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Preface

Dear Reader,

Dr. Hina M. Patel, and

Dr. Varsha C. Brahmbhatt

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Sports and Women - An Overview

Prof. Madhuben S. Thakor
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Standards in the conduct of sports for girls and women as devised, endorsed, and promoted by the many outstanding leaders in the national association for girls and women in sports of the AAHPER, the national federation of state High school athletics for women have given both great impetus and strong guidance to the rapidly growing sports programs for females throughout the nation. At first there were no such guiding groups; highly organized competitive games for girls and women were introduced cautiously and slowly in selected eastern women's colleges.

The first women's game of basketball was played at Smith College in 1899, followed shortly of afterwards by hockey as introduced by Constance Applebee in 1901, then by swimming and track and field events. The first attempt to guide women's sports on the national level was in 1907, when the women's basketball guide of that year announced that a women's rules committee had been formed. From this group developed the women's rules committee had been formed. From this group developed the women's athletic committee, which later became the national section for women's athletics. In 1957 it became the division for girl's and women's and women in sports of the American alliance for health, physical education and recreation.

FINANCING

The financing of the sports program should be included in the budget of the school, college or recreational program. Funds may include gate receipts and student fees, but the program must not be fully independents on floating income.

LEADERSHIPE

Administrators, teachers, coaches and officials should provide competent leadership to assure desirable outcomes of the sports program. Players have an obligation to perpetuate fair play while gaining skill development and personal satisfaction from sports.

PUBLICITY

A planned program of publicity should present interesting information on program, its standards, aims and outcome. The publicity should be carefully interpreted to news writers, telecasters, parents, community leaders, the players and their associates. Publicity should stress the educational social values of sports. Constructive public relations consider the best interests of the participants as it develops a sound public attitude, an appreciation of the efforts of the players.

HEALTH

- Provision must be made for careful supervision of the health of all players.
- Equipment and facilities should be hygienic and safe.
- First and supplies should be available at practices and games.
- Participants must have periodic health examinations.
- Adequate health and accident protection for participants should be provided.
- After serious illness or injury, permission from a physician should be required to resume participation.

LADDER TOURNAMENT

This in an excellent plan for small competitive groups or for use as "challenge matches" to determine positions on a team such as tennis or badminton. The tournament is self-operative once the calendar dates for challenges and termination are established. It is often called a perpetual tournament for it may run throughout the school year. Although there are several plans which involve seeding players, the most common method of determining ladder position is by random selection or lot. A player may challenge the person directly above her and if she defeats her opponent, they change position on the ladder. The winner is the person achieving the top rung of the ladder at the close of the tournament.

More women are competing now in intercollegiate sports, as individuals or as representatives of clubs or athletic groups; more sports, as individuals or as representatives of clubs; more high school girls are playing in expanded interscholastic and after school sports programs; and selected elementary school programs offer competition for girls in the upper grades. More women are becoming educated spectators of both male and female sporting events through television and expanded sports groups. Equality of opportunity for women to learn, participate in sports has become a national concern.

BADMINTON

Badminton developed from the ancient game of battledore and Shuttlecock played in Siam and China over 200 years ago. The influence of ancient heritage is still reflected in the national sport status given badminton in India, Malaysia, Indonesia and Thailand. A modified version of the ancient sport known as "Poona" caught the attention and enthusiasm of British Army officers stationed in India. They brought the game to England around 1870. The Duke of Beaufort gave real impetus to the game at his estate, Badminton House, in the rural hamlet of Badminton in Gloucestershire.

GYMNASTICS

Today gymnastics is one of our fastest growing sports for girls and women. Few other physical activities require such dedication, self-discipline, intricately refined movements and body control. As a challenging sport it is ideal for the highly skilled as well as for those of average ability. Man's basic drive for self -preventive makes it possible Greeks, with whom we associate the origin of many sports and records dating back to 2100 B.C. show that the sports was popular in china, Persia, India and Egypt even before Greek influence. The Greeks used words meaning the naked art, athletic, disciplinary exercises and gymnastics interchangeably. The word gymnasium, which comes from the Greek, still denotes the place wherein sports are learned, practiced and played.

