend upon probability of estimate, all such findings pertain to human behaviour Greater confidence can be placed in the conclusion when they are applied to groups of for science and arts stream.

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Pedagogy and Classroom Processes: Reflections from a School in Ferozepur, Punjab

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ABSTRACT

This paper based on an ethnographic study explores the pedagogical practices and classroom processes within the Sikh Kanya Mahavidyalaya (SKM), a Senior Secondary School at Ferozepur, Punjab (India). It looks at the nature of pedagogic transaction at different stages of school education, teacher strategies and pupil strategies. Since pedagogy is linked to curriculum, the nature of curriculum largely decides the kind of pedagogy practiced. The attempt is to comprehend classroom processes that are integral to teaching and learning, schooling and the school situation since all such educational processes ultimately influence the educational experiences of the students. This paper suggests that teaching in the school is found to be oriented mainly towards preparation for examinations. What this means for pedagogy and classroom processes is important to study and examine. The study mainly uses classroom observations and interviews to focus on the school practices.

Key words: : Pedagogic processes, school culture, curricular transaction, classroom observation, rote-memorization, gender

School Culture: 'Instrumental Order'

The school culture reflected in this paper focuses upon what Bernstein calls the 'instrumental order' (Bernstein 1975: 38-39). This order nurtures behaviour essential for acquiring certain specific skills. It is more concerned with the process of 'formal learning'. The school tries to transmit various 'facts, procedures, practices and judgments that are essential for acquisition of certain skills' (Bernstein 1975: 38-39). These can be skills related to the humanities or sciences. These skills can be examined and measured through objective methods. The transmission of the instrumental order may be such that it may lead to distinction between groups of students. The pupils may be distinguished from one another on the basis of ability so that they are able to develop certain special skills. Thus, Bernstein calls this order as essentially "divisive in function" since it is a source of cleavage between pupils, and also between the staff on the basis of subjects taught, the age, sex, social class and stream of pupils. As the instrumental order dominates the school system, it results in the system becoming 'examination-minded' and also causes divisiveness in the social organization. The instrumental order is also socially situated affected by the technological changes happening in the society. New

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subjects may get introduced into the curriculum and the earlier ones usually forego their position. Even the means employed for the transmission of the instrumental order may undergo change. This may include teaching methods leading to instability within the school (Bernstein 1975: 38-39). As regards the SKM, since religious education is also transacted, besides secular education, the instrumental order gets shaped in specific ways.

Formal Curriculum: Implications for Pedagogy

The Sikh Kanya Mahavidyalaya is affiliated to the Punjab School Education Board. Punjabi is the first language and the medium of instruction. Hindi and English are second and third language for the students respectively. The core curriculum comprises of Sciences, Social Sciences, Mathematics, Languages (Hindi and English) (standard III onwards) and Punjabi (standard I onwards), Home Science and Physical Education. In standard XI, students choose any five subjects. The compulsory subjects are General English and General Punjabi. Electives include Elective Punjabi, Elective English, Economics, History, Political Science, Mathematics and Physical Education. In standard XII, students are required to also study Environmental Science. Pedagogic transaction differed at various stages of the school education, as discussed below.

Elementary Stage

In primary sections, it was observed that oral tasks were held as more significant than written work. Teachers thought that it was their responsibility to teach children basic etiquettes such as how to remain seated in the classrooms, how to seek permission to go out for water, and overall how to conduct themselves in the school surroundings. Such socialization was seen as essential for their becoming 'good students'. Early formative years were seen as important in building this foundation. The pedagogy followed basically was to repeat in chorus what the teacher said. Usually, in standards I and II, the teacher asked students to look at the primer (kaida) hung on the wall, identify and name alphabets of the Gurmukhi script or count numbers aloud. In language periods, teachers assigned essays for memorization and admonished students when they found out that students had not committed those to memory. Even in standard VIII, English period, as a 'method' memorizing was prioritized over free speech.

Values formed an integral component of the classroom transactions. Teachers thought that certain values were needed to nurture expected behaviour among the students. This included to wake up early, be obedient to parents, be fearful of God, be good and do well and speak truth. Students had memorized responses to questions posed by teachers and they recalled these in recitation mode. On being asked, the teacher told that it was to inculcate 'patriotic sentiments' among students to enable them become 'good citizens'.

The 'stick' was also a pedagogical tool. Using a long stick, teachers would call a student who had memorized a primer and pointed alphabets to the students and all repeated after him/her. Teachers tried teaching students how to write. During interviews, teachers clarified that adverse pupil-teacher ratio made it difficult for them to give attention to individual students. Questioning was predominantly used as a pedagogical tool where teacher posed questions and students replied based on their experiences. As discussed

below, the teacher wanted students to share their understanding of what weighing balance was used for.

Episode from classroom observation (Classroom Observation, standard I):

Teacher: What is weighing balance for? (Takdi kade lai hundi han?)

Student: It is to weigh vegetables (Sabzi tolde han)

Student: On one side, weights are kept and on the other side, articles to be weighed are placed (Ek passé bata rakhde han, taan ek pase saman rakhde han).

Teacher: Weighing balance is used to weigh objects (Saman nu tolan de kaam andi han).

Writing which was basically limited to copying was encouraged and students were given poems and chapters to copy from textbooks onto notebooks. Writing neat and tidy was emphasized (Classroom Observation standard II; standard III). In the last two years of primary school, the emphasis was on memorizing. Standard IV onwards, students were assigned pages, questions or chapters to memorize. Students often expressed difficulty in memorizing long answers from 'guides'. Teachers emphasized repeatedly that it was mandatory for the sake of examination.

In upper middle classes like standard VI, it was observed that in almost all subjects as soon as the class started the teacher assigned answers to questions to be memorized as class work. Teachers explained that since students did not come prepared from home to narrate these answers, they were made to sit in the class and do the same (Interviews, Teachers). The teacher instructed students to mark answers in their textbook. Students appeared more eager to recall short answers to questions in front of the teacher but were hesitant to do the lengthy ones. Teachers had evolved strategies to address students' discomfort in memorizing long answers by first giving short answers to rote-memorize. Making students memorize lengthy answers was considered to be a difficult task by the teachers. According to some teachers, in order to motivate students who avoided memorizing descriptive questions that included many points, they first gave short questions thought to be easy (sokhe) to memorize. They specifically stated that students should memorize these before proceeding to the longer ones (Interview, Teachers).

Secondary and Senior Secondary Stages

Teaching was based on memorization and recall, at the secondary stage as well. Most teachers repeatedly emphasized that rote memorization was important for good performance in examinations. In most periods, it was observed that the teacher gave work to memorize and used that time to check and return notebooks. Even in the Physical Education period, the teacher asked the students to memorize answers of chapters on 'personal health science and cleanliness'. Those students, especially boys, who showed unwillingness to memorize, were made to stand and memorize answers (Classroom Observations, standard VI). During class periods, students were expected to come roll number wise to recall the text aloud. Some students felt it was much like 'tuition class'. In fact, some of them felt more freedom in tuition classes rather than in the school where they were left with little chance to ask questions (Interview, Students).

Most students started taking tuitions from

primary classes onwards. Though tuitions were optional at the elementary stage but at the higher stages, they appeared compulsory to the students. Tuitions also served as a parameter for students' capability in some way. Most teachers thought that those students who could not afford tuition ended up as 'bad performers'. Students preferred tuitions since they felt teachers focused only on finishing the syllabus. During interviews, senior secondary students also underlined the role of peers in improving their academic performance. Charandeep and Randeep Kaur stated that two sisters Ralwinder and Manwinder helped them in comprehending difficult concepts. They considered such help the main factor in being able to secure good results (Interviews, Students).

Guide books (kunjis) had an important place in the learning process. Teachers preferred them since answers were readymade, brief and in simple language. For students, it was easy to remember. One teacher stated that 'guides' had main points of all chapters along with answers to questions given in the textbooks. She expressed disappointment that students who could not memorize long answers from textbooks could not even purchase guides, which had short and easy-to-remember questions.

Pedagogic methods were not usually expanded to draw experiences from the immediate surroundings of students. The decontextualized mode of transaction in the classrooms demotivated the students and made the content appear alien. It was also striking to see how far removed the context of what was being memorized was to the real lives of students. To illustrate, in standard VI, the teacher asked students to explain what constitutes a good house. A student recollected quite didactically what she had read from the guide that the passage to home should be clean and well-ventilated, how house should be built on a raised platform, with adequate drainage facilities, should be away from unpleasant locations like vegetable market, factory, railway station and cremation ground and should have a cooperative neighbourhood. However, in reality, most students who came from the near-by Kamboj neighbourhood basti lived in two to three room houses, had a vegetable market, cremation ground as well as railway station in vicinity. In their neighbourhood lived barbers (nai) from whom they maintained distance. This incident reminds us of Louis Dumont's theory of purity and pollution interspersed with the caste system. The degree of purity and pollution determines the hierarchy of castes. Such a hierarchy plays an important role in deciding the requisite distance among various castes (Dumont 1980).

The students were made to read aloud in the class to assess their reading proficiency. Those adept at reading were 'leaders' for others lagging behind in this skill. In primary sections, oral tests were predominant. In the later stages, written tests comprised of fill in the banks, multiple-choice questions, brief and descriptive questions, true and false statements. These were mostly taken from the guide. Across classes, as homework and class work, the teachers assigned the students certain questions and answers of chapters for memorization. As a class-period started, teachers assessed how far the students, through various methods, could recall after mugging up. Oral rather than written tests were quite frequent since many students faced difficulty in written expression.

Pedagogy of Social Sciences

The universal principle of memorization informed the pedagogy of diverse subjects in the school and led to fading of boundaries among various disciplines. Social Sciences develop the ability to understand social processes and social systems. They nurture skills of inquiry, decision-making and problem-solving. The transaction of Social Sciences such as History, Political Science and Geography was found oriented to ensure good performance in the examinations. The comprehension and appreciation of the specific subject was hardly encouraged. The teaching often was actually like revision, yet chapters in the textbooks were not read out. Each chapter reading began from the guide book (also called guide) itself and students were expected to memorise the answers (Interviews, Students).

Though Geography is about space and involves use of maps and globes but in the class, the teacher hardly ever used any such resources. It was observed that the teacher asked what was meant by the map and the globe. When some students could not remember, for instance, what was the purpose of referring to maps or distinction between various kinds of maps, the teacher rather than explaining asked them to go back to their seats and recollect (Observation, standard VIII). In most classes, it was observed that the teachers entered the classroom and took hold of these 'guides' to question students and shared with them tricks on how to memorize without faltering.

As observed in the Social Science period, the teacher asked questions on chapter titled 'Constitution and Law'. She asked meaning of concepts like 'Constitution', 'Law' and 'Fundamental Rights and Duties'. Meanwhile, the students sat and tried to memorize answers to these questions. First, in pairs students told answers to one another. Then, they asked the teacher if they could narrate the answer to one of the above questions. The teacher called them turn-wise while she sat with the reference-book. On being asked about ban on liquor, a girl volunteered to answer. While recalling, she forgot mid-way and only said that drinking liquor is bad. When this girl could not remember what she had memorized, drawing from her experience, she stated how alcoholism is a malaise. In Ferozepur district, drug abuse and addiction are widespread. The students in their families and outside witnessed how due to habitual in toxication people were unable to perform their daily chores (Classroom Observation, standard VIII).

In the History period, the teacher asked the students to memorize answers of forty short questions on 'Delhi Sultanate' from the reference book. When she asked students to close these 'guides' and answer her questions, they still wanted to read it again and memorize the answers. After some gap, the teacher started asking questions and the students raised their hands to answer. Some questions, for instance, about Qutab Minar was asked from two-three students. The students who answered in their own words were asked to adhere to the guide. Around four-five questions were given to read. Later, the teacher gave them time to memorize answers from the examination point of view (Classroom Observation, standard XII).

Episode from Classroom Observations, Political Science (standard XI)

(All chapters are given in the form of question and answers in the guide-book.

Teacher asks questions pinpointing to the students. They get up from their seats to read aloud the memorized content staring blankly)

T: What are our rights and duties?

T: What is meant by the study of power and authority?

(The student who replied to the previous question again states the answer)

(Students read aloud the normative approach to the study of Political Science)

T: Who is a philosopher?

Student: One who imagines.

Often, the teacher was heard remarking that of all only a few students recalled oral answers well. After having given time to these students, the Social Studies teacher asked with disappointment 'have you still not memorized the answers?' (Classroom Observation). Some teachers observed especially with respect to girls that due to heavy engagement with the household chores, they were not able to perform well in examinations (Interviews).

Pedagogy of Language

Language plays an important role in identity-formation and crystallization. Language learning process is spontaneous and gradual. It also helps in developing concepts of other disciplines. Lack of proficiency in language not only leads to inability to express thoughts, behaviour and actions but also makes the understanding of thematic concepts difficult. Language learning periods, as observed, were about acquainting students with grammar and essay writing. Here again, the method was memorization. Listening, Speaking, Reading, Writing (LSRW) skills need attention. Listening and speaking skills were hardly developed because of which the students hesitated to speak while recalling memorized answer. It was quite incomprehensible because the students spoke fast and the teachers had "to ask them to be slow". The teacher also cross-checked with the guide if answers were correct (Classroom Observation, Standard XII).

Students learn by vocally reflecting and sharing on their lives. However, memorizing was seen as the only strategy that could enhance learning outcomes. In standard VI, the teacher asked students to memorize essays on 'Indian farmer' and 'postman' from the reference books. Student experiences were neglected and complete dependence on such guides showed that the teacher did not rely on the knowledge of students as well as of her own. Almost all the students were engaged in farming as a subsidiary family occupation. In some cases, it was the main economic activity of the family. Even then, students uniformly memorized from the book the main points that defined a farmer (Classroom Observation, standard VIII, English). The teachers usually assigned memorization tasks to the students and used that time to correct notebooks. Memorization was ensured through the process of making students copy (uttaro) from the main text to their notebooks. In Hindi period, girls were asked to memorize poems by Subhadra Kumari Chauhan- 'Rakhi ki Chunauti (Challenge of Rakhi)' and by Dr. Yogendra Bakshi- 'Mein bhi padhne jaungi' (I too will go to study) while the teacher corrected notebooks of students. Having checked all, the teacher then asked the students to neatly copy (uttaro!) the text. In English period, the teacher assigned a poem 'Open the eyes and see thy God' by Rabindranath Tagore for memorization. Students memorized the central idea of the poem along with the answers.

After memorizing, some wrote those answers in the notebooks. They then asked questions from one another to check how much they could remember. From pairs to rows, they crosschecked to ascertain errorless recollection of answers. This also shows how peers were quite helpful in extending help across various classes. The examination mode expected that students were able to reproduce the full texts of poems (Classroom Observation, standard VIII, Hindi).

Reading was limited to being able to read answers from the guide. It was not even about reading textbooks, storybooks and other such literature. Students found reading much more difficult than memorizing, claimed some teachers. However, the teacher felt that due to reading of chapters much of the study time was lost (padaich time bada janda ha!). Students though showed interest in reading. In standard IX, it was noticed that the students wanted to be allowed to read the chapter. The role of peers in helping to read was striking. Those students who knew how to read helped others who faced difficulty in reading (Classroom Observations).

Writing serves to enhance creative expression often resulting in the building of linguistic ability. In early grades, writing skill was developed unevenly among the students. Only a few students could write. The standard I teacher said "focus was more on oral learning since students barely could write much" (Interview). Writing was not to gain ability to express with creativity but to be able to write with neatness and beauty. Students were scared of writing untidy and getting punished by the teachers. In this school, it was observed that writing was limited to beautifully present the text (sona-sona likh!) and not make it untidy (ganda na likhi). In standard II, the teacher asked students to open the chapter on 'birds' in their textbooks. As instructed, the students started copying this poem line by line onto their notebooks. She asked a few students if they could neatly write Gurmukhi alphabets.

Writing was also seen as a medium to memorize. Teachers believed that by copying answers from the reference books in notebooks students could memorize better. For those who found it difficult to orally memorize, for instance in standard IX, Physical Education period, the teacher suggested that they should memorize by "writing answers" (Likhke yaad karo!) (Classroom Observation). Writing was mostly about copying questions from the textbook and answers from the guide.

Pedagogic Processes

The education transmitted in the classroom context was decontextualized as discussed earlier. Themes that concern everyday life were transacted without drawing a connection with the daily lives of students. The teacher appeared oblivious of linkages with realities of students' lives and thus limited these to the ideal situations mentioned in the textbook. Since such knowledge was alien to the students, they had to memorize to commit it to memory.

Rote-Memorization

'Yaadkitta' is the Punjabi verb for 'memorizing', 'recollecting' or 'recalling'. Sarangapani (2003) in her ethnographic study of the Government Boys' Primary school in Kasimpur, a village in Northern India, states that memorizing is considered a significant task of the 'epistemic community', that is, school (Holzner 1968). Learning thus is about knowing how to memorize in a better way (2003: 164-165). The teaching community in SKM

believed that, by this method, students were able to learn or gain knowledge. The process of 'yaadkitta' meant acquiring that essential knowledge. One of the primary teachers in SKM stated that 'intelligence quotient' (IQ) of the students was unsatisfactory implying memorization method was necessary.

Sarangapani (2003: 164) discusses how padhna (reading) was often used to ensure that students memorize the text. However, seekhna (to learn) was hardly used when asking students to gain knowledge. Even reading for that matter was not as much emphasized and students were seen pretending to read though they actually recalled the text from memory. In SKM, teachers repeatedly asked students 'to study' that meant 'to remember'. Memorizing when unpacked referred to a range of practices that were in accordance with teacher expectations. For instance, teachers wanted to ensure that memorization should be 'full-proof without any gaps'. Time was used to discipline behavioural aspects as is discussed below. They were heard telling in the class: "memorize quickly" (fatafat yaad karo), time-bound memorization like "memorize in five more minutes" (yaad karo panj minute han hor thode kol), "memorize total twelve questions for tomorrow" (total barah question yaad karke aao), "first tell answers you remember, then memorize the remaining" (Pehlan jo yaad ho gaye oh suna deyo), "to stand up and memorize" (khade hokey yaad karo!). In standard XI History period, students were expected to remember historical names and events (naam taan yaad karne paine han). If a student could not recall answer, then teacher asked her "have you not memorized well?" (changi tarah yaad nahin kitta?). In many standards, as soon as teacher entered the class, she asked students to open guides and memorize some questions. The teachers repeatedly said "we have to ask students to memorize answers to questions in the class since they did not finish at home" (Classroom Observations).

Almost all school time was devoted to cramming of answers from guides. The first step was to enable students to remember answers keeping open reference books in front and later asking them to keep books closed and recollect (Classroom Observations, standard XI, History). Teachers felt that it was their prerogative to ensure that students could memorize answers. If students, could not owing to domestic preoccupations, then they motivated them to do it for the sake of examinations. Like in standard X, the Social Studies teacher said "in the absence of pressure exerted, students would do nothing" (Interview).

The teachers wanted students to memorize answers mentally by keeping the mouth shut. Students tended to memorize answers. Any abrupt asking of questions confused them. Thus, often they wanted the teacher to follow the sequence. In standard X, Social Studies period, in order to test memorization teachers sounded out to the students that they would randomly solicit answers to the questions (Classroom Observations).

Sarangapani (2003) notes how memorization happened separately or among pairs of students. It was interesting to note that middle stage onwards, teachers were seen asking students to first tell their peers the memorized answer and come to them only later. This was the strategy adopted to gain expertise in learning. If students while telling memorized answers tried to look at the

textbook, then teacher sometimes ridiculed them 'for not being confident about having memorized the answer'. The students in the front seats were prompt in answering questions and were often hand-picked by the teachers. However, the back rows hesitated to answer and got extra time to memorize. Teachers were heard asking: 'Have those students at the back not yet memorized answers?'

While students were busy memorizing answers, humming sounds reverberated in the room. Students mostly learnt the answers directly from the 'guide'. They moved back and forth on seats while trying to mug up. Each day most of the study time was used for rote memorization of question-answers, poems, summaries of stories, alphabets and counting, problem-solutions, among others. To illustrate, in standard XI History period, the teachers expected students to be efficient in memorizing short objective type questions. If students were unable to do so, she expressed disappointment (nikke-nikke question vi nahin suna pande han). They were heard complaining how students avoided having to remember and recall essay-type long questions (Classroom Observations).

It was observed that students often forgot to bring textbooks to the school. As soon as the teacher entered the classroom, she expected students to utilize time by memorizing answers of the given chapter. She gave five-ten minutes to the students by asking them to 'memorize fast'. She took a few rounds of the class to examine whether all students with open books were committing the text to memory or not. Memorizing students moved back and forth on their seats as if trying to 'digest' the information they were reading. After having read, the teacher expected the students to 'speak' the memorized text aloud. She randomly picked up students to come to her table to recollect while she tallied their responses word-by-word from the guide (Classroom Observation, standard VI to IX). Teachers also wanted students to orally state answers in particular, for instance in standard XII History period, she wanted them to 'start well', which meant starting from the point from where the question started and then continue to give the answer. The teacher also wanted students to give an introduction to the answers.

Many times, students came to the teacher to recall answers but forgot mid-way. They tried various tricks to remember the answer. They looked at their friends or rubbed their heads or tried to recollect code-words useful in memorizing. They also looked at the teacher to provide some cues so that they could continue. Some teachers like that of standard IX sent them back to memorize well again and then come back fully prepared. While others like the teacher of standard XI kept on giving them cues trying to assist them in recalling till they themselves suggested that they wanted to memorize further. In standard X Social Studies period, the teacher asked students to come and recite answers aloud of the chapter of their choice that they had memorized. After having memorized, students ran towards the teacher lest they forgot. Teacher also instructed them to run towards her immediately after memorizing answer.

Gender in School

Though students contributed immensely to farming and household tasks yet girls were relegated to subordinate positions in the family's authority structure. The patriarchal head of the family assumed the dominant position and the mother along with daughters complied. During visits to homes of students,

it was observed that girls seldom shared the same space with the father or expressed opinions in the presence of their parents. They remained confined to the kitchen or sat quietly with the mother. In certain cases, fathers silenced mothers not allowing them to state opinions or comments in response to queries. Similarly, the otherwise chirpy naughty girls were noticed to be serious in the presence of the family members at home (Field notes).

In such an environment of domination, it is interesting to ask how students developed their own space of expression and reflection. Like at home, in the school also, they lived monitored and controlled lives. Which domains provided them space to expand and grow? Sports were important in providing them opportunities. It channelled their energy and brought focus into their lives. Many girl students were fond of playing hockey and volleyball. They started practicing as soon as they came to the school. Of those who excelled, some represented the school at the zone, district and state levels. Interaction with girls from other districts enabled them to share life-experiences to draw strength. For instance, those students who excelled in volley-ball won accolades which did boost their confidence. They became determined to move professionally ahead in life after finishing their schooling. Almost all standard XII students expressed the desire to be financially independent and gainfully employed but some students felt inhibited by social obstacles like early marriage that hindered their professional growth.

During group discussions, most girls opined that due to inequality in educational opportunity they were unable to achieve success in professional lives. They felt that as daughters they were empathetic towards parents more than their brothers who were just socialized to stay pampered. Students expressed that they wanted to be financially independent to support their parents and run their household. Many girls disliked the social norm related to 'right age of marriage' that posed problem in fulfilling career-related aspirations. They disapproved of parents bearing huge expenditure in the ritual of marriage. They remained indebted for all that their parents did and wanted to pay back in some form. Though their brothers were not keen to study yet the parents pleaded and pushed them to gain professional education at any cost unlike the daughters who though capable were refused financial support to pursue higher education. As paraya dhan (alien property), they had to migrate to another family and yield fruits of prosperity in their matrimonial homes. Some students of standard XII stated that girls progressed by acquiring education while boys mostly succumbed to drug addiction in this border-district (Interviews).

Conclusion

Pedagogy and classroom interactions in the SKM reveal how school practices shape student experiences. Teachers often expect students to act in desired ways. Students while conforming construct their own meanings and devise strategies to decode the system. The paper has summarised the pedagogies adopted in various disciplines and has tried to provide a glimpse of the classroom situations. Recall/ memorization seems to be the preferred way to acquire knowledge across subjects. The students get socialized to remain docile and passive for that is what they perceive the system demands. The SKM is an example of how larger societal practises affect the schooling system and process in India.

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Comparative Study of Thinking Strategies of Primary Level Students of CBSE Board and Basic Shiksha Parishad

Dileep Mishra*

ABSTRACT

The present study will be helpful for the Primary school boys and girls students. Objective of the study is to compare the thinking strategy of girls students of CBSE Board and boys & girls students of Basic Skiksha Parishad. For the present study the investigator had selected 120 students (30 boys and 30 girls) from CBSE & Basic Shiksha Parishad have been selected from the population. The research selected the thinking strategies test developed by Swarup Mehra. Researcher concluded that girls and boys students of Basic Shiksha Parishad better than CBSE Board.

Key words: Thinking Strategies, Primary level, CBSE Board, Basic Shiksha Parishad.

Introduction

A country future depends upon this that how much the strong organization of the education is in that country. If the education organization is quite good and his according to the present expectation, then definitely the probabilities of development would be strong. In a country of society literacy is much more, the public of the country will be quite awaken and progressive. The form of education and education organization in that country depends upon the fact that how is the condition of the education institution. In India, after independence the position of education to be taken in good direction and better condition, time and again many efforts have been made.

Children are the future of the country and the future builder. If the children are ignorant and uneducated the future of the country and the society will be in the dark. Even today there are 5 corer children who are uneducated.

The primary education is the basis of each society, country and individual. Primary education for the children is just like the foundation of a building. If the foundation of these children is strong that defiantly the building structure will be stable and quite strongly.

The famous educationist "CARTER V. GOOD" defining the primary education as written that the primary education school

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educates 1 2 3 classes, where in the chief basic crafts education is given and is given stress upon the development of those social aptitudes which are very essential for the public life. In this definition basic crafts and social aptitudes have been discussed.

The efforts of those social aptitudes are made through education are dignity of manual labor, idea, scientific attitude, the whole world family idea etc). For the development of these aptitudes, at least 5 and 6 years education has been regarded very essential. There for people of one say that primary education means that education which is given to the children just from 5-6 years age up to 10 and 11 years of age and where in 3R's reading writing and arithmetic are given chief stress.

From the analysis, the study matter of the observation. It clarifies the environment in CBSE and basic education school up to primary level classes is quite different. The CBSE schools' students acquire education through projectors, educomp, computers new technology and new education methods of teaching. On the other hand the basic education students on primary level are acquiring education according to the old methods. In CBSE School students bring lunch to school under able guidance of their teachers on the other hand there is total unawareness of this practice in basic education schools. In the sphere of teachers there are considerable differences between the types of schools. Under basic education schools the teachers having highly suitable degrees of education cannot use effective methods of teaching and learning due to scarcity of resources. In the present times many changes exist, the teachers are compelled to employ the old and harkening methods. On the other hand it is quite different from the basic education school the CBSE school teachers employ new technologies, new means and new methods. On this basis the teachers give effective teaching and learning. The medium of CBSE board language and the curriculum fully help the students in the present age to adjust and make progress very well. On the other hand the basic school students realize themselves quite helpless and incompetent in respect of CBSE schools. The important question is whether the CBSE and basic schools there is a difference in the educational and physical resources of primary level keeping this in mind the researcher selected this problem.

Statement of the Problem

"Comparative study of thinking strategies of primary level students of CBSE board and Basic Shiksha Parishad"

Definition of Technical Words

Thinking strategies- Strategic thinking is defined as a mental or thinking process applied by an individual in the context of achieving success in a game or other endeavor. As a cognitive activity, it produces thought.

Primary level- a primary or elementary school is a school in which children receive primary or elementary education from the age of about 5 to 11, before coming into secondary school and after pre schooling

CBSE board- the central board of secondary education is the board of education of public and private schools, under the union government of India.

Basic Shiksha Parishad- Basic education refers to the whole range of educational activities taking place in various settings (formal, non-formal and informal), that aim to meet basic learning needs.

Objectives of the Study

The study was aimed at the following objectives:

* To compare the thinking strategy of girls students of CBSE Board and boys students of Basic Skiksha Parishad
* To compare the thinking strategy of boys students of CBSE Board and girls of students of Basic Skiksha Parishad

Hypotheses of the Study

The present research was conducted to test the following hypotheses:

* There is no significant difference in the thinking strategy of girl students of CBSE board and boy students of Basic Shiksha Parishad
* There is no significant difference in the thinking strategy of boy students of CBSE board and girl students of Basic Shiksha Parishad

Delimitations of the Study

* The study will be confined to Meerut city only.
* The study will be confined to CBSE Board and Basic Shiksha Parishad of Meerut city only.
* Only 5th standard students of primary level will be involved in the research.

Method of the Study

The researcher will use the analytic survey method in this research.

Population of the Study

A researcher has taken primary level (boys and girls) students of CBSE board and Basic Shiksha Parishad of the Meerut City

Sample of the Study

Overall there will be 30 boy students and 30 girl students (60 students) from 10 CBSE schools and 30 boy students 30 girl students (60 students) from 10 Basic Shiksha Parishad which finally amount to 120 students in total.

Sampling Technique

Simple random sampling method was used to select sample of the study.

Tools to be Used

The tool included in my research work is standardized thinking strategy test developed by Swarup Mehta.

Statistical Techniques to be used

The researcher will used Mean, median, mode, standard deviation (SD) and T-Test is used in the study to find the final result.

Analysis and Interpretation of Data

Table-1: To compare the thinking strategy of boys student of Basic Shiksha Parishad (BSP) and girls student of CBSE Board

Factors		Total no. of students	Average score	Standard Error of Deviation	T-valve	Significant result
Memory	Boys BSP)	30	20.36	1.23	0.97	*
	Girls (CBSE)	30	21.56			No
Concept development	Boys (BSP)	30	15.98	0.92	0.56	*
	Girls (CBSE)	30	16.5			No
Reasoning	Boys (BSP)	30	22.08	1.12	2.01	**
	Girls (CBSE)	30	19.83			Yes
Problem solving	Boys (BSP)	30	18.7	1.15	1.27	*
	Girls (CBSE)	30	17.23			No
Total	Boys (BSP)	30	79.13	2.99	1.33	*
	Girls (CBSE)	30	75.13			No

Df=58, Significant level *0.05 **0.01 table value *2.00 **2.66

By the means of above table no.1, researcher has done the analysis through objective no. 1 'To compare the thinking strategy of boy students of Basic Shiksha Parishad (BSP) and girl students of CBSE Board' and hypothesis no.1 in which calculation of significant difference is found between the boys students of Basic Shiksha Parishad and the girls students of CBSE Board. For this T-value is calculated by finding the standard error using mean and standard deviation on various factors of thinking strategy for boys students of Basic Shiksha Parishad and girls students of CBSE Board at df=58. The calculated T-value for memory=0.97, concept development=0.56, reasoning=2.01, problem solving=1.27 and combined value of all the factors is found to be 1.33. The table value of T-test at df=58 and significant level *0.05 and **0.01 are *2.00 and ** 2.66, on the basis of which the calculated T-value for all the factors except reasoning factor is found to be less than the table value. Hence the null hypothesis is accepted partially.

On the basis of above analysis researcher concludes that there is no significant difference between the thinking strategies of boys students of Basic Shiksha Parishad and girls students of CBSE Board. No significant difference is found, except for the reasoning factor of thinking strategy. Significant difference is found between the boy students of Basic Shiksha Parishad and girl's students of CBSE Board for reasoning factor and also the thinking strategy of boy's students Basic Shiksha Parishad is found to be of high level.

Table-2: To compare the thinking strategy of girls student of Basic Shiksha Parishad (BSP) and boys student of CBSE Board

Factors		Total no. of Students	Average Score	Standard Error of Deviation	T-valve	Significant Result
Memory	Girls (BSP)	30	22.73	1.27	1.20	*
	Boys (CBSE)	30	21.2			No
Concept development	Girls (BSP)	30	16.8	0.96	0.36	*
	Boys (CBSE)	30	17.15			No
Reasoning	Girls (BSP)	30	20.85	1.25	1.13	*
	Boys (CBSE)	30	19.43			No
Problem solving	Girls (BSP)	30	19.2	1.2	2.78	**
	Boys (CBSE)	30	15.86			Yes
Total	Girls (BSP)	30	79.58	3.08	1.92	*
	Boys (CBSE)	30	73.65			No

Df=58, Significant level *0.05 **0.01 table value *2.00 **2.66

By the means of above table no.2, researcher has done the analysis through objective no. 2 'To compare the thinking strategy of girl students of Basic Shiksha Parishad (BSP) and boy students of CBSE Board' and hypothesis no.2 in which calculation of significant difference is found between the girls students of Basic Shiksha Parishad and the boys students of CBSE Board. For this T-value is calculated by finding the standard error using mean and standard deviation on various factors of thinking strategy for girls students of Basic Shiksha Parishad and boys students of CBSE Board at df=58. The calculated T-value for memory=1.20, concept development=0.36, reasoning=1.13, problem solving=2.28 and combined value of all the factors is found to be 1.92. The table value of T-test at df=58 and significant level *0.05 and **0.01 are *2.00 and ** 2.66, on the basis of which the calculated T-value for all the factors except problem solving factor is found to be less than the table value. Hence the null hypothesis is accepted partially.

On the basis of above analysis researcher concludes that there is no significant difference between the thinking strategies of girls students of Basic Shiksha Parishad and boys students of CBSE Board. No significant difference is found, except for the problem solving factor of thinking strategy. Significant difference is found between the girl's students of Basic Shiksha Parishad and boys students of CBSE Board for problem solving factor and also the thinking strategy of girls students Basic Shiksha Parishad is found to be of high level.

Conclusion

It is found that the thinking strategy of girls and boys students of Basic Shiksha Parishad is found better than boys and girls students of CBSE Board. This may be due to highly qualified teachers, stability and job security, relax and tension free mind, motivation given to students with prize distribution, awareness by community work and environment of Basic Shiksha Parishad schools.

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