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Editorial

Education is a continuous and lifelong process which includes the effect of everything that influences personality. The aim of education is the harmonious and all-round development of the educand. According to the Psychologist James Drever, "Education is a process in which and by which. knowledge, character and behaviour of the young are shaped and moulded". The educator plays a main role to modify the behaviour of the learner and to ensure the all-round development of the learner.

Education needs to be rational, scientific and skill-oriented to equip the younger generation with a sound knowledge base and with life skills needed for self management. If education is creative, imaginative and innovative, the educated become creative and innovative which help them in contributing towards societal and national development. In building a better nation, educators will have to play a prominent role.

The articles in this issue focus on the topics such as creativity, social maturity, decision-making skill, scientific temper, attitude towards disaster risk reduction, attitude towards equitable standards in education and other such vital issues. It is hoped that the articles here would certainly inspire researchers and educators in terms of research and information gathering.

*With Regards
Editorial Board*

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ATTITUDE TOWARDS DISASTER RISK REDUCTION AMONG HIGHER SECONDARY STUDENTS

* Ramachandran.R.A

** Prof. (Dr.) Bindu R.L

ABSTRACT

India is a developing country vulnerable to a variety of natural disasters. Cyclones are the most common and often deadly natural calamities that the country suffers, including river floods, landslides, drought, and coastal erosion. Kerala is dealing with a slew of environmental issues daily, which has resulted in a slew of natural disasters. During disasters, children are the most vulnerable part of the population because they typically lack access to information. Disaster risk reduction is a systematic technique for identifying, assessing, and mitigating disaster risks. This paper investigates the attitude towards disaster risk reduction among higher secondary school students. The investigator adopted normative survey method for conducting this study. The participants were 200 higher secondary school students from Thiruvananthapuram district. The data was collected using an attitude scale for disaster risk reduction. Statistical techniques used in the present study were descriptive statistics and t-test. The findings of the study showed that majority of the higher secondary

school students have an average level of disaster risk reduction. The investigator also found that rural students had favourable disaster risk reduction than urban students.

Keywords: *Disaster, disaster risk reduction, higher secondary students.*

INTRODUCTION

India is a developing country which is vulnerable to a variety of natural disasters. Cyclones are the most common and often deadly natural calamities that the country suffers including river floods, landslides, drought, and coastal erosion. Kerala is dealing with a slew of environmental issues often, which has resulted in a slew of natural disasters.

Disaster risk reduction is a systematic technique for identifying, assessing, and mitigating disaster risks. Its goal is to lessen socioeconomic disaster vulnerabilities while also coping with the environmental and other dangers that cause them.

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NEED AND SIGNIFICANCE OF THE STUDY

During disasters, children are the most vulnerable group of the population because they typically lack access to information. As a result, individuals lack the knowledge and abilities necessary to protect themselves and make sound judgments in these trying times. Education is thought to have a strong link to catastrophe awareness (Muttarak & Lutz, 2014). It allows for the broadcast of current disaster-related information and the development of human capability. (Takahashi et al. 2015).

Schools can give children the information they need, such as knowledge, skills, attitudes and values, to help them face environmental concerns. As a result, several countries have included Disaster Risk Reduction (DRR) in school curricula. It ensures that the educational system continues to evolve positively and that all students have access to high-quality education. One of the most pressing concerns facing modern civilization is the role of education in creating catastrophe risk reduction abilities in children and adults. Hence the present study is entitled ‘Attitude towards Disaster Risk Reduction among Higher Secondary School Students’

OBJECTIVES OF THE STUDY

1. To determine the level of attitude towards disaster risk reduction of higher secondary students.
2. To find out whether there is significant difference in the mean scores of attitude towards disaster risk reduction of higher secondary students based on locale of residence.

3. To find out whether there is significant difference in the mean scores of attitude towards disaster risk reduction of higher secondary students based on optional subjects.

HYPOTHESES OF THE STUDY

1. The level of attitude towards disaster risk reduction in higher secondary students is average.
2. There is significant difference in the mean scores of attitude towards disaster risk reduction of higher secondary students based on locale of residence.
3. There is significant difference in the mean scores of attitude towards disaster risk reduction of higher secondary students based on optional subjects.

METHODOLOGY IN BRIEF

Method adopted

The investigator adopted normative survey method for the study

Sample

The investigator selected 200 higher secondary school students from Thiruvananthapuram district for the present study. The sample was selected using cluster sampling technique.

Tool used

The investigator used a scale of attitude towards disaster risk reduction for the present study.

Statistical techniques used

The following are the statistical techniques used for the study

- 1) Descriptive Statistics
- 2) t test

RESULTS AND DISCUSSION

Table 1

Level of Attitude towards Disaster Risk Reduction of Higher Secondary School Students

| Level | N | Percentage |
|---------|-----|------------|
| High | 42 | 21 |
| Average | 126 | 63 |
| Low | 32 | 16 |

From table 1, it is clear that 21 % of higher secondary school students have a high level of attitude towards disaster risk reduction, 63% of higher secondary school students have an average level of attitude towards disaster risk reduction, and 16% of higher secondary

school students have a low level of attitude towards disaster risk reduction. Hence the investigator concluded that the level of attitude towards disaster risk reduction of higher secondary school students is at average level.

Table 2

Test of Significance of Difference between the Mean Scores of Disaster Risk Reduction of Rural and Urban Higher Secondary Students

| Gender | Sample size | Mean | S. D | C.R | Level of significance |
|--------|-------------|-------|------|------|-----------------------|
| Rural | 103 | 78.31 | 5.72 | 2.60 | 0.01 |
| Urban | 97 | 75.81 | 7.85 | | |

From table 2, it is clear that there is a significant difference in the attitude towards disaster risk reduction of rural and urban students at 0.01 level (C. R = 2.60). By

comparing the mean scores, it is concluded that rural higher secondary students had a favourable attitude toward disaster risk reduction than urban higher secondary students.

Table 3

Test of Significance of Difference between the Mean Scores of Disaster Risk Reduction of Higher Secondary Students of Science and Non-Science Subjects

| Optional Subjects | Sample size | Mean | S. D | C.R | Level of significance |
|-------------------|-------------|-------|------|-------|-----------------------|
| Science | 106 | 77.18 | 6.50 | 0.175 | NS |
| Non-Science | 97 | 77.01 | 7.32 | | |

From table 3, it is clear that there is no significant difference in the attitude towards disaster risk reduction of higher secondary

students of science and non-science subjects (C.R=0.175).

FINDINGS OF THE PRESENT STUDY

1. The level of attitude towards disaster risk reduction among higher secondary students is at average level.
2. Rural students have favourable attitude towards disaster risk reduction than urban students.
3. Science subject students and non-science of the students do not differ in their attitude towards disaster risk reduction.

CONCLUSION

Education is thought to have a strong link to catastrophe awareness. Disaster risk reduction is a systematic technique for identifying, assessing, and mitigating disaster risks. The present study investigated the attitude towards disaster risk reduction among higher secondary students. The overall outcome of the study shows that higher secondary students have an average level of disaster risk reduction, rural students have a higher attitude towards disaster risk reduction than urban students. No significant difference was noted in the attitude towards disaster risk reduction of science and non-science students. The findings of the present study are important to teacher educators, curriculum planners and school students. They provides guidelines to take necessary steps to provide sufficient awareness and skills about disaster risk reduction.

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SCIENTIFIC TEMPER AMONG SECONDARY SCHOOL STUDENTS

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ABSTRACT

The purpose of the study was to assess secondary school students' scientific temper. The study was conducted on a sample of 160 secondary students from Kollam district in Kerala. The tool used for the study was Scientific Temper Test which is a standardised instrument that measures scientific literacy, scientific perception, and scientific habits. The data were analysed using descriptive and inferential statistics. This study employed statistical techniques such as mean, standard deviation, percentage analysis, and the test of significance of differences between means of samples to analyse the data. The findings of the study showed that secondary school students had a moderate level of scientific temper. The scientific temper of secondary school pupils did not vary significantly by gender.

Key words: *Scientific temper, scientific literacy, scientific perception, scientific habits, science education, secondary school students.*

INTRODUCTION

In human civilisation, science is one of the pinnacles of human intellect. A person is said to have a scientific temper if he/she makes everyday choices scientifically. This entails regularly monitoring and confirming a fact before formulating a hypothesis.

Religion and Science are opposing streams of awareness. They don't meet in the middle. It is impossible to use reason to study religious texts that support these concepts since religious beliefs cannot be tested. Even today, people dispute whether the Bhagavad Gita includes scientific ideas that explain nature better than general relativity and quantum physics. India's restricted scientific temper is a concerning factor for our growth.

Scientific literacy is an essential aspect of scientific temper. It is a mix of emotion and money. These sentiments and thoughts are characterised by curiosity, correctness, genuineness, persistence, wonder, adoration, and humility. Nonetheless, these ideas and beliefs are based on knowledge and a desire to learn more. Science-related habit is the polar

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opposite of science-related temperament. A person with a scientific habit thinks that every activity has a scientific basis. Openness to new ideas is a scientific habit of mind. Scientific habit of thinking is devoid of conservatism, superstition, and a restricted, dogmatic, severe viewpoint. A person with a scientific perception seeks for the underlying cause or fundamental source of an event. Nothing can be believed without proof. The capacity to apply scientific knowledge, the ability to use scientific inquiry, and a curiosity about new developments are subcomponents of scientific literacy. Scientific perception is the capacity to critically analyse and assess what one perceives.

NEED AND SIGNIFICANCE OF THE STUDY

Everyone has a role to play in improving society. Individual expertise is essential to protect the group in a pandemic. With the assistance of another contemporary technical creation, social media, false news has helped maintain tradition, superstition and illogical views. In recent research, illiteracy and a lack of knowledge have been linked to delaying government activity. The efforts taken to help individuals in need during the pandemic period show a lack of scientific temperament, humanistic vision, or spirit of inquiry and change.

Since religious beliefs cannot be examined, reason cannot be investigated by the sacred texts that support these ideas. With an enquiring mind and scientific temperament, one may attempt to remove old limits and preconceived notions, relying on reason and logic rather than authority. As a result of

society's dynamic character, the main requirement envisaged here is an all-encompassing solution. Illumination aims to enlighten everyone, not only the wealthy and the educated.

Nautiyal and Ritu (2017) studied gender, caste, graduation subject group, and academic accomplishment. Joshua (2015) investigated the effects of a scientific temper package on secondary school students' cognitive and behavioural factors. Science Temper Package surpasses Activity Oriented Method in improving Science temper among female secondary school students. Scientific attitudes and its relation with education have been extensively studied.

Studies on scientific temper are rare compared to other science education areas. Therefore the researcher decided this investigation after reading numerous articles. Many social and cultural issues were directly impacted by scientific inventiveness and temper. Hence the present study is found to be significant.

OBJECTIVES OF THE STUDY

- 1) To study the level of scientific temper among secondary school students
- 2) To find out the level of:
 - i. scientific literacy
 - ii. scientific perception and
 - iii. scientific habit of secondary school students
- 3) To find out whether there is a significant difference in the scientific temper among of secondary school students based on gender.

HYPOTHESES OF THE STUDY

- 1) There exists a moderate level of scientific temper among secondary school students.

- 2) There exists a moderate level of scientific temper among secondary school students with respect to;
 - i. scientific literacy
 - ii. scientific perception
 - iii. scientific habits
- 3) There exists a significant difference in the mean scores of scientific temper of secondary school students based on gender.

Sample

The sample for the study consisted of 160 secondary school students selected randomly from different schools of the Kollam District.

Tool used

Self-developed tool ‘The Scientific Temper Test’ was used. The tool includes 30 items covering scientific literacy (13 items), scientific perception (9 items), and scientific habits (8 items).

Statistical techniques used

Mean, standard deviation, percentage analysis, and test of significance of differences between means of samples were the statistical measures used in this study.

METHODOLOGY IN BRIEF

Method adopted

Normative survey method was selected for the study.

RESULTS AND DISCUSSION

Table 1

Measures of Central Tendency and Dispersion of Scores of the Scientific Temper among Secondary School Students

| Statistical Components | Mean | Median | Standard Deviation |
|------------------------|-------|--------|--------------------|
| Scientific Temper | 62.83 | 64 | 13.8737 |

From the table 1, it is observed that the median value is 64, which means 50% of students scored above 64 and 50% of students scored below 64.

Table 2

Level of Scientific Temper among Secondary School Students

| Level of scientific temper | No. of Students | Percentage |
|----------------------------|-----------------|------------|
| High | 23 | 14 |
| Moderate | 106 | 66 |
| Low | 31 | 20 |

According to table 2, 14% of secondary school students have quite a high level of scientific temper, 66% have a moderate level of scientific temper, and 20% have a low level of scientific temper.

Figure 1

Level of Scientific Temper among Secondary School Students

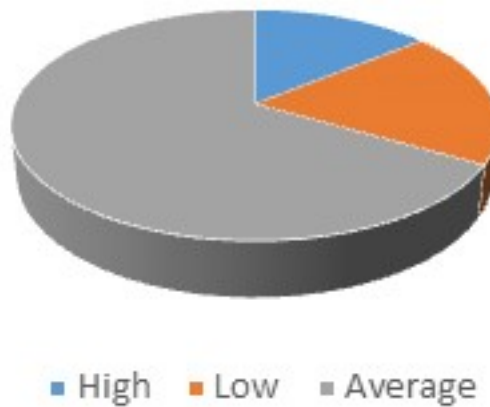


Table 3

Level of Scientific Literacy among Secondary School Students

| Level of scientific literacy | No. of Students | Percentage |
|------------------------------|-----------------|------------|
| High | 21 | 13 |
| Moderate | 106 | 67 |
| Low | 33 | 20 |

Table 3, shows that 13% of secondary school students have a high level of scientific literacy,

67% have a moderate level of scientific literacy and 20% have a low level of scientific literacy.

Figure 2

Level of Scientific Literacy among Secondary School Students

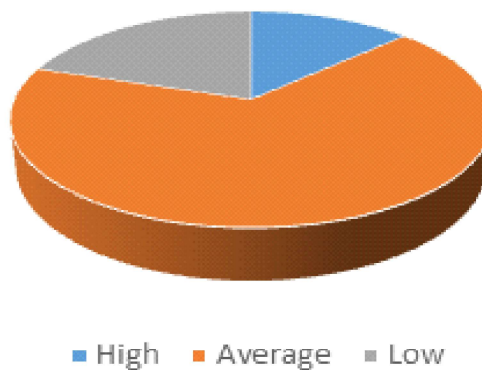
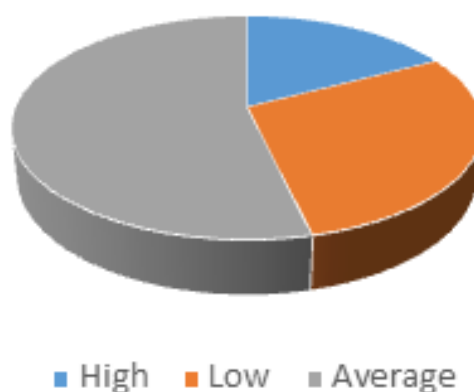


Table 4*Level of Scientific Perception among Secondary School Students*

| Level of scientific perception | No. of Students | Percentage |
|--------------------------------|-----------------|------------|
| High | 21 | 13 |
| Moderate | 104 | 65 |
| Low | 35 | 22 |

Table 4 shows that 13% of secondary school students have strong scientific perception, 65% have moderate scientific awareness, and 22% have low scientific perception.

Figure 3*Level of Scientific Perception among Secondary School Students***Table 5***Level of Scientific Habits among Secondary School Students*

| Level of scientific habits | No. of Students | Percentage |
|----------------------------|-----------------|------------|
| High | 23 | 15 |
| Moderate | 98 | 61 |
| Low | 39 | 24 |

From table 5, it is clear that 15% of secondary school students have high level of scientific habits, 61% of secondary school students have moderate level of scientific habits and the remaining 24% have low level of scientific habits.

Figure 4

Level of Scientific Habits among Secondary School Students

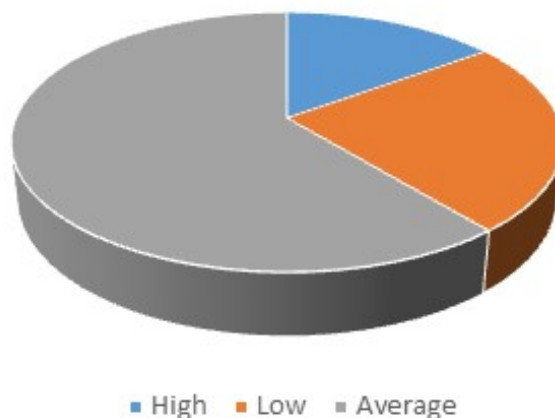


Table 6

Analysis on the Level of Scientific Temper among Secondary School Students based on Gender

| Gender | Number of students | Mean | Standard Deviation | Critical Ratio |
|--------|--------------------|-------|--------------------|----------------|
| Boys | 84 | 62.65 | 13.53 | 0.168 |
| Girls | 76 | 63.02 | 14.32 | |

According to table 6, the mean score and standard deviation of secondary school boys were 62.65 and 13.53, while those of secondary school girls were 63.02 and 14.32 which is not statistically significant at any

level. Hence there is no significant difference in the mean scores of scientific temper of secondary school students with regard to gender.

FINDINGS AND CONCLUSION

The investigation aimed to study the scientific temper of secondary school students. The findings of the study showed that 14 percent of secondary students have a strong scientific temper, 66 percent have a moderate scientific temper, and the remaining 20 percent have a low scientific temper. Science literacy is high in 13% of secondary school students,

moderate in 67%, and low in 33%. There is a high scientific perception among secondary pupils (13%) and a moderate scientific understanding (65%). Secondary school pupils' scientific habits are highly developed in 15%, moderately developed in 61%, and poorly developed in 24%. Results revealed that no significant gender differences in secondary school students' scientific temper.

From the findings, it is concluded that majority of the students are free of prejudice and ready to embrace scientific realities. Secondary school students are open-minded and free to think rationally regardless of gender. Hopefully, one day all civilizations will be free mindless of religion, with science playing a vital role. Similar goals need identifying and defending India's constitutional guarantee of the scientific temper.

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RELATIONSHIP BETWEEN CREATIVITY AND ACADEMIC ACHIEVEMENT OF PROSPECTIVE TEACHERS

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ABSTRACT

Creativity is the potentiality to create something new and original. It is considered as the key factor for the development of personal, academic and social competencies of an individual to succeed in all walks of life. The present study is an attempt to examine the relationship between creativity and academic achievement of prospective teachers. The study also attempted to find out whether there is any significant difference in the mean scores of creativity and academic achievement of prospective teachers based on sex. The sample comprised of 303 prospective teachers doing their Bachelor of Education in Chennai. Data were collected by employing the tools Creativity Scale and Achievement Test for the core course on Educational Challenges of B.Ed. students. For analysis of the data t-test and Pearson's Product Moment method of correlation were applied. Results indicated that there was substantial positive correlation between creativity and academic achievement of prospective teachers. For the sub-sample male, substantial positive correlation was found between the variables and for the sub-sample female, there was high positive

correlation between creativity and academic achievement. The findings also showed sex-wise differences for creativity and academic achievement. Here males scored higher than females in creativity and academic achievement. Based on the findings, it is recommended that creativity should be facilitated to improve the academic achievement of students.

Key words: *Creativity, academic achievement, prospective teachers*

INTRODUCTION

Creativity is a means for adapting with changes and a stimulus for producing knowledge in different fields of study. It is a higher order of thought process. Some specialists consider creativity as mental capacity, while others as a skill which is rooted in personality. Guilford (1986), identifies creativity as cognitive procedures while Sternberg (2001), believes that creativity is a combination of intelligence, mental methods, personality and motivation. Creativity is also viewed in terms of problem solving behaviour. Researches in the area have shown that most

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creative subjects pick up the unformulated problems and they formulate them into integrative harmonious whole that leads to productive solutions like poems, pictures, experiments and new inventions. These people themselves make the task challenging and lead a creative life characterized by originality, uniqueness and imaginativeness. Thus, creative thinking is a problem solving behaviour that depends much on tremendous amount of previously acquired knowledge in the form of thought process which is directed towards discovering something new, novel, unusual and characterized by originality(Gagne,1970).

Although, it is possible to develop one's creative ability, it is often ignored in the education of young learners. One of the criticisms levelled against the present system is that it lays more emphasis on rote learning and memorization and does little to help the students acquire the habit of independent and innovative thinking.

Hence education should encourage the development of creative abilities for bringing about changes in social, economic, political and personal spheres leading to creative production. Creativity is the key to brilliance and excellence in its fullest form. This being possessed by all individuals, the educational system should function effectively for the nurturing of creativity.

NEED AND SIGNIFICANCE OF THE STUDY

Researchers have been curious about the relationship between creativity and academic achievement. There has been controversial debate on the relationship between creativity

and academic achievement in school and later in their vocational success. Several scientific investigations have reported a significant relationship between creativity and academic achievement. On the basis of this, it may be suggested that divergent thinking in the form of fluency, flexibility and originality might contribute and interact with convergent thinking in understanding academic achievement (Chauhan,2014). The present study also attempts to examine the relationship between academic achievement and creativity by using Wallach- Kogan test of creativity, (1965). This test is an attempt to see that how far an academic achievement is determined by creativity. Many previous studies have only given importance to intellectual factor in predicting academic achievement. Contradictory findings have also been reported that highly creative persons are not necessarily high academic achievers (Palaniappan, 2009). In the present scenario, our classrooms tend to be dominated by approaches that emphasize principles, facts, theories, generalization and memorization associated with specialization at the expense of generic skills which promote originality and social skills such as creativity, self- concept and motivation. Thus, intelligence is not the sole factor in determining academic achievement. Individual differences in intelligence cannot be accounted for all the major differences in achievement. On the basis of said observations, it may be inferred that creativity, might hold the key in examination system and success. Keeping these variables in view, the present study aims at investigating the relationship between and creativity and academic achievement of prospective teachers.

OBJECTIVES OF THE STUDY

1. To find out whether there is any significant relationship between creativity and academic achievement of prospective teachers for the total sample and the relevant sub sample.
2. To find out whether there is any significant difference in the mean scores of creativity of prospective teachers based on sex
3. To find out whether there is any significant difference in the mean scores of academic achievement of prospective teachers based on sex.

HYPOTHESES OF THE STUDY

1. There exists no significant relationship between creativity and academic achievement of prospective teachers for the total sample and the relevant sub sample.
2. There exists no significant difference in the mean scores of creativity of prospective teachers based on sex

3. There exists no significant difference in the mean scores of academic achievement of prospective teachers based on sex

METHODOLOGY IN BRIEF

Method adopted

Normative survey method was adopted for conducting the investigation.

Sample

Sample for the study consisted of 303 prospective teachers pursuing Bachelor of Education course from Chennai, Kanchipuram and Chengalpattu Educational Districts.

Tools used

1. Creativity Test (Wallach and Kogan Test, 1972)
2. Achievement Test prepared by investigators for the course namely 'Educational Challenges' of B.Ed students.

Statistical techniques used

Product moment method of coefficient of correlation and t test analysis.

RESULTS AND DISCUSSION

Table 1

Data and Results of t test of Creativity of Prospective Teachers based on Sex

| Variable | Category | N | Mean | SD | t Value | Level of Significance |
|------------|----------|-----|-------|------|---------|-----------------------|
| Creativity | Male | 200 | 99.25 | 9.73 | 5.336 | 0.01 |
| | Female | 103 | 93.08 | 9.44 | | |

The table 1 reveals that the obtained t-value 5.336 is greater than the table value at 0.01 level of significance. Therefore null hypothesis formed in this regard is rejected. Hence there

is significant difference in the mean scores of creativity of male and female prospective teachers ($t=5.336$). The mean value of creativity is found to be higher for male prospective teachers.

Table 2*Data and Results of t test of Academic Achievement of Prospective Teachers based on Sex*

| Variable | Category | N | Mean | SD | t value | Level of Significance |
|----------------------|----------|-----|-------|------|---------|-----------------------|
| Academic Achievement | Male | 200 | 47.34 | 5.76 | 3.097 | 0.01 |
| | Female | 103 | 45.36 | 4.99 | | |

Result in table 2, reveals that the obtained t value 3.097 is greater than the table value at 0.01 level of significance. Therefore the null hypothesis in this regard is rejected.

The mean value for academic achievement is found to be higher for male prospective teachers.

Table 3*Co-efficient of Correlation between Creativity and Academic Achievement for the Total sample and Sub sample*

| Variables Correlated | Sample | Category | N | r | Level of Significance |
|-------------------------------------|-----------|----------|-----|-------|-----------------------|
| Creativity and Academic achievement | Total | | 303 | 0.681 | 0.01 |
| | subsample | Male | 199 | 0.533 | 0.01 |
| | | Female | 104 | 0.791 | |

The table 3, reveals that the obtained 'r'-value is significant at 0.01 level. Therefore null hypothesis formed in this regard is rejected. The findings indicate that there exists a positive substantial correlation between

creativity and academic achievement (r-0.681). For the subsample 'male' positive substantial correlation between creativity and academic achievement was found. The same type of relationship was noted for females too.

CONCLUSION

The study revealed a positive substantial correlation between creativity and academic achievement for the total sample. Sex-wise differences were found for creativity and academic achievement. Males had more creativity and academic achievement than female prospective teachers. Hence appropriate measures should be taken in the form of programmes, trainings, seminars, workshops and practical activities to develop creativity

of the B.Ed. students. It is important to cultivate more creativity among all the female B.Ed. students in order to achieve academically and progress in their teaching activities. So that, the authorities should take steps to cultivate and develop creativity behaviours among the prospective teachers, all the age group of teachers should possess a required level of creativity. Students with high academic achievement can be selected to carry out tasks that need high creativity. Girls must be given

equal opportunities to develop creativity to improve their academic proficiencies.

The high score on creativity of males may be due to the fact that males are more practical and would combine that practical element with creativity. Male students also have better exposure to society which makes them more confident, responsible and have more expectations leading to better academic achievement. Based on the findings, it is evident that creativity should be facilitated and assessed properly in the educational system. Teacher educators have to follow innovative methods which will foster creativity-friendly learning environment and team spirit among the new generation teachers.

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SCIENTIFIC CREATIVITY AND PROCESS SKILL ACHIEVEMENT IN CHEMISTRY OF HIGHER SECONDARY STUDENTS

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ABSTRACT

The study is aimed to find out the relationship between scientific creativity and process skill achievement in Chemistry of higher secondary students. The work also analysed gender-wise and locale-wise differences in the scientific creativity and process skill achievement in Chemistry of higher secondary students. Normative survey method was adopted to collect the data. The study found significant positive correlation between scientific creativity and process skill achievement in Chemistry of higher secondary students. It was also found that there was significant difference in the creativity of boys and girls, where boys are more creative than girls. Significant locale-wise differences were also noted in the scientific creativity of higher secondary students, where urban students had better creativity than the rural counterparts. The process skill achievement in Chemistry of higher secondary students also revealed significant differences with regard to gender as girls had better scores on the variable. Locale-wise differences were also significant in the process skill achievement in Chemistry

of higher secondary students as urban students had better scores on the variable. Higher secondary school students need to think creatively to use their scientific process skills to develop a fundamental scientific understanding.

Key words: *Scientific creativity, process skills achievement in chemistry, higher secondary school students.*

INTRODUCTION

The purpose of science education is to enable learners to use scientific process skills like to be able to define the problems around them, to observe, to analyze, to hypothesize, to experiment, to conclude, to generalize, and to apply the information they have with the necessary skills. In the context of national development, the education sector is achieving certain goals like universalisation of education, expansion of vocational education, removal of illiteracy, and improvement of standards in education. It is expected that this will ultimately facilitate the human resource development. For this human resource development, one should

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identify such individuals at the school stage and provide opportunities to develop their talents and sharpen their abilities. Among the many varieties of human abilities, creativity has been identified as an important trait in all areas of talent.

Creativity can be developed and its development depends upon the environment into which it is introduced. According to National Policy on Education, "Science education will be strengthened so as to develop in the child's well defined abilities and values such as the spirit of enquiry, creativity, objectivity, the courage to question and aesthetic sensibilities". Science is an ever expanding branch of knowledge and the study of science is a never ending process.

Scientific creativity may be considered as specific creative expression, unique production and divergent thinking in science and technology. It may be a unique scientific process responsible for the novel scientific excellence and accomplishments in science and technology. Scientific creativity is neither creativity in science and technology nor exactly the high attainment in science. It exactly means by scientific creativity and acquisition and accommodation of scientific temper and scientifically operated best of mind, which includes scientific process and processing of data in the brain. In other words, it is an operational functioning of the brain which can yield unique scientific achievements and products.

Today with the emerging trends in science education, process adopted in science learning is given more priority. The curriculum is framed in such a way that science education can develop process skill among the students.

Process skills in science are very important in the formal presentation of science to children. It is believed that children who are properly introduced to science through process skills will find the skills useful throughout life. While it is possible to easily forget science learnt, process skills tend to be with many individuals for a relatively longer period of time.

The acquisition of process skill is characterised by the proficiency in dealing with the component skill such as observing, measuring and predicting. It can be developed only by involving scientific activities. From some researches, a very close and considerable relationship between process outcome and scientific attitude and also a positive relationship between process outcome and scientific attitude among secondary school students were found. Hence process approach is one of the best ways of learning science as it motivates the children to get involved in activities.

NEED AND SIGNIFICANCE OF THE STUDY

The science process skills are necessary to produce and use scientific information, to perform scientific research, and to solve problems. These skills can be gained by students through certain science education activities (Harlen, 1999). So the creativity has a supplementary role in many scientific processes. It is used especially in introducing problems and hypotheses and designing experiments. That's why science is a process containing the creativity components affecting each step of life, in addition to being a product (Saxena, 1994). Individuals need to think creatively and to be able to use their scientific

process skills in order to develop a fundamental scientific understanding. Creative scientists are required to find useful and new solutions for the problems existing in daily life. They are much more sensitive regarding problems. Every educated individual may not be a scientist, but it is important for each person to begin his or her educational life by applying creative thinking. All individuals who learned to think creatively while dealing with the scientific work can also apply these skills in other areas (Meador, 2003). Although creativity is accepted as a problem solving skill in research literature, it requires creative performance, recognizing the problem, thinking differently, and finding solutions. Recognizing the problem plays an extremely important role in the creative process. The whole world is moving through a period of technological advancement. Today there are numerous developments in the field of science and technology. For a successful survival, all must acquire necessary knowledge about science and technology and sufficient attitude towards modernity. If science is taught through creativity and process approach, it automatically becomes activity based. If a child learns science through process approach he learns a lot of science on his own. The process approach is one of the best method of learning science, as it motivates the children in doing science activities.

There are numerous opportunities in the subjects like Physics and Chemistry for the development of scientific creativity and process skills. As a teacher, the investigator aims to provide necessary emphasis for the process skills. In addition to this, the investigator felt that Guilford's test of creativity

theory and Minnesota test of creativity theory when applied in our science classroom can help to improve the teaching strategies adopted in the present day classrooms. Hence the investigator selected this study and hopes that the higher secondary students who are in crossroads can make use of science as a career in their life.

OBJECTIVES OF THE STUDY

The present study has the following objectives,

1. To find out whether there is any significant relationship between scientific creativity and process skill achievement in Chemistry of higher secondary students.
2. To find out whether there is any significant difference in the mean scores of scientific creativity in Chemistry of higher secondary students with respect to gender.
3. To find out whether there is any significant difference in the mean scores of scientific creativity in Chemistry of higher secondary students with respect to locality of the school.
4. To find out whether there is any significant difference in the mean scores of process skill achievements in Chemistry of higher secondary students with respect to gender.
5. To find out whether there is any significant difference in the mean scores of process skill achievement in Chemistry of higher secondary students with respect to locality of the school.

HYPOTHESES OF THE STUDY

The present study has the following hypotheses,

1. There is no significant relationship between scientific creativity and process skill achievement in Chemistry of higher secondary students.
2. There is no significant difference in the mean scores of scientific creativity in Chemistry of higher secondary Students with respect to gender.
3. There is no significant difference in the mean scores of scientific creativity in Chemistry of higher secondary students with respect to locality of school.
4. There is no significant difference in the mean scores of process skill achievement in Chemistry of higher secondary students with respect to gender.
5. There is no significant difference in the mean scores of process skill achievement in Chemistry of higher secondary students with respect to locality of school.

METHODOLOGY IN BRIEF

Method adopted

Normative survey method of research has been used in the present study.

Sample

The sample of the study included 400 higher secondary students from Thiruvananthapuram district in Kerala.

Tools used

Test on Scientific Creativity and Process Skill Achievement Test in Chemistry were employed. A comprehensive test on scientific creativity with reference to Guilford's word fluency, flexibility, originality, validity and reliability and a test on process skill achievement in Chemistry with reference to skill of observation, skill of inference and skill of classification, have also been administered.

Statistical techniques used

The statistical techniques used for analyzing the data were Pearson product moment correlation and t test.

RESULTS AND DISCUSSION

Table 1

Correlation between Scientific Creativity and Process Skill Achievements in Chemistry of Higher Secondary Students

| N | X | Y | XY | X ² | Y ² | r |
|-----|------|------|-------|----------------|----------------|---------|
| 400 | 1148 | 7020 | 23157 | 53025 | 14787 | 0.42638 |

From table 1, it is clear that the correlation between scientific creativity and process skill achievement in Chemistry of higher secondary students is substantial and positive. The 'r' value is 0.42638. This positive correlation is significant at 0.05 level, indicating that there

exists significant correlation between scientific creativity and process skill achievement in Chemistry of higher secondary students. Hence the null hypothesis formulated in this context is rejected.

Table 2*Gender wise Comparison of Higher Secondary Students on the variable Scientific Creativity*

| SI No | Groups | N | Mean | SD | t value | Remarks | Ho |
|-------|--------|-----|-------|------|---------|-------------|----------|
| 1 | Boys | 210 | 29.87 | 6.68 | 3.10 | Significant | Rejected |
| 2 | Girls | 200 | 27.66 | 7.52 | | | |

From table 2, the 't' value is 3.10 which is significant at 0.01 level. Hence the hypothesis 'there is no significant difference in the mean scores of scientific creativity of higher

secondary students with respect to gender is rejected. The calculated mean values of boys and girls are 29.87 and 27.66 respectively showing that boys are more creative than girls.

Table 3*Locality wise Comparison of Higher Secondary Students on the Variable Scientific Creativity*

| SI No | Groups | N | Mean | SD | t value | Remarks | Ho |
|-------|--------|-----|-------|------|---------|-------------|----------|
| 1 | Rural | 225 | 22.12 | 6.39 | 2.4060 | Significant | Rejected |
| 2 | Urban | 175 | 23.81 | 7.39 | | | |

From table 3, it is evident that the obtained t value 2.4060 is significant at 0.05 level. Hence the hypothesis, 'there is no significant difference in the mean scores on the variable scientific creativity in urban and rural higher

secondary students' is rejected. The calculated mean values of rural and urban students 22.12 and 23.81 respectively showing that urban students had better creativity than the rural counterparts.

Table 4*Gender wise Comparison of Higher Secondary Students on the Variable Process skill Achievement*

| SI No | Groups | N | Mean | SD | t value | Remarks | Ho |
|-------|--------|-----|-------|------|---------|-------------|----------|
| 1 | Boys | 200 | 21.81 | 6.32 | 3.80 | significant | Rejected |
| 2 | Girls | 210 | 24.15 | 7.36 | | | |

From table 4, it is evident that the obtained t-value 3.80 is significant at 0.01 level. Hence the hypothesis, 'there is no significant difference between boys and girls on the variable process skill achievement in

Chemistry' is rejected. The mean values of boys and girls 21.81 and 24.15 respectively showing that girls had better process skill achievement in Chemistry.

Table 5

Locality wise Comparison of Higher Secondary Students on the Variable Process Skills Achievement

| SL No | Groups | N | Mean | SD | t value | Remarks | Ho |
|-------|--------|-----|-------|------|---------|-------------|----------|
| 1 | Rural | 225 | 16.92 | 5.34 | 2.40 | significant | Rejected |
| 2 | Urban | 175 | 18.03 | 3.92 | | | |

From table 5, it is evident that the calculated t value is 2.40, which is significant at 0.05 level. Hence the hypothesis 'there is no significant difference in the mean scores of process skill achievement of higher secondary students in

Chemistry' is rejected. The mean values of rural and urban students 16.92 and 18.03 respectively. Urban students had better process skill achievement in Chemistry than the rural counterparts.

FINDINGS OF THE STUDY

The investigator found that there existed significant relationship between scientific creativity and process skill achievement in Chemistry of higher secondary school students. There were significant differences on the variables scientific creativity and process skill achievement in chemistry of higher secondary school students with respect to the sub samples, gender and locality of school. The individuals who use creativity can make their science education better by improving the process skills. This result shows that giving scientific process skills training can increase the creativity of the students. It can be said that science process skills improves scientific creativity and that scientific creativity is an educable or a learned skill. In addition, science process skills can be used for improving students' scientific creativity. Giving science process skill training to the students can enhance their creativity or performing creative scientific

activities can lead to gain in science process skills.

As boys had better creativity than girls, more opportunities should be given to girls to improve scientific creativity. As urban students had better creativity than the rural counterparts, it is necessary to improve the scientific creativity of rural students also. Boys need to acquire better training in process skills achievement in Chemistry as girls had better scores on the variable. As urban students had better process skill achievement in Chemistry than the rural counterparts, more attention should be given to develop it among the rural students.

CONCLUSION

The conclusions of the present study have certain implications for developing and improving educational programmes. Students must be given an opportunity for better

understanding of the nature of science, for acquiring skills of observation, inference and classification. Creativity should be taken as a major objective of science teaching. It is necessary to encourage children's critical questioning, divergent thinking and problem solving skills. Students should be made to think for novelty and originality and present imaginative ideas. Sincere efforts are needed to motivate children to organize Science clubs, Hobbies club, scientific society, Chemical society, Environmental clubs and create interest in reading science books. Teachers can play a critical role in the development of student creativity and process skills by responding to their students' ideas, views and suggestions during lessons to come up with new ideas. Process skills in Chemistry should be developed among students to lay the foundation for enhancing creative thinking skills needed in the 21st century. Government should take necessary steps to establish multi-purpose schools for students as proposed by Secondary Education Commission in order to give recognition and support for their different talents.

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EQUITABLE STANDARDS IN EDUCATION: ATTITUDE OF PRIMARY SCHOOL TEACHERS

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ABSTRACT

Equitable Education System was implemented in the state of Tamil Nadu aimed to provide equitable standards in education. This new system of education came into existence after a lot of oppositions, obstacles and confusions. The present study is aimed at studying the attitude of primary school teachers towards equitable standards in education. Normative survey method was used. A sample of 200 primary school teachers of both government and private schools of Kanyakumari District of Tamil Nadu was selected for the study. For collecting data the tool employed was an Attitude Scale on Equitable Standard Education. It is evident from the results that the primary school teachers who were qualified with B.Ed. had more favourable attitude towards equitable standards in education.

Key words: *Equitable standards in education, primary school teachers, attitude.*

INTRODUCTION

In India, there are different kinds of educational systems like Matriculation, State board, Anglo-Indian and Oriental schools. The

heterogeneous group of students learning in these different kinds of schools gain heterogeneous knowledge, experiences and education. This makes lot of differences and inequality in educational standards. The Tamil Nadu government's decision to implement equitable standards in education by merging all boards was not a unilateral decision. The Muthukumaran Committee held wide discussions with all stakeholders, including private schools associations and hence the government cannot be criticised for not holding adequate consultations and there would be only one common board in the state, which is called State Board for School Education. Introduction of a common syllabus was done based on the recommendations of the committee which submitted its report in July 2007 and thus all the four existing boards got merged.

Equitable Education System was implemented in the state of Tamil Nadu in 2010. It was felt that by following this common education system, we could afford impartial

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education to all school children irrespective of rural and urban region, upper and lower caste and religion. This new system of uniform pattern in education came into existence after a lot of discussions and debates. Education being an essential tool in the overall personality development of an individual, it must have quality and standards in all dimensions of education. With the passage of time, it was realized that education is necessary for all without any discrimination on the basis of caste and creed. Gradually various national, international and state boards and organizations of school education came into existence to serve some other purposes too. Meddling with education therefore is playing with the future of millions of children. Education is highly indispensable to normal living. Without education, the individual's survival will be at risk. Hence education is not only an instrument of enhancing efficiency but it is also an effective tool for widening and augmenting democratic participation and upgrading the overall quality of individual and societal life. It plays a significant role in the progress of an individual and nation.

NEED AND SIGNIFICANCE OF THE STUDY

Education is increasingly becoming a vehicle for the economic prosperity of the countries worldwide. Therefore, growing concern for the increasing effectiveness of the education systems is to generate quality human capital to contribute to the economic prosperity of the country. In this respect, higher education is a means to produce human capital for the knowledge-based economies around globe (Salem, 2014). Education is linked to upward social mobility by providing equal chances for all individuals of society to grow and develop

Equal opportunity means that all people in a society have equal chances to develop into higher social classes irrespective of any personal hindrances, such as gender, socio-economic status or ethnicity (Ballantine, Roberts, & Korgen, 2017). Thus the need for establishing fair education systems, where all have equal chances to develop is inevitable. Globally, the education is said to be equitable, when educational practices, policies, curricula, resources are representative of all students, such that each student has access to, can participate in and make progress in high quality learning experiences, regardless of her or his race, socio-economic status, gender, ability, religion, national origin and linguistic diversity (Skelton & Kigamwa, 2013). Enhancing equity in education leads to improved economic, social and individual outcomes, as boosting skills of every student; and increase chances for employments and productivity (OECD, 2012). Thus, addressing equity at an initial level of access only, is limited and thus insufficient to declare equitable character of the education system (Meuret, 2002). Equity is a matter of basic human rights (Willems, 2011). Equity of access is implying provision of equitable access to the underprivileged of the society that includes people living in the underdeveloped or rural areas. Bringing equality in a society is important where children have very different opportunities depending upon where they live, how much income is there to support them and what type and quality of education they have access to, what is their gender, whether the parents are educated or not, how do they aspire their children and what social strata they belong to (Bari, 2014).

OBJECTIVES OF THE STUDY

- i) To study the attitude of primary school teachers towards equitable standards in education
- ii) To study the significant difference in the mean scores of attitude of primary school teachers towards equitable standards in education with respect to income, type of management, locality, experience and qualification.

HYPOTHESES OF THE STUDY

- i) There exists no significant difference in the attitude of primary school teachers towards equitable standards in education.
- ii) There exists no significant difference in the mean scores of attitude of primary school teachers towards equitable standards in education with respect to: income, type of management, locality, experience and qualification.

METHODOLOGY IN BRIEF

Method adopted

Normative survey method was adopted for the present study.

Sample

A sample of 200 primary school teachers were selected from the Kanyakumari district.

Tools used

- i) Personal Data Sheet prepared by the investigator.
- ii) Attitude Scale on Equitable Standard Education (prepared and validated by the investigator).

Statistical techniques used

The following statistical techniques were used for analysis of data.

1. Mean
2. Standard Deviation
3. t test

RESULTS AND DISCUSSION

Table 1

Attitude of Primary School Teachers towards Equitable Standard Education

| Category | Number | Mean | SD |
|--------------|--------|-------|------|
| Total Sample | 200 | 96.76 | 8.97 |

From the above table 1, it is evident that the mean was found to be 96.76 out of 155. This indicated that the primary school teachers had

favourable attitude towards equitable standards in education. The obtained standard deviation was 8.97.

Table 2

Percentage Distribution of Different Levels of Attitude of Primary School Teachers towards Equitable Standards in Education

| Attitude | Count | Percentage |
|--------------|-------|------------|
| Unfavourable | 61 | 30.50 |
| Neutral | 82 | 41.00 |
| Favourable | 57 | 28.50 |
| Total | 200 | 100.0 |

From the above table 2, it is evident that out of 200 primary school teachers, 28.50% of primary school teachers possessed favourable attitude, forty one per cent of primary school

teachers had neutral attitude and 30.50 per cent of primary school teachers had unfavourable attitude towards equitable standards in education.

Table 3

Mean, Standard Deviation, t value of Attitude of Primary School Teachers towards Equitable Standards in Education with Background Variables

| Background variables | Mean | SD | N | t | Remark |
|-----------------------------|-------------|-----------|----------|----------|-------------------|
| Below | 98.03 | 9.46 | 96 | 2.04 | Sig.at 0.05 level |
| Above | 95.40 | 8.48 | 99 | | |
| Government | 95.43 | 8.44 | 100 | 2.11 | Sig.at 0.05 level |
| Private | 98.08 | 9.33 | 100 | | |
| Rural | 98.12 | 9.45 | 100 | | |
| Urban | 95.39 | 8.29 | 100 | 2.17 | Sig.at 0.05 level |
| Below | 97.57 | 8.90 | 82 | | |
| Above | 95.66 | 8.59 | 97 | 1.45 | NS |
| D.T.Ed | 95.24 | 7.86 | 102 | | |
| B.Ed | 98.34 | 9.79 | 98 | 2.46 | Sig.at 0.05 level |

From table 3, it is evident that the calculated mean values were 98.03 and 95.40 and corresponding standard deviation values are 9.46 and 8.48. The obtained t value was 2.04 which is greater than the table value 1.97 at 5% level of significance. Hence the null hypothesis is rejected. So it can be concluded that monthly income level has influenced the attitude of primary school teachers towards equitable standards in education.

From table 3, it is evident that the calculated mean values were 95.43 and 98.08 and corresponding standard deviation values were 8.44 and 9.33. The obtained t value was 2.11 which is greater than the table value 1.97

at 5% level of significance. Hence the null hypothesis is not accepted. So it can be concluded that type of management had influence on attitude of primary school teachers towards equitable standards in education.

From the same table, it is evident that the calculated mean values were 98.12 and 95.39 and corresponding standard deviation values were 9.45 and 8.29. The obtained t value 2.17 is noted to be greater than the table value 1.97 at 5% level of significance. Hence the null hypothesis is rejected. So it can be concluded that locality had influence on attitude of primary school teachers towards equitable standards in education.

From the table, it is evident that the calculated mean values were 97.57 and 95.66 and corresponding standard deviation values were 8.90 and 8.59. The obtained t value 1.45 is noted to be lesser than the table value 1.97 at 5% level of significance. Hence the null hypothesis got accepted. So it can be concluded that experience had no influence on attitude of primary school teachers towards equitable standard education.

From the table 3, it is evident that the calculated mean values were 95.24 and 98.34 and corresponding standard deviation values were 7.86 and 9.79. The obtained t value was 2.46 which is found be greater than the table value 1.97 at 5% level of significance. Hence the null hypothesis got rejected. So it can be concluded that educational qualification had influence on attitude of primary school teachers towards equitable standard education.

FINDINGS

The following are the major findings emerged from the study.

1. Majority of the primary school teachers had favourable attitude towards equitable standards in education. This finding is supported by the following result. Arithmetic Mean = 96.76 out of total score of 155.
2. Out of 200 primary school teachers, 28.50% of primary school teachers had favourable attitude, 41% of primary school teachers had neutral attitude and 30.50% of primary school teachers had unfavourable attitude towards equitable standards in education.
3. There was significant difference in the mean scores of attitude towards equitable standards in education of primary school teachers earning below 5000 and above 10000. This finding is supported by the following result. ($t=2.04$). Primary school teachers who were earning below 5000 had more favourable attitude towards equitable standards in education than primary school teachers who were earning above 10000.
4. There was significant difference in the mean scores of attitude towards equitable standards in education. This finding is supported by the following result. ($t=2.11$) Private primary school teachers had more favourable attitude towards equitable standards in education than government primary school teachers.
5. There was significant difference in the mean scores of attitude towards equitable standards in education of rural and urban primary school. This finding is supported by the following result. ($t=2.17$). Rural primary school teachers had more favourable attitude towards equitable standards in education than urban primary school teachers.
6. There was significant difference in the mean scores of attitude towards equitable standards in education of D.T.Ed qualified and B.Ed qualified primary school teachers. This finding is supported by the following result.

(t=2.46) Primary school teachers who are qualified with B.Ed have more favourable attitude towards equitable standards in education than primary school teachers who are qualified with D.T.Ed.

EDUCATIONAL IMPLICATIONS

The educational implications related to the study are given as follows.

- i) The teachers are to be motivated to have awareness for causes related to equitable standards in Education System in the state of Tamil Nadu.
- ii) The teachers should accept this system of education and work for the same which further facilitates the students learning without any difference in curriculum with other systems of education like CBSE and ICSE.
- iii) The teachers should admit the changes happening in this new system of education which is for the benefit of the students which in turn makes them to be a competent person.

CONCLUSION

The above findings have helped the researcher to arrive at certain conclusions regarding this study. It is evident that the primary school teachers had in general favourable attitude towards equitable standards in education. The study shows that locality has

influence on the attitude of primary school teachers towards equitable standards in education. The teachers who are in rural area showed high attitude towards equitable standards in education. So teachers think that they can improve the condition of rural students by adopting the new policies of the government. Also the monthly income has influenced the attitude of primary school teachers towards equitable standards in education because high salary is a motivational factor for accepting new policies of government. The educational qualification has also influenced the attitude of teachers towards equitable standards in education because the qualification of teachers will make them more confident in the new system. This study will be highly fruitful for all in the field of education.

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SOCIAL MATURITY OF HIGH SCHOOL STUDENTS IN KUZHITHURAI EDUCATIONAL DISTRICT

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ABSTRACT

The present investigation is an attempt to study the social maturity of high school students in Kuzhithurai educational district. The major objective of the study was to find out the significant difference, if any, in the mean scores of social maturity of high school students with respect to the background variables such as gender, locality of school and type of school. Normative survey method was used for the study. The sample for the study comprised of 300 high school students in Kuzhithurai educational district. The tool used for the study was Rao's Social Maturity Scale. The statistical techniques used for the study were percentage analysis and t test. The findings of the study revealed that high school students had moderate level of social maturity. It also revealed that there is significant difference in the mean scores of social maturity of high school students based on gender. Female students were found to be have more social maturity than male students.

Key words: *Social maturity, high school students.*

INTRODUCTION

Social maturity is the final expected outcome of social development in the process of socialization. A socially matured person shows certain important characteristics. He/she is able to adapt himself/herself successfully to his/her fellowmen. It includes behavioural forms like compatibility, politeness, self-confidence, co-operation, leadership and cheerfulness.

Also, socially matured individuals are able to make judgements, decisions and take appropriate actions while facing problems and critical issues. They also have a well balanced and objective role in accordance with the demand of different situations. Further they are not self-centered and they possess many social virtues like the feeling of sympathy, kindness, co-operation, courtesy and cheerfulness.

NEED AND SIGNIFICANCE OF THE STUDY

All school students are the members of various social groups. They are able to orient themselves in the various activities and customs of the group, to make a proportionate

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contribution to the work done and to take a suitable part in social exchanges. They are able to assume a reasonable amount of responsibility to adjust themselves to the inevitable limitations and restrictions of community life without waste of energy and frustration. Cooperation, pleasing manners, consideration for others and emotional maturity are signs of social maturity. Such individuals evaluate social problems objectively and regard well the rights and opinions of others. They also understand how their behaviours will influence others in society and accept responsibility.

The socially mature person is relatively secure and open to new experiences for their continuous development. They have a realistic level of aspiration and set goals accordingly. Their mature sense of humour saves them from social embarrassments and frustrations. All these factors highlight the importance of social maturity in our daily social life. Hence an attempt is made to study the social maturity of high school students in Kuzhithurai Educational district.

OBJECTIVES OF THE STUDY

- 1) To study the level of social maturity of high school students.
- 2) To study the significant difference, if any, in the mean scores of social maturity of high school students with respect to the background variables namely gender, locality of school and medium of instruction.

HYPOTHESES OF THE STUDY

- 1) There exists no significant difference in the mean scores of social maturity of high school students with respect to gender.
- 2) There exists no significant difference in the mean scores of social maturity of high school students with respect to locality of school.
- 3) There exists no significant difference in the mean scores of social maturity of high school students with respect to medium of instruction.

METHODOLOGY IN BRIEF

Method adopted

Normative survey method was used for the study.

Sample

The sample for the study comprised of 300 high school students selected from Kuzhithurai Educational district.

Tool used

The tool used in this study was Rao's Social Maturity scale. It is a standardised tool developed by Nalini Rao (1998).

Statistical techniques used

In the present study, the following statistical techniques were used.

- a) Percentage Analysis
- b) t test

RESULTS AND DISCUSSION

Table 1

Percentage Distribution of Different Levels of Social Maturity of High School Students

| Dimensions of Social Maturity | Low | | Average | | High | |
|-------------------------------|-----|-------|---------|-------|------|-------|
| | N | % | N | % | N | % |
| Personal adequacy | 69 | 23 | 169 | 56.33 | 62 | 20.6 |
| Inter personal adequacy | 57 | 19 | 191 | 63.66 | 52 | 17.33 |
| Social adequacy | 76 | 25.33 | 163 | 54.33 | 61 | 20.33 |

It is inferred from table 1 that in all dimensions of social maturity (personal adequacy, interpersonal adequacy, social

adequacy) majority of high school students have moderate level.

Table 2

Result of t test for Social Maturity of High School Students with respect to Gender

| Dimensions of Social Maturity | Gender | N | Mean | SD | Calculated t value | Table Value | Remarks at 5 % level of significance |
|-------------------------------|--------|-----|--------|------|--------------------|-------------|--------------------------------------|
| Personal adequacy | Male | 145 | 74.206 | 6.0 | 2.033 | 1.96 | S |
| | Female | 155 | 75.57 | 5.6 | | | |
| Interpersonal adequacy | Male | 145 | 75.201 | 5.27 | 1.01 | 1.96 | NS |
| | Female | 155 | 74.581 | 5.66 | | | |
| Social adequacy | Male | 145 | 75.193 | 5.56 | 0.76 | 1.96 | NS |
| | Female | 155 | 74.709 | 5.94 | | | |

NS –Not significant

From the table 2, for personal adequacy, the calculated 't' value is greater than the table value at 0.05 level of significance for the dimension personal adequacy. It shows that there exists significant difference in the mean

scores of social maturity of high school students with respect to gender for the dimension personal adequacy. But for interpersonal adequacy and social adequacy the differences are found to be not significant.

Table 3

Result of t test for Social Maturity of High School Students with respect to the Location of School

| Dimensions of Social Maturity | Medium | N | Mean | SD | Calculated t value | Table Value | Remarks at 5 % level of significance |
|--------------------------------------|---------------|----------|-------------|-----------|---------------------------|--------------------|---|
| Personal adequacy | Urban | 157 | 75.141 | 5.932 | 0.665 | 1.96 | NS |
| | Rural | 143 | 74.678 | 5.761 | | | |
| Interpersonal adequacy | Urban | 157 | 75.147 | 5.479 | 1.912 | 1.96 | NS |
| | Rural | 143 | 74.594 | 5.485 | | | |
| Social adequacy | Urban | 157 | 75.15 | 5.518 | 0.69 | 1.96 | NS |
| | Rural | 143 | 74.91 | 5.495 | | | |

NS-Not Significant

From the table 3, for all dimensions of social maturity (personal adequacy, interpersonal adequacy, social adequacy) the calculated 't' values are noted to be less than the table value at 0.05 level of significance. It therefore

indicates that there exists no significant difference in the mean scores of social maturity of high school students with respect to locality of school.

Table 4

Result of t test for Social Maturity of High School Students with respect to their Medium of Instruction

| Dimensions of Social Maturity | Medium of instruction | N | Mean | SD | Calculated t value | Table Value | Remarks at 5 % level of significance |
|--------------------------------------|------------------------------|----------|-------------|-----------|---------------------------|--------------------|---|
| Personal adequacy | Tamil | 161 | 74.69 | 5.91 | 0.72 | 1.96 | NS |
| | English | 139 | 75.19 | 5.79 | | | |
| Interpersonal adequacy | Tamil | 161 | 74.98 | 5.25 | 0.29 | 1.96 | NS |
| | English | 139 | 74.77 | 5.75 | | | |
| Social adequacy | Tamil | 161 | 74.96 | 5.07 | 0.06 | 1.96 | NS |
| | English | 139 | 74.92 | 5.98 | | | |

NS –Not significant

From the table 4, for all dimensions of social maturity (personal adequacy, interpersonal adequacy, social adequacy) the calculated 't' values are less than the table value at 0.05 level of significance. It therefore indicates that there exists no significant difference in the mean scores of social maturity of high school students with respect to medium of instruction for all the dimensions of social maturity.

CONCLUSION

The findings of the study showed that the majority of high school students have moderate level of social maturity. From this study, it is evident that there is significant difference between male and female high school students in social maturity in the dimension viz., 'Personal adequacy'. The mean value of social maturity of female students is higher than the male students. This may be due to the reason that high school girls may pay more attention towards their self development. Also it is revealed that there exists no significant difference in the mean scores of social maturity of high school students based on locality of the school and type of school.

The result of the study highlights that the high school students do not have sufficient level of social maturity at expected level. In order to improve the social maturity of high school students, schools can conduct many interschool meets so that the students can develop their social maturity in terms of cooperation and collaboration with social

responsibilities. The curriculum planners and teachers have to frame the subject matter of the various subjects of the curriculum carefully to bring out the social skills of students for their all round development of personality. Hence school authorities must include programmes and activities to provide social skills needed for their successful adjustment in all walks of their life.

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AWARENESS ON CLEANLINESS AND SANITATION AMONG ADOLESCENTS OF SECONDARY SCHOOLS IN THIRUVANANTHAPURAM DISTRICT

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ABSTRACT

Cleanliness is an abstract state of being clean and free from germs, dirt, trash or waste and the habits of achieving and maintaining that state. Sanitation aims to protect human health by providing clean environment that stops the transmission of diseases. In the present post pandemic situation, cleanliness and sanitation play a very important role in day-to-day life. Hence it is necessary that the adolescents should have an awareness of cleanliness and sanitation. The objectives of the study are to find out the level of awareness in sanitation and cleanliness and to find out the significant difference in awareness on sanitation and cleanliness among different categories of adolescents in Thiruvananthapuram district. Normative survey method was adopted and the sample consisted of 400 adolescents from different secondary schools of Thiruvananthapuram district. The findings of the study revealed that the level of awareness on cleanliness and sanitation among adolescents in Thiruvananthapuram district was found at moderate level.

Keywords: *Awareness, cleanliness, sanitation, adolescents.*

INTRODUCTION

Cleanliness is often used synonymous with hygiene. It has been looked upon as one of the important aspects which determine a society's development. People are generally aware of the need for cleanliness and sanitation in their daily life. In India, practice of throwing garbage in the streets, roads or paths unscrupulously shows our indifference to the importance of sanitation and cleanliness in public life. These wrong practices do not contribute much to cleanliness and sanitation, thereby our atmosphere is polluted. Further in public places, dustbins are not often provided and even if they are found, people prefer throwing garbage outside the dustbin and they are not bothered to use them sensibly.

The word sanitation means the state of being clean and conducive to health. The necessity of sanitation was evident from the words of Mahatma Gandhi and he emphasized it and said "the sanitation is more important than freedom". If we analyse those words, we come to the ironical conclusion that in spite of being liberated fully from the clutches of the

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imperial Britain nearly seven and a half decades ago we have not yet been liberated fully from unhygienic living conditions.

Sanitation and cleanliness are very important in the life of adolescents. The period commences from the age of 12 and continues till the age of 19 to 20. It is the period during which the child achieves physical and mental maturity. As a result, he wants to be recognized by his society in which he lives. His thoughts, ideas, feelings emotions are moulded in this stage. Hence if good thoughts, feelings and ideas are sculpted in this period, the children will continue to do good things for ever. It is the best stage for learning habits and attitudes with respect to sanitation and cleanliness.

The process of education is never complete without cleanliness and sanitation as intellectual aspects are very much associated with mind, soul and body of the learner. A proper learning process takes place only when the learner is in the sound physical condition, which is of great importance. Hence, they must be made aware of the importance of sanitation and cleanliness in life. So it is the obligation of the educational authorities and teachers to examine whether the adolescents have sufficient awareness in this regard.

NEED AND SIGNIFICANCE OF THE STUDY

Historically, cleanliness has been considered as one of the important factors by which we judge a civilization or a society's development. Much is said theoretically about cleanliness in our society but practically its application is highly missing. A quick observation can reveal how insensitive a culture we have developed regarding cleanliness and

hygiene. Recent launch of Swachh Bharat Abhiyan has inspired to take up the tasks related to sanitation in and around our environment. A clean and healthy life helps in refining the culture of a society and reflects in every aspect of life such as art, architecture, food, music and so on. Ultimately, it leads us towards a higher level of civilization. Cleanliness is one of the most important practices for all of us to cultivate. It may be related to public hygiene or personal hygiene. It is essential for everyone to learn about cleanliness, hygiene, sanitation and the various forms of diseases which are caused due to poor hygienic conditions.

Sound health condition of the learner is of paramount importance in determining the effectiveness of learning process. Besides by education one should achieve all round development. According to Gandhiji "By education, I mean an all-round drawing of the best in child and man in body, mind and spirit" Therefore a person must acquire good health through his or her education.

Sanitation and cleanliness have a major role in ensuring sound health condition. Hence, the two terms sanitation and cleanliness deserve great importance. Students must have proper ideas about sanitation and cleanliness. They must be aware of the good habits, the continuous practice of which will result in sound health. When a person's entire life is considered, it is the adolescence which determines the direction of one's life. The habits that he imbibes during his adolescence will remain forever. Hence good habits must be inculcated during this critical period.

A person's sanitation and cleanliness can easily be discerned by observing his everyday activities. There are too many simple

activities such as bathing twice in a day, trimming the nail regularly, having haircut, washing hands properly, and keeping dress clean. These things make him to be too trivial to be mentioned worthy. But these habits determine the sanitation and cleanliness of a person. These habits are confined to a person's private life and there are some other good habits which have to be practiced in one's public life. It is unfortunate to say that the lion share of people indulge in evil practices in the case of public sanitation and cleanliness. Throwing garbage on the road, spitting on the road and urinating in public places are some of the instances. These unhealthy practices have to be eliminated and effective method of maintaining health and hygiene should be promoted in all walks of life.

Hence children, the growing buds must be made aware of the importance of sanitation and cleanliness. Especially adolescents must be given particular care, as they belong to the age group which determines the destiny of their life. Hence a study on cleanliness and sanitation awareness among adolescents in Thiruvananthapuram district is of pivotal importance. It is to be examined whether the students who belong to adolescent age are aware of different aspects of sanitation and cleanliness. It is in this context, the investigator decided to undertake a research study on the topic viz 'Awareness on Cleanliness and Sanitation among Adolescents of Secondary Schools in Thiruvananthapuram District'.

OBJECTIVES OF THE STUDY

1. To find out the level of awareness of sanitation and cleanliness among adolescents in Thiruvananthapuram District.

2. To find out the significant difference if any in the awareness of sanitation and cleanliness among adolescents in Thiruvananthapuram district with respect to their:
 - a. Gender
 - b. Age level
 - c. Medium of Instruction
 - d. Locale
 - e. Type of family
 - f. Locality of Residence

HYPOTHESES OF THE STUDY

- There is no significant difference in the awareness on cleanliness and sanitation of male and female adolescents.
- There is no significant difference in the awareness on cleanliness and sanitation of adolescents belonging to the age of 12-13 and 14.
- There is no significant difference in the awareness on cleanliness and sanitation of Malayalam and English medium students.
- There is no significant difference in the awareness on cleanliness and sanitation of rural and urban school adolescents.
- There is no significant difference in the awareness on cleanliness and sanitation of the adolescents belonging to nuclear and joint families.
- There is no significant difference in the awareness on cleanliness and sanitation of the rural and urban residence adolescents.

METHODOLOGY IN BRIEF

Method adopted

Normative survey method was adopted for conducting this study.

Sample

The sample for the study comprised of 400 adolescents selected from different schools in Thiruvananthapuram District.

Tools used

The tool employed for the investigation is questionnaire - awareness on cleanliness and sanitation, prepared and validated by the investigator.

Statistical techniques used

Mean, Standard deviation and t- test.

RESULTS AND DISCUSSION

In this part, the investigator made an attempt to study the cleanliness and sanitation awareness among adolescents in Thiruvananthapuram district. A questionnaire was administered to the students and the responses collected were analysed.

Mean and standard deviation of the total sample were calculated and the level of cleanliness and sanitation awareness among adolescents as high, average and low were found out by applying the formula: $m+sd$ (high), between $m+sd$ and $m-sd$ (average) and $m-sd$ (low) respectively and it is presented in Table 1

Table 1

Level of Cleanliness and Sanitation Awareness among Adolescents

| Category | Low | | Average | | High | |
|----------------------------|-----|------|---------|------|------|----|
| | N | % | N | % | N | % |
| Cleanliness and Sanitation | 74 | 18.5 | 274 | 68.5 | 52 | 13 |

Table 1 shows that 18.5 % of adolescents have low cleanliness and sanitation awareness, 68.5 % of adolescents have average

level of cleanliness and sanitation awareness and 18% of adolescents have high level of cleanliness and sanitation awareness.

Comparison of the Scores of Awareness on Cleanliness and Sanitation among Adolescents with respect to Gender

The adolescents based on the gender groups were compared to find out whether there is any significant difference between the scores obtained on cleanliness and sanitation. The data and the results of the test of significance are presented in Table 2.

Table 2

Comparison of the Scores of Awareness on Cleanliness and Sanitation among Adolescents with respect to Gender

| Groups | N | Mean | S. D | 't' Value | Level of Significance |
|--------|-----|-------|---------|-----------|-----------------------|
| Male | 192 | 32.18 | 3.94815 | 4.48 | 0.01 |
| Female | 208 | 34.09 | 4.56666 | | |

It is evident from the table 2 that the mean values for the scores on cleanliness and sanitation of male and female adolescents are 32.18 and 34.09 respectively. The value of 't' obtained is 4.48 which is greater than the table value (2.58) at 0.01 level. So it is significant

at 0.01 level. Since it is significant at 0.01 level, the hypothesis formulated in this context is rejected. Hence it is evident that there is significant difference between the male and female adolescents in their awareness on cleanliness and sanitation

Comparison of Cleanliness and Sanitation among Adolescents with respect to Age Group (12-13 and 14-16)

The adolescents based on the age group were compared to find out whether there is any significant difference with respect to the awareness on cleanliness and sanitation. The data and results of the test of significance are presented in Table 3.

Table 3

Comparison of Cleanliness and Sanitation among Adolescents with respect to Age Group (12-13 and 14-16)

| Groups | N | Mean | S. D | 't' Value | Level of Significance |
|---------------|----------|-------------|-------------|------------------|------------------------------|
| 12-13 | 155 | 29.48 | 3.9204 | 4.65 | 0.01 |
| 14-16 | 245 | 31.45 | 4.4386 | | |

It is evident from the table 3 that the mean value of the awareness scores on cleanliness and sanitation among adolescents based on the age group is 29.43 and 31.45 respectively. The value of 't' obtained is 4.65 which is greater than the table value (2.58) at 0.01 level. Since it is significant at 0.01 level,

the hypothesis formulated is rejected. It means that there is significant difference in the awareness on cleanliness and sanitation of adolescents based on age. Here age group of 12-13 and 14-16 obtained higher mean scores on cleanliness and sanitation. So age seemed to influence the level of awareness.

Comparison of the Scores of Awareness on Cleanliness and Sanitation among Adolescents with respect to the Medium of instruction (English and Malayalam)

The adolescents based on the medium of instruction were compared to find out whether there is any significant difference with respect to the awareness on cleanliness and sanitation. The data and results of the test of significance are presented in Table 4

Table 4

Comparison of the Scores of Awareness on Cleanliness and Sanitation among Adolescents with respect to the Medium of instruction

| Groups | N | Mean | S.D | 't' Value | Level of Significance |
|---------------|----------|-------------|------------|------------------|------------------------------|
| English | 220 | 32.66 | 3.9914 | 6.32 | 0.01 |
| Malayalam | 180 | 30.11 | 4.0312 | | |

It is evident from the Table 4 that the mean value of the awareness on cleanliness and sanitation among adolescents based on the Medium of instruction (English and Malayalam) is 32.66 and 30.11 respectively. The value of 't' obtained is 6.32 which is greater than the table value (2.58) at 0.01 level.

Since it is significant at 0.01 level, the hypothesis formulated is rejected. It means there is significant difference between Malayalam and English medium adolescents in their awareness on cleanliness and sanitation and English Medium students had a superior level of awareness.

Comparison of the Scores of Awareness on Cleanliness and Sanitation among Adolescents with respect to Locality of School (Rural and Urban)

The adolescents based on the locality of school were compared to find out whether there is any significant difference between the scores obtained on cleanliness and sanitation. The data and results of the test of significance are presented in Table 5

Table 5

Comparison of the Scores of Awareness on Cleanliness and Sanitation among Adolescents with respect to Locality of School (Rural and Urban)

| Groups | N | Mean | S. D | 't' Value | Level of Significance |
|---------------|----------|-------------|-------------|------------------|------------------------------|
| Rural | 153 | 30.24 | 4.81 | 6.54 | 0.01 |
| Urban | 247 | 33.68 | 5.67 | | |

It is observed from the table 5 that the mean value for the awareness scores of adolescents on cleanliness and sanitation for rural and urban are 30.24 and 33.68 respectively. The value of 't' obtained is 6.54 which is greater than the table value (2.58) at 0.01 level. It is significant at 0.01 level. Since it is significant, the

hypothesis formulated is rejected and it is evident that there is significant difference between rural and urban students in their awareness on cleanliness and sanitation. Here the urban adolescents had a higher level of awareness on cleanliness and sanitation.

Comparison of the Scores of Awareness on Cleanliness and Sanitation among Adolescents with respect to Type of Family (Joint and Nuclear)

The Adolescents based on the type of family were compared to find out whether there is any significant difference between the scores obtained on cleanliness and Sanitation. The data and results of the test of significance are presented in Table 6

Table 6

Comparison of the Scores of Awareness on Cleanliness and Sanitation among Adolescents with respect to Type of Family

| Groups | N | Mean | S. D | 't' Value | Level of Significance |
|---------------|----------|-------------|-------------|------------------|------------------------------|
| Joint | 100 | 32.33 | 4.78 | 3.75 | 0.01 |
| Nuclear | 300 | 34.44 | 5.151 | | |

It is evident from table 6 that the mean value for the awareness scores of adolescents on cleanliness and sanitation for Joint and Nuclear family are 32.33 and 34.44 respectively. The value of 't' obtained is 3.75 which is greater than the table value (2.58) at 0.01 level. It is significant at 0.01 level. Since

it is significant, the hypothesis formulated is rejected and it is noted that there is significant difference between the nuclear and joint family adolescents in their awareness on cleanliness and sanitation. Here the superior scores are for students from nuclear family.

Comparison of the Scores of Awareness on Cleanliness and Sanitation among Adolescents with respect to Locality of Residence (Rural and Urban)

The adolescents based on the locality of residence were compared to find out whether there is any significant difference between the scores obtained on cleanliness and sanitation. The data and results of the test of significance are presented in Table 7

Table 7

Comparison of the Scores of Awareness on Cleanliness and Sanitation among Adolescents with respect to Locality of Residence

| Groups | N | Mean | S. D | 't' Value | Level of Significance |
|---------------|----------|-------------|-------------|------------------|------------------------------|
| Rural | 190 | 32.45 | 3.98 | 3.30 | 0.01 |
| Urban | 210 | 33.77 | 4.01 | | |

It is evident from table 7 that the mean value for the awareness scores of adolescents on cleanliness and sanitation for rural and urban are 32.45 and 33.77 respectively. The value of 't' obtained is 3.30 which is greater than the table value(2.58) at 0.01 level. It is significant at 0.01 level. Since it is significant, the

hypothesis formulated is rejected and it is observed that there is significant difference between the rural and urban residence adolescents in their awareness on cleanliness and sanitation. Here also urban dwellers maintained superiority.

FINDINGS

1. 18.5% of adolescents have low level of cleanliness and sanitation awareness, 68.5% of adolescents have average level of cleanliness and sanitation awareness and 18% of adolescents have high level of cleanliness and sanitation awareness.
2. Gender, age, medium of instruction, locale, type of family, locality of residence had influence on sanitation and cleanliness awareness of adolescents.

CONCLUSION

The present study revealed that there is significant difference in awareness on sanitation and cleanliness among adolescents in Thiruvananthapuram district with respect to their gender, age, medium of instruction, locale, type of family, locality of residence.

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DECISION-MAKING SKILL AND LEADERSHIP QUALITY OF PROSPECTIVE TEACHERS IN KANNIYAKUMARI DISTRICT

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ABSTRACT

One of the defining skills and responsibilities of all successful leaders is decision-making. It is an essential skill needed to prioritize our work to choose new additional responsibilities to extend our expertise and impact to build our career. This study is an attempt to find out the relationship between decision-making skill and leadership quality of prospective teachers in Kanniyakumari district. Normative survey method was employed in this study. The study was conducted on a sample of 400 prospective teachers from selected colleges of Education in Kanniyakumari district. Stratified random sampling technique was used to select the sample. The tools used to collect data were Decision-making Skill Scale and Leadership Quality Scale constructed and validated by the investigators. The statistical techniques used to analyse data were percentage, t-test and Pearson Product moment correlation. The findings of the study revealed that there was significant correlation between decision-

making skill and leadership quality of prospective teachers in Kanniyakumari District.

Key words: *Decision-making skill, leadership quality, prospective teachers.*

INTRODUCTION

Everyone is not born with a good decision-making skill. A single decision we make can change our life forever and decisions determine our destiny. Leaders with strong decision-making skills will assess ideas and make timely decisions. Great leaders understand how to balance emotion with reason, and have the decision-making skills to positively impact themselves, their employees, customers, stakeholders, and their organizations. Making good decisions in difficult situations is no small feat. They often involve change, uncertainty, stress and sometimes dealing with others' unfavorable reactions (McKenna, 2022).

When making decisions, leaders have to maintain fairness and should be unbiased and communicate appropriately in the situation. To improve decision-making skills leaders need

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to be self-aware. To make crucial and thoughtful decisions, leaders can employ problem-solving skills and to develop strong decision-making skills, leaders need to be aware of their emotions in a healthy and measured way. Leaders must have high emotional intelligence to convey their decisions during decision-making process.

Leaders in different educational roles can set the right example for the individuals working for and alongside them through integrity, enthusiasm and excellent communication. Teachers can set the right example for their students by expressing genuine excitement for learning and pursuing knowledge. Educational leaders make a difference in their communities as well as their schools, as they cultivate safe and healthy learning environments. By raising up intelligent and effective lifelong learners, teacher leaders help promote critical-thinking skills that individuals can take with them throughout their lives (School of Education, 2020).

Today, schools are growing in numbers and sizes, and there is also increase in admission of teachers and students. The growth in secondary education makes it impossible for decision making to be a one man affair. The success of a secondary school system depends largely on the optimum performance of the teachers (Adegoke, 2010).

Without the participation of teachers, changes in curriculum education are impossible. Moreover, it can be said that the quality of schools' performance largely depends upon teachers who occupy the most important place in teaching learning process. Therefore, the involvement of teacher in decision-making may contribute to group goals and shared responsibilities (Gemechu, 2014).

NEED AND SIGNIFICANCE OF THE STUDY

Life changes as soon as we make a new and committed decision. When we make the right decisions at the right time, we become confident to face difficult situations. In today's world, there is tremendous need for good decision makers. To make decisions quickly and responsibly, it is important to develop and improve good decision-making skills. Good decision-making skills help teachers to make their own choices to be responsible and confident in their daily activities. It gives them a sense of control over their lives, reducing anxiety and promoting resilience. The importance of leadership cannot be overstated in an environment where the goal is that every student will achieve high levels. In effective educational environment, leadership capacity is developed and supported at every level. Teacher's development is another aspect of one's leadership. Leadership strategy is a powerful way to help administrators and teachers embed new skills and strategies in their daily work. In developing a good school the single most important factor is effective leadership (Dalal and Rani, 2013).

Leadership and decision-making often go hand-in-hand and leadership styles are important in decision-making. As teachers we should make our students to learn and make use of their leadership skills by influencing, impacting and persuading others to understand and support their decisions. For making students as good decision makers, teachers must stress on values in shaping students' behaviours and common sense for making decisions in life. Teachers must know the importance of imparting decision-making skills in the

classroom as it can help the students to become thoughtful, engaged and productive decision makers. When teachers face many challenges, leadership quality plays an important role to accept the challenges and to solve problems easily.

The investigator focused here to find out the relationship between decision-making skill and leadership quality of prospective teachers and hence the study is entitled Decision-making Skill and Leadership Quality of prospective teachers in Kanniyakumari district.

OBJECTIVES OF THE STUDY

The present study has the following objectives.

1. To find out the level of decision-making skill and leadership quality of prospective teachers.
2. To find out the significant difference if any, in the mean scores of decision-making skill of prospective teachers with respect to locality of institution, marital status and family type.
3. To find out the significant difference if any, in the mean scores of leadership quality of prospective teachers with respect to locality of institution, marital status and family type.
4. To find out the significant correlation between decision-making skill and leadership quality of prospective teachers.

HYPOTHESES OF THE STUDY

The following are the major hypotheses framed for the present investigation

1. There is no significant difference in the mean scores of decision-making skill of prospective teachers with respect to locality of institution.
2. There is no significant difference in the mean scores of decision-making skill of prospective teachers with respect to marital status.
3. There is no significant difference in the mean scores of decision-making skill of prospective teachers with respect to family type.
4. There is no significant difference in the mean scores of leadership quality of prospective teachers with respect to locality of institution.
5. There is no significant difference in the mean scores of leadership quality of prospective teachers with respect to marital status.
6. There is no significant difference in the mean scores of leadership quality of prospective teachers with respect to family type.
7. There is no significant correlation between decision-making skill and leadership quality of prospective teachers.

METHODOLOGY IN BRIEF

Method adopted

The investigators adopted normative survey method of research for conducting this study.

Sample

The study was conducted on a sample of 400 prospective teachers from selected Colleges of Education located in Kanniyakumari District.

Tools used

The tools employed to collect data were (i) Decision-making Skill Scale and Leadership Quality Scale constructed and validated by the investigators.

Statistical techniques used

The statistical techniques used for analyzing the data were percentage, t test and Pearson product moment correlation.

RESULTS AND DISCUSSION**Table 1**

Levels of Decision-Making Skill of Prospective Teachers

| Levels | Count | Percent |
|----------|-------|---------|
| Low | 60 | 15.00 |
| Moderate | 288 | 72.00 |
| High | 52 | 13.00 |
| Total | 400 | 100.00 |

From table 1 it is clear that 15.00 percent of prospective teachers possess low level of decision-making skill, 72.00 percent of prospective teachers possess moderate level

of decision-making skill and 13.00 percent of prospective teachers possess high level of decision-making skill.

Table 2

Levels of Leadership Quality of Prospective Teachers

| Levels | Count | Percent |
|----------|-------|---------|
| Low | 48 | 12.00 |
| Moderate | 316 | 79.00 |
| High | 36 | 9.00 |
| Total | 400 | 100.00 |

From table 2 it is evident that 12.00 percent of prospective teachers possess low level of leadership quality, 79.00 percent of

prospective teachers possess moderate level of leadership quality and 9.00 percent of prospective teachers possess high level of leadership quality.

Table 3

Comparison between Rural and Urban Prospective Teachers with respect to Decision-Making Skill

| Locality of Institution | Mean | SD | N | t value | p value | Remark |
|-------------------------|--------|-------|-----|---------|---------|--------|
| Rural | 205.80 | 10.82 | 200 | 1.303 | 0.193 | NS |
| Urban | 207.51 | 15.08 | 200 | | | |

It is inferred from the table 3 that $p > 0.05$ and t value is not significant at any level. It means that there is no significant difference in the mean scores of decision-making skill of prospective teachers with respect to locality of institution.

Hence the hypothesis, ‘There is no significant difference in the mean scores of decision-making skill of prospective teachers with respect to locality of institution’ is accepted.

Table 4

Comparison between Married and Unmarried Prospective Teachers with respect to Decision-Making Skill

| Marital status | Mean | SD | N | t value | p value | Remark |
|----------------|--------|-------|-----|---------|---------|--------|
| Married | 205.82 | 13.27 | 179 | 1.119 | 0.264 | NS |
| Unmarried | 207.31 | 13.02 | 221 | | | |

It is inferred from the table 4 that $p > 0.05$ and t value is not significant at any level. It means that there is no significant difference in the mean scores of decision-making skill of prospective teachers with respect to marital

status. Hence the hypothesis, ‘There is no significant difference in the mean scores of decision-making skill of prospective teachers with respect to marital status’ is accepted.

Table 5

Comparison between Joint Family and Nuclear Family Prospective Teachers with respect to Decision-Making Skill

| Type of family | Mean | SD | N | t value | p value | Remark |
|----------------|--------|-------|-----|---------|---------|--------|
| Joint | 205.33 | 12.66 | 181 | 1.842 | 0.066 | NS |
| Nuclear | 207.74 | 13.45 | 219 | | | |

It is inferred from the table 5 that $p > 0.05$ and t value is not significant at any level. It means that there is no significant difference in the mean scores of decision-making skill of prospective teachers with respect to type of

family. Hence the hypothesis, ‘There is no significant difference in the mean scores of decision-making skill of prospective teachers with respect to type of family’ is accepted.

Table 6

Comparison between Rural and Urban Prospective Teachers with respect to Leadership Quality

| Locality of Institution | Mean | SD | N | t value | p value | Remark |
|-------------------------|--------|-------|-----|---------|---------|--------|
| Rural | 203.53 | 11.64 | 200 | 2.435 | 0.015 | S |
| Urban | 207.15 | 17.51 | 200 | | | |

It is inferred from the table 6 that $p < 0.05$ and t value is significant at 0.05 level. It means that there is significant difference in the mean scores of leadership quality of prospective teachers with respect to locality of institution.

Hence the hypothesis, 'There is no significant difference in the mean scores of leadership quality of prospective teachers with respect to locality of institution' is rejected.

Table 7

Comparison between Married and Unmarried Prospective Teachers with respect to Leadership Quality

| Marital status | Mean | SD | N | t value | p value | Remark |
|----------------|--------|-------|-----|---------|---------|--------|
| Married | 204.31 | 13.72 | 179 | 1.257 | 0.210 | NS |
| Unmarried | 206.17 | 15.87 | 221 | | | |

It is inferred from the table 7 that $p > 0.05$ and t value is not significant at any level. It means that that there is no significant difference in the mean scores of leadership quality of prospective teachers with respect to marital

status. Hence the hypothesis, 'There is no significant difference in the mean scores of leadership quality of prospective teachers with respect to marital status' is accepted.

Table 8

Comparison between Joint Family and Nuclear Family Prospective Teachers with respect to Leadership Quality

| Type of family | Mean | SD | N | t value | p value | Remark |
|----------------|--------|-------|-----|---------|---------|--------|
| Joint | 203.64 | 13.46 | 181 | 2.106 | 0.036 | S |
| Nuclear | 206.74 | 15.98 | 219 | | | |

It is inferred from the table 8 that $p < 0.05$ and t value is significant at 0.05 level. It means that that there is significant difference in the mean scores of leadership quality of prospective teachers with respect to type of

family. Hence the hypothesis, 'There is no significant difference in the mean scores of leadership quality of prospective teachers with respect to type of family' is rejected.

Table 9

Correlation between Decision-Making Skill and Leadership Quality of Prospective Teachers

| N | Pearson Correlation Coefficient | p | Remark |
|-----|---------------------------------|-------|---------------------------|
| 400 | 0.185 | 0.000 | Significant at 0.01 level |

It is inferred from the table 9 that r value is significant at 0.01 level ($p < 0.01$). It means that there is significant correlation between decision-making skill and leadership quality

of prospective teachers. Hence the hypothesis, 'There is no significant correlation between decision-making skill and leadership quality of prospective teachers' is rejected.

CONCLUSION

The results of the study revealed that the level of decision-making skill of prospective teachers was moderate. The findings of the study revealed that there was no significant difference between the rural and urban, married and unmarried and joint family and nuclear family prospective teachers with respect to decision-making skill. The level of leadership quality was found to be moderate. It was revealed from the findings of the study that there was significant difference between rural and urban and joint family and nuclear family prospective teachers in their leadership quality. The study further revealed that there was no significant difference between married and unmarried prospective teachers in their leadership quality. No significant correlation was found between decision-making skill and leadership quality of prospective teachers.

The decisions we make can change our life and determine one's destiny. Good decision-making skills boost our confidence and provide an insight on our personality by throwing light on our strengths and weaknesses. Teachers can establish a mission and vision for their organizations when they exhibit good decision-making skills like self-knowledge, analytical ability, logical thinking, emotional stability and divergent thinking ability and leadership qualities like communication, positivity, creativity, delegation and commitment.

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ACADEMIC ANXIETY OF ADOLESCENTS

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ABSTRACT

Education in the midst of COVID - 19 pandemic makes adolescents anxious about their academic endeavours. In this study, the investigators made an attempt to study the academic anxiety of adolescents. The objectives of the present investigation are to study the level of academic anxiety of adolescents and to find out whether there exists any significant difference in the mean scores of academic anxiety of adolescents with respect to the background variables namely sex, locality and income status of family. Normative survey method was adopted for the present study. The size of sample for the study consisted of 400 adolescents using random sampling technique. The findings of the study revealed that the adolescents possessed high academic anxiety. It was also found that sex had no influence on academic anxiety and locale and income status of family had significant influence on academic anxiety of adolescents.

Keywords: *Academic anxiety, adolescents, COVID-19 Pandemic.*

INTRODUCTION

Education plays an important role in the overall development of children. It enables children to lead a good life in their society. School education helps to bring desirable changes in the cognitive, affective and psychomotor domains of children. The National Education Policy 2020 has suggested a new structure of school education namely foundational stage, preparatory stage, middle stage and secondary stage. Secondary stage includes classes from 9 to 12, covering the age groups of 14-18 years (Adolescents). Secondary education is one of the important stages in the child's education. Adolescent students of the secondary level experience various stresses due to the various changes occurring in their body. It is a stage of stress and strain, storm and strife. During this stage, an adolescent frequently exhibits emotional instability from intense excitement. These pressures result in stress among the adolescents which leads to aggression and anxiety among them, which in turns leads to self derogation. Formal school education in the COVID period

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were unrealistic for many children in India. Adolescents experienced greater uncertainty and panic behaviours in the context of COVID - 19 pandemic. In addition to their social, economic and psychological factors, technological hazards acted as barriers in the process of acquiring formal education. Further explicitly COVID outbreak induced certain type of anxieties among adolescents.

NEED AND SIGNIFICANCE OF THE STUDY

Education in the midst of COVID - 19 pandemic makes adolescents anxious about their academic activities especially teaching learning process and it would adversely affect their learning. Anxiety and depression are widespread among children and adolescents, affecting academic performance, social development and long-term outcomes (Huberty, 2012). Adolescents experience more emotional and social pressure, because of not getting enough emotional and social support from teachers and peer group. Students experience many problems in executing their day-to-day activities associated with their new mode of learning. In addition to this they are also tensed highly about their future. The new mode of teaching is not engaging and interesting which in turn induce the adolescent to extent their attention and engagement in online games, social networking, watching movies. Expectation of parents and educational institutions about the achievement of their children in examinations also make students severely stressed. Academic anxiety affects the performance of adolescents in many ways. Kohli (2013) reported that adolescents of urban area had significantly higher academic anxiety than the adolescents of rural area. Rathod and Khemka (2016) reported that 18.5% of students

had low academic anxiety, 75% of students had average academic anxiety and about 6.5% of students had high academic anxiety. Female students are more academically anxious than male students. Brahma and Barman (2022) who studied the level of academic anxiety among secondary school students revealed that 2.5% of students had extremely high anxiety, 20% had high anxiety, 46.5% had above-average anxiety, 21.5% had moderate anxiety, 7% had below average anxiety and 2.5% had low anxiety. The study also revealed that gender had a significant influence on academic anxiety. Taking due consideration to these facts, a study on the academic anxiety of adolescent has been considered here.

OBJECTIVES OF THE STUDY

1. To find out the academic anxiety level of among adolescents.
2. To find the significant difference if any in the mean scores of academic anxiety of adolescents with respect to
 - i. Gender
 - ii. Locale
 - iii. Income status of family

HYPOTHESES OF THE STUDY

1. There exists no significant difference in the mean scores of academic anxiety of male and female adolescents.
2. There exists no significant difference in the mean scores of academic anxiety of urban and rural adolescents.
3. There exists no significant difference in the mean scores of academic anxiety of adolescents belonging to the income status above poverty line (APL) and income status below poverty line (BPL).

METHODOLOGY IN BRIEF

Method adopted

Normative survey method was adopted for conducting this study.

Sample

The size of the sample was 400 adolescent students studying in secondary classes in different schools of Thiruvananthapuram district. Simple random

sampling method was adopted to select the sample.

Tool used

Academic Anxiety Scale constructed and validated by Robert Raj and Prasad (2020) was used.

Statistical techniques used

Arithmetic mean, Standard deviation and t test were used for the analysis of data.

RESULTS AND DISCUSSION

Table 1

Academic Anxiety of Adolescents

| Category | Number | Mean | Standard deviation |
|--------------|--------|-------|--------------------|
| Total Sample | 400 | 94.95 | 11.89 |

From table 1, it is evident that the mean was found to be 94.95 out of 135. This indicates that the adolescents have high academic

anxiety. The obtained standard deviation was 11.89.

Table 2

Comparison of Academic Anxiety based on Sex

| Sex | Mean | SD | N | t | p | Remark |
|--------|-------|-------|-----|-------|-------|--------|
| Male | 94.67 | 12.17 | 199 | 0.470 | 0.638 | NS |
| Female | 95.23 | 11.63 | 201 | | | |

From table 2 it is clear that the calculated t value is 0.470 ($p > 0.05$) and it is not significant at 0.05 level. So the null hypothesis 'There is no significant difference in the mean scores of academic anxiety of male and female

adolescents' is accepted. Hence, there is no significant difference in the mean scores of academic anxiety of male and female adolescents.

Table 3

Comparison of Academic Anxiety based on Locale

| Locale | Mean | SD | N | t | p | Remark |
|--------|-------|-------|-----|-------|-------|-------------------|
| Rural | 99.99 | 12.13 | 202 | 9.488 | 0.000 | Sig. at 0.05level |
| Urban | 89.81 | 9.15 | 198 | | | |

From table 3 it is clear that the calculated t value is 9.488 ($p \leq 0.05$) and is significant at 0.05 level. It means that there is significant difference in the mean scores of academic anxiety of urban and rural adolescents. Therefore the null hypothesis 'There is no

significant difference in the mean scores of academic anxiety of rural and urban adolescents' is not accepted. From the mean scores, it is clear that rural adolescents have high academic anxiety than that of urban adolescents.

Table 4
Comparison of Academic Anxiety based on Income Status

| Income status | Mean | SD | N | t | p | Remark |
|---------------|-------|-------|-----|-------|-------|--------------------|
| APL | 92.28 | 10.96 | 249 | 5.882 | 0.000 | Sig. at 0.01 level |
| BPL | 99.36 | 12.08 | 151 | | | |

From table 4 it is clear that the calculated t value is 5.882 ($p \leq 0.05$) and is significant at 0.05 level. So, the null hypothesis ‘There is no significant difference in the mean scores of academic anxiety of adolescents belonging to APL and BPL income status’ is not accepted. From the mean scores, it is clear that adolescents belonging to BPL income status have high academic anxiety than that of adolescents belonging to APL income status.

FINDINGS

1. The adolescent students possessed high academic anxiety.
2. Sex had no influence on academic anxiety of adolescents.
3. Locale and income status of family had influence on academic anxiety of adolescents.

CONCLUSION

The present study revealed that the adolescents possessed high academic anxiety. Since the adolescents have high level of academic anxiety, measures should be taken to reduce their academic anxiety. Government, Educational departments, teachers and parents should take steps to reduce the academic anxiety of adolescents for rural locality during this pandemic. Government, Educational departments, teachers, elected members of legislative, parliament and local self

government should address the learning needs of students from poor economical background by providing televisions, smartphones, laptops and computers to the economically weaker sections of students.

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QUALITY CONCERNS IN CURRICULUM DEVELOPMENT

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ABSTRACT

This article attempts to suggest strategies for maintaining the quality of curriculum. In ancient societies, need for a rich curriculum was not acute, because the knowledge to be mastered was limited. But, in today's context, when the available body of knowledge is enormous and complex, the curriculum has assumed greater significance, due to knowledge explosion. As we have seen from the literature review, curriculum is an educational metaphor constructed from theory and practice-based activity to denote organized patterns of learning that incorporate discrete subsets or packages of intentional knowledge and skills to facilitate change in learner assumptions, behaviors and practices. To plan or adjust a curriculum, it is necessary to find out what the expectations from the labour market and society are for graduates in any discipline. Also the input from the associated research communities – being on top of the state-of-the-art knowledge – is essential. Ensuring that all students benefit from a consistent, well-rounded curriculum that creates a cohesive program of study, NCERT,

the Central Board of Secondary Education (CBSE), the State Councils of Educational Research and Training (SCERT) and UGC have initiated a number of projects to improve the quality of curriculum construction and its transmission in schools and higher education institutions to decide whether instructional materials and methods are satisfactory and where changes are needed. All these aspects are needed while attempting to modify the higher education curriculum to make it relevant to the changing needs of society and ensure continued progress of any nation.

Keywords: *Quality concerns, curriculum development, higher education.*

INTRODUCTION

Curriculum in general is a plan of action aimed at achieving desired goals and objectives. It is a set of experiences and activities meant to make the learners attain goals as prescribed by the educational system. It is a vehicle through which knowledge and activities are disseminated. Curriculum is the

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central guide for all educators as to what is essential for teaching and learning so that every student has access to rigorous academic experiences. With the importance of formal education, curriculum has become a dynamic process due to the changes that occur in our society. It is therefore considered as the heart of any learning institution which means that schools or universities cannot exist without a curriculum. During ancient times, people taught their children to survive by catching fish or animals for food. So their kids learned and acquired the knowledge and skills for survival. This educators call as, the ‘saber-tooth’ curriculum in which the purpose of teaching was for survival. Now due to the effects of discoveries and inventions people’s way of life had changed for the better. As a result, education became formal and curriculum development evolved as systematic, planned, purposeful and progressive. It played a vital role in improving the economy of a country. It also provided answers to solutions to the world’s pressing conditions and problem, such as environment, politics, socio-economic and other issues on poverty, climate change and sustainable development.

The concept of curriculum now could be viewed in several ways and accordingly different interpretations are advanced regarding its contents and functions. All these view points could be categorized into three heads namely Content, Process and Product.

The need for changing the curriculum, the types of changes, some models of change, strategies to implement the change and the

elements of successful change are explained in the following pages.

CURRICULUM OBJECTIVES

- Creative and flexible approaches to learning and teaching.
- Offering an innovative curriculum developed with the aspirations and interests of the student at its centre.
- Making effective use of ICT and new technologies to motivate and inspire students.
- Nurturing close partnerships with local and international organizations, giving students a wide range of opportunities to experience the world of work.
- Providing opportunities for students to extend their learning outside of the formal curriculum, including an entitlement to four hours per week of enrichment activities from the age of seven.

QUALITY OF CURRICULUM

Curriculum is an educational metaphor constructed from theory and practice-based activity to denote organized patterns of learning that incorporate discrete subsets or packages of intentional knowledge and skills to facilitate change in learner assumptions, behaviors and practices. These subsets may be referred to as modules, subjects or syllabi. This reading assumes that curriculum is a conceptual map or overview of the particular terrain to be explored through a sustained relationship between an educator and a group of learners. Curriculum is consensually acknowledged as legitimized learning with agreed outcomes

manifested though certified or informal completion. Challenge and risk-taking are embedded within the curriculum-making and curriculum-enabling process. For the curriculum design team and its managers, there is the challenge of fit for purpose and alignment with the needs of stakeholders. For the educator, there is the challenge and possible risk of effecting meaningful facilitation strategies within the chosen learning space, whether incorporated within the curriculum design or initiated through her or his professional skills repertoire. And for the learner, there is the challenge of stretching one's capacities to undertake new learning, with the attendant risk of damage to self-esteem and future career opportunities through the real possibility of noncompeting or failure. The pragmatists offer interesting insights into defining curriculum as a form of practice, relying on the living world of experience rather than theoretical or philosophical abstraction, though theory and philosophy appear subsequently as underpinning curriculum purpose or justifying curriculum intent.

FACTORS AFFECTING QUALITY OF CURRICULUM

Knowledge Explosion

In the tremendous explosion of knowledge in recent years and the reformulation of the basic concepts in physical, biological and social sciences have brought into sharp relief the inadequacies of existing school

programmers. The gulf between the school and the university in the major academic disciplines, which was always wide, has become wider still with the rapid advance of science. Therefore there is an urgent need to drastically change the school curriculum to keep pace with the increase in knowledge.

Changing Society

The needs and aspirations of the society are changing and as such these changes should get reflected in the school curriculum. Due to tremendous advances made in science and technology, our society is changing fast. Individuals have to participate in this growth and contribute their share. To produce knowledgeable citizens of society, curricular contents should be made broad based and multiple learning experiences are to be provided in schools as every generation is standing on the shoulders of the previous generation.

Changing Student Population

Students are also changing. They are not the same as they were. We have now more number of students, knocking at the doors of learning houses. They are more in number and they are also more heterogeneous. Today we have a more complex group of students, complex in composition, nature, needs and aspirations, motives and entry behavior, than the students of yester years. To provide them with equitable opportunities and experiences and activities curriculum has to be flexible and

changing within a framework and also change the framework too according to the needs of the hour.

Developing Technology

Technology is fast developing. It is an age of technology that we are living in. Educational technology has brought in changes in the concepts in the learning aids, in the strategies that we use for instructional purposes. The hardware made available to the teacher and the software that he can prepare or get from other sources, have helped him to plan more and more effective and efficient instructional designs and carry them through in the classroom.

MAINTAINING QUALITY OF CURRICULUM

- Selecting, developing, and overseeing of faculty with credentials appropriate to the courses they teach and additional responsibilities they fulfill.
- Providing education consistent with the accreditation standards, industry trends, and developments in the field of education.
- Using industry experts to both contributing to the development of curricula and teach it in combination with a meaningful infusion of their own professional experience.
- Ensuring that all students benefit from a consistent, well-rounded curriculum

that creates a cohesive program of study.

- Providing the learning experiences, and knowledge based on student's desire.

IMPROVING QUALITY OF CURRICULUM TRANSACTION

NCERT, the Central Board of Secondary Education (CBSE), the State Councils of Educational Research and Training (SCERTs) and the State Board of Secondary Education have initiated a number of projects to improve the quality of curriculum transmission in schools. To improve the quality of mathematics education, the CBSE has launched a project namely 'Operation Mathematics' emphasizing the re-orientation of all teachers. The CBSE has also developed source materials in education in areas of environment, values, consumer and population.

EVALUATION FOR CURRICULUM IMPROVEMENT

- i) For course improvement
To decide whether instructional material and method are satisfactory and where changes are needed.
- ii) To know about learners
 - To decide on the entry qualification and behavior of students who are supposed to make use of the curriculum.
 - For judging pupil-merit to group them for instruction and also acquaint them

- with progress and deficiencies, while they are making use of the curriculum.
- iii) For Administrative Regulations
To judge how good the college system is and how good individual teachers are.

CONCLUSION

Maintaining quality of curriculum in higher education programmes can be done through bringing quality in the curriculum and instruction of education programmes, providing students quality support services, training faculty members in using innovative methods of instruction in higher education, provision of technical support for promotion of research culture, adopting multiple ways of assessment of students, developing code of ethics for higher education faculty members and students in higher education.

All these concepts are to be kept in mind while attempting to modify the curriculum so as to make it relevant to the changing needs of society by ensuring continued progress for the society.

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