HOCKEY

The word "hockey" comes from the French word hoquet, but the game has been played for many years as "Hurley" in Ireland, "shinty" in Scotland, and "bandy" in Wales. As an international sport for men, filed hockey has achieved Olympic Games status. Although there are a limited number of men's clubs the United States, girls and women participate wildly in field hockey as a fall sport in school, colleges, and local associations. field hockey was brought to the united states from England in 1901 and introduced to college women at Vassar, Bryn Mawr, smith, Wellesley and mount Holyoke by Constance Applebee. One of the most frequently asked questions about sports in general and women athletes in particular is when will the human factor as a limitation and absolute end regarding athletic performance finally be realized. Human seem to run faster, jump higher, excel and surpass exciting records each year. When and where will it end. This question is best answered by a brief look at the recent rise of women's athletic competition from second class status to that of legitimate varsity, elite recognition. Until the mid-1970s, before the implementation of title IX and the Women's Movement, the opportunity for American Women Who sought to excel in the competitive

sports arena was limited and restricted primarily as a result of traditional gender roles and expectation in terms of the way Women were to be properly perceived by society. With few exceptions, Women and girls were channelled into acceptable sports such as ice skating, swimming and tennis.

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Women Education: Past, Present and Future

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Each time a girl opens a book and reads a womanless history, she learns she is worth less.
- Myra Pollack Sadker

Women of the past were illiterate but not unimportant. In each era, certain women got importance such as Sita, Draupadi, Jodha, Indira or Sonia. Women in the past had one draw hack that they were not independent. Not only they were economically dependent but they were socially dependent too.

As all other species, human has also two genders- male and female. Though nature made them interdependent, strong physiological structure of male had gave advantage him over female. But strong willpower and brain power of the female helped them to create and sustain their importance. However, egocentric nature of female compelled them to be dependent on male to compete among the females.

It is said by chanakya that woman are four times clever, six times more willingness to take risk than man.

History shows that if given a chance, women are not lesser than men. They proved that they were and are equally capable as men. But actual problem is that they were not given chance to grow and develop due to one or other reason. Main and real Reason behind this may be rules or norms were decided by the men. They either to protect girls or their men ego, they restrict women development in certain areas.

As the human civilization grow, it becomes necessary to develop women also along with men in order to grow faster and faster, as women are also equal partners of developed civilization. So women got more and more freedom and chances to develop themselves. In overall world scenario, certain parts of human civilization gave more freedom to women and some parts of the world restricts women development in the name of religion or social customs. But fruitful result of developed women in other parts compelled others to think about equal opportunities to women.

Today, it is almost clear that a country, a society or a house had definite plan for woman development and all are convinced that women growth is must for whole civilization to grow more and more. It is also convinced that male — female ratio is also required to be maintained equal in order to not only to avoid harassment to the women, but for happily and peaceful leaving of men also. it is already confessed that women are so important jewel of humanity that they should be prevented and allow to prosper for better future.

Women also on the other part, due to their literacy or earning power due to literacy or power due to ratio difference understood their importance and ready to fight for their rights. Their financial independency or male female ratio difference helped them to do so. But it should also clear that female having pregnancy power and getting strong place in present world should put their deliberate efforts to reduce male female ratio gap.

Women and Education: Past, Present and Future

Different countries had different history and perspectives as far as women Education is concerned. Certain Countries had culture and social environment from very early stages of present civilization growth that they had given equal opportunities to women for Education, whereas Indian civilization especially Aryan culture from Vedic literature shows no evidence for special Education system and opportunities for women's Education. On the contrary, Warm in his famous Manusmriti, already discussed in Chapter 1, states that women needed to acquire knowledge for running a good household, managing the home economy and inculcating the knowledge of medicine as well as crafts.'

It shows Indian culture and belief since the times of Rigveda that men and women have to handle different kind of works required for overall wellbeing of family. It seems that earlier both kind of works had equal importance but letter on, works of men become more important due to Economical and defensive power acquired by men. Women work might be considered as routine nature and less important and so as women.

As civilization grow, intensive Defense training received by men and men became more important for the rein in order to obtain and maintain power and rule. More over due to more and more wars, numbers of men might be lesser than women and due to imbalance, more numbers of women preferred to marry same man and it again become competitive for women to please their men by more and more slavery, so status of women might have got down and women also might had started to believe that they are dependent on men and their life is to serve men.

Women Education might lead to women development and hence increased status of women. Since long no such system of women Education had been noted as far as Vedic era was. concerned, but thirty-three mantras of Rigveda were composed by women lead us to believe that girl child had opportunity to learn at home. Status of women in Vedic era was not bad and unimportant or not like secondary status.

Buddhism and Jainism were great agents of change: they gave importance to the status of women, like they sought change in so many other field of social activity. We have evidence of nuns of the Buddhist order composing hymns and verses, many of which are included in the Therigatha. We also know that Buddhism and Jainism stressed the composition and writing of religious texts which required literacy and we learn that women used to read extensively. The inscriptions of the Buddhist, Jains and Hindu kings in the first millennia after Christ clearly point to their state of literacy. It appears that most girls learned from the family members and had enough knowledge to read religious books, scriptures and the epics. It shows that women were having important status as they were given chance to learn and vice a versa.

It is not clear that emphasis on women Education was continued at the times of Muslims rule in India and situation become more worsen during British rule and that is why we could not find any great lady leader during freedom movement except Rani Laxmibai, that was also from royal family and fight for her own rein.

Later on, During British Rule and thereafter, Education developed great leaders and great vision of them. To fulfil the great vision, if women, almost half of the population remain illitera to and hence not economically productive leave country behind. Success Story of developed countries and Educated women contribution there may also force government to think about women Education. On the other and Educated women's contribution in family Income especially in urban areas lead more and more women to come forward for Education. But still as per 1991 census-wise literacy rate of male 64.13 % whereas of women is only 39.29 % (though increased from 0.60 % in 1901), still 60 % of illiterate women are unable to contribute in country's economic development. If we study literacy rate state wise as per census of 1991, even state like Gujarat had only 48.64 %, it means still more than 50 % women in State of Gujarat is illiterate.

It is imperative that literate women can understand better about overall development, more aware about their rights, unlikely to be exploited more likely to be helpful in family's wellbeing and have a share in family decisions and hence more satisfied life living. Present Scenario is also not good as far as village girls are concerned. Though government giving

emphasis on women education, drop out ratio of girl child compare to male child is matter of worry.

In urban areas, situation is quite different and more and more girl child are taking education and performing well as compare to their male counterpart and, as a result of this they are getting economic power, which is helpful them for their social life.

Conclusion:

For progress of the society, all sections of the society should prosper and progress. For that men and women or boys and girls from all the sections of the society including urban, rural and schedule caste, schedule tribes should give chance to educate themselves and contribute for the welfare of the country. Women having half of the portion of population must be educated and prepare to understand economic, social, political, health, educational, physiological status of themselves and able to enhance the same.

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A Comparative Study of Numerical Ability of high and Low Achievers of IX Standard Students

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Abstract

The present study is "A Comparative Study of Numerical Ability of High and Low Achievers of IX Standard Students". In the present study the researcher has collected the data from the sample of 374 students of IX standard, studying in C.B.S.E. and G.S.E.B. affiliated schools of Ahmedabad city, Gujarat. The data was collected by using the Standardized tool, which was standardized by Dr. K. H. Yadav. The method tiff collection of data was survey method. The interpretation of the data Was done with statistical method, which involves Mean, Standard deviation and t-test. Finally, the conclusion was drawn and the results were revealed.

Key Words: Numerical Ability, High Achievers, Low Achievers, IX Standard Students

Introduction

In compare to animals' man is considered to be capable with certain cognitive abilities which make him a rational being. He can reason, discriminate, understand, adjust and face a new situation more intelligently. Definitely man is superior to animals in all such aspects of behavior. But human beings themselves are not all alike. Some may he bright. others are average and some are dull. This means that suppose two students have taken a single score test. which is composed equally of verbal and numerical items. One student answers few items correctly of verbal type and almost every numerical item correct and other student picks up very few point on numerical part but scores good in verbal items. As a result, both students will be said to have same IQ but they are not same in their abilities. This reveals the need of measurement of abilities. Here, the numerical ability test refers to the skills, an individual has acquired in the basic arithmetic, computation of numbers, numerical critical reasoning, understanding the relationship of numbers, measurements, number sequences. Moreover, secondary school i.e. standard IX is among the foremost factors contributing the intellectual improvement. Secondary stage of education coincides with adolescence period. The National

Curriculum Frame work (NCF) 2005 recommends that children's life at school must be linked to their life outside the school. [his principle marks a departure from the legacy of bookish learning which continues to shape our system and causes a gap between the school, home and society (community). It is necessary to encourage children to reflect on their own learning and pursue imaginative activities and questions. Almost in all the entrance examination, numerical ability is a major part. The student who has the ability to solve the reasoning questions, those who do well in arithmetic and measuring, can do well in (i.e. these abilities are so common in) business offices, factories, service shops and stores. Numerical ability is also helpful in technical careers and other jobs like laboratory assistants, bookkeepers. clerks. in construction work and in many, other trade skills. Along with state hoards in each respective states of our country (India), various schools and hoards arc also coming up. Like C.B.S.E. (Central Board of Secondary Education) board. ICSE board and many other international boards like Cambridge, Oxford etc. The study patterns are different in different boards but the common centre of importance in all of them is the level of numerical ability of their students.

So, keeping all these points in mind, the researcher limits the area and draws the attention towards the two most concerned boards of education in Ahmedabad city for the present study. Among the two different education boards i.e. C.B.S.E. (Central Board of Secondary Education) and G.S.E.B. (Gujarat Secondary Education Board), there is a difference in syllabus. text books. and examination period as well as in assessment method. But how these two educational boards help the child to develop his numerical ability is not given much importance yet. Furthermore. although not enough is known about the difference between the level of numerical ability of students of both these boards i.e. C.B.S.E. and G.S.E.B. They appear sufficiently promising to begin to receive more attention in the present study. The researcher has decided to conduct a research on the comparison of numerical ability of students (both high achievers and low achievers) of C.B.S.E. and G.S.E.B. affiliated schools of Ahmedabad city.

Objectives of the Study:

1. To compare the numerical ability of high achiever students and low achiever students of standard IX.
2. To compare the numerical ability of students of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.
3. To compare the numerical ability of high achiever students of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.

4. To compare the numerical ability of low achiever students of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.
5. To compare the numerical ability of high achiever boys of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.
6. To compare the numerical ability of low achiever boys of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.
7. To compare the numerical ability of high achiever girls of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.
8. To compare the numerical ability of low achiever girls of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.

Hypothesis of the Study:

H_{o1}: There will be no significant difference between the mean scores of numerical ability of high achiever students and low achiever students of standard IX.

H_{o2}: There will be no significant difference between the mean scores of numerical ability of students of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.

H_{o3}: There will be no significant difference between the mean scores of numerical ability of high achiever students of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.

H_{o4}: There will be no significant difference between the mean scores of numerical ability of low achiever students of standard IX studying. in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.

Ho5: There will be no significant difference between the mean scores of numerical ability of high achiever boys of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.

Ho6: there will be no significant difference between the mean scores of numerical ability of low achiever boys of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.

Ho7: I here will be no significant difference between the mean scores of numerical ability of high achiever girls of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.

Ho8: There will be no significant difference between the mean scores of numerical ability of low achiever girls of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools.

Delimitation of Present Study:

(1) The study will be limited to Ahmedabad city only.
(2) The stud will be restricted to English medium schools.
(3) Only IX standard students will be taken under consideration.
(4) sample under the study is taken only from school affiliated to C.B.S.E. and G.S. E. B. boards.

Sample Selection of the Study:

In the present study, simple random sampling technique has been used by the researcher. The sample of the study were 374 students of standard IX, in which 187 students were from C.B.S.E. affiliated schools and 187 students were from G.S.E.B. affiliated schools. Along with the administration of numerical ability test on the students, the scholastic achievement marks of every individual student (over all marks of first term examination) were also collected/recorded H the researcher with the help of respective class teacher of the particular school. so as to divide them in the category of high achievers and low achievers.

Research Methodology:

In the present study the researcher used school survey method and distributed 374 questionnaire based on numerical ability devised by Dr. K.H. Yadav for student of IX standard of C.B.S.E. and G.S.E.B. In the first step of administration, researcher collected the details of the schools from Ahmedabad city of Gujarat. Then after, their respective numerical ability marks were kept in the tabular form and the whole process of calculation was done as per the requirement of the present study.

Tool of the Study:

The researcher has used the Standardized tool of **NUMERICAL ABII.ITY TEST,** prepared by **Dr. K.H. YADAV**. This test consists of 40 items of 40 marks. Total time duration of test is one hour. The test comprises of five components of numerical ability viz: numerical facility, arithmetic concepts, arithmetic reasoning, number series and number matrices and relative magnitude. Eight items of each component are arranged in omnibus pattern.

Statistical Calculation:

For interpretation of data mean, S.D. and t-test were used.

Analysis and Interpretation of Data:

The following table gives the result of the data according to the respective hypothesis.

Sr. No.	Hypothesis Number	Variable	N	Mean	S.D.	T-Value	Significance
1	Ho_1	**High achievers** (C.B.S.E. + G.S.E.B.)	189	24.19	6.30	12.70**	Significant and Ho_1 is **rejected**
		Low achievers (C.B.S.E. + G.S.E.B.)	185	16.40	5.52		
2	Ho_2	**C.B.S.E.** (High achiever + Low achiever)	187	22.66	7.56	6.64**	Significant and Ho_2 is **rejected**
		G.S.E.B. (High achiever + Low achiever)	187	18.04	5.77		
3	Ho_3	**C.B.S.E. High achievers** (boys + girls)	126	25.55	6.35	4.40**	Significant and Ho_3 is **rejected**
		G.S.E.B. High achievers (boys + girls)	63	21.44	5.28		
4	Ho_4	**C.B.S.E. Low achievers** (boys + girls)	61	16.66	6.20	0.44	Not significant and Ho_4 is not **rejected**
		G.S.E.B. Low achievers (boys + girls)	124	16.27	5.18		
5	Ho_5	**High achievers of C.B.S.E.** (boys)	74	25.57	6.66	3.77**	Significant and Ho_5 is **rejected**
		High achievers of G.S.E.B. (boys)	29	20.52	4.38		
6	Ho_6	**Low achievers of C.B.S.E.** (boys)	31	16.26	5.82	0.54	Not significant and Ho_6 is not **rejected**
		Low achievers of G.S.E.B. (boys)	76	15.67	4.74		
7	Ho_7	**High achievers of G.S.E.B.** (boys)	52	25.52	5.94	2.49**	Significant at 0.05 level and not significant at 0.01 level i.e. **accepted at 0.05 level & rejected at 0.01** level
		High achievers of G.S.E.B. (Girls)	34	22.26	5.89		

8	Ho_8	**Low achievers of C.B.S.E.** (Girls)	30	17.07	6.64	0.11	Not significant and Ho_8 is not **rejected.**
		Low achievers of G.S.E.B. (Girls)	48	17.23	5.73		

Where, *= Significant at 0.05 level

Where, ** = Significant at 0.01 level

Findings of the Study:

1. Out of 100 cases. in 99 cases there exists a significant difference between the level of numerical ability of high achiever students and low achiever students of standard IX. Moreover, the mean scores of high achiever students have higher (more) value than the mean scores of low achiever students. **Thus. it is clear that high achiever students of standard IX have higher level of numerical ability than low achiever students of standard IX.**
2. Out of 100 cases, in 99 cases there exists a significant difference between the level of numerical ability of (high achiever and low achiever) students of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools. Moreover, the mean scores of (high achiever and low achiever) students of standard IX studying in C.B.S.E. affiliated schools have higher (more) value than the mean scores of (high achiever and low achiever) students of standard IN studying in G.S.E.B. affiliated schools. **Thus, it is clear that the students of standard IX studying in C.B.S.E. affiliated schools have higher level of numerical ability than students of standard IX studying in G.S.E.B. affiliated schools.**
3. Out of 100 cases, in 99 cases there exists a significant difference between the level of numerical ability of high achiever students of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools. Moreover, the mean scores of high achiever students of standard IX studying in C.B.S.E. affiliated schools have higher (more) value than the mean scores of high achiever students of standard IX studying in G.S.E.B. affiliated schools. **Thus, it is clear that the high achiever students of standard IX studying in C.B.S.E. affiliated schools have higher level of numerical ability than the high achiever students of standard IX studying in G.S.E.B. affiliated schools.**
4. There is no significant difference between the level of numerical ability of low achiever students of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools. **It means that low achiever students of standard IX studying, in C.B.S.E.**

affiliated schools and low achiever students of standard IX studying in G.S.E.B. affiliated schools have same level of numerical ability.

5. Out of 100 cases, in 99 cases there exists a significant difference between the level of numerical ability of high achiever boys of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools. Moreover, the mean scores of high achiever boys of standard IX studying in C.B.S.E. affiliated schools have higher (more) value than the mean scores of high achiever boys of standard IX studying in G.S.E.B. affiliated schools. **Thus, it is clear that the high achiever boys of standard IX studying in C.B.S.E. affiliated schools have higher level of numerical ability than the high achiever boys of standard IX studying in G.S.E.B. affiliated schools.**
6. There is no significant difference between the level of numerical ability of low achiever boys of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools. **It means that low achiever boys of standard IX studying in C.B.S.E. affiliated schools and low achiever boys of standard IX studying in G.S.E.B. affiliated schools have same level of numerical ability.**
7. Out of 100 cases, in 95 cases there exists a significant difference between the level of numerical ability of high achiever girls of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools. Moreover, the mean scores of high achiever girls of standard IX studying in C.B.S.E. affiliated schools have higher (more) value than the mean scores of high achiever girls of standard IX studying in G.S.E.B. affiliated schools. **Thus, it is clear that in 95% cases, the high achiever girls of standard IX studying in C.B.S.E. affiliated schools have higher level of numerical ability than the high achiever girls of standard IX studying in G.S.E.B. affiliated schools.**

   Out of 100 cases, in 99 cases there is no significant difference 'between the level of numerical ability of high achiever girls of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools. **Thus, it can be said, that the high achiever girls of standard IX studying in C.B.S.E. affiliated schools and the high achiever girls of standard IX studying in G.S.E.B. affiliated schools Have same level of numerical ability**
8. There is no significant difference between the level of numerical ability of low achiever girls of standard IX studying in C.B.S.E. affiliated schools and G.S.E.B. affiliated schools. **It means that low achiever girls of standard IX studying in C.B.S.E.**

affiliated schools and low achiever girls of standard IX studying in G.S.E.B. affiliated schools have same level of numerical ability.

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Effective Functioning of IQAC - Challenges and Best Practices

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Introduction

Excellence is a peak term for Higher Education Institutions and a term difficult to achieve too. But quality concern being the major talk of the institutions today, have made them work harder to achieve it and the Internal Quality Assurance Cell (IQAC) for quality sustenance and enhancement is guiding them in the most efficient way and the institutions are emerging with good results. The quality goals and objectives are to be consistently achieved and maintain excellence in performance of students with respect to grades, discipline, placement, extracurricular activities and social work. It is advisable to pay attention to the innovative teaching methods and procedure of evaluation which will be the main focal point of this paper. The ideas will be converged to the maintenance of quality while carrying out the teaching-learning process and also examining whether the predetermined objectives are achieved or not. which will be done through evaluation. It is very important to know and consider how an instructor can improve the quality of instruction in an individual course. Then the more difficult question is how academic organization can improve the quality of its instructional program. Good teaching can be understood as that transmission of knowledge or information that leads to effective learning on the part of learners which in turn means thorough and long-lasting retention of the knowledge, skills, and values which the teacher or mentor is thinking to provide or the institution has set out to impart. When we talk about quality based Teaching —Learning process. it has to be equipped with variety of good teaching strategies. It would not he an exaggerated statement if I say that instructional objectives play a vital role in this quality check point of better teaching.

Objectives of the Study

Instructional objectives are the pre-determined goals which has to be achieved through actions and performance after having mastered the content and skills the instructor has attempted to teach. An instructional objective comprises of the statements like at the end of

this course/chapter/lecture, the student should be able to understand or to do well on the next exam, the student should be able to master, which means that the outcome should be observable by the teacher.

1. **Knowledge** (repeating verbatim).
2. **Comprehension** (demonstrating understanding of terms and concepts).
3. **Application** (solving problems).
4. **Analysis** (breaking things down into their elements, formulating theoretical explanations)
5. **Synthesis** (creating something, combining elements in novel ways).
6. **Evaluation** (choosing from among alternatives).

Use of Active Learning Theory

The six given categories are the cognitive domain levels of Bloom's Taxonomy - of Educational Objectives (Bloom 1984). The last three categories-synthesis, analysis, and evaluation-are often referred to as the "higher level thinking skills." Well-formulated instructional objectives can help instructors prepare lecture and assignment schedules and facilitate construction of in-class activities, out-of-class assignments. and tests. Perhaps the greatest benefit comes when the objectives cover all of the content and skills the instructor wishes to teach and they are handed out as study guides prior to examinations.

Use active learning in class as most students cannot stay focused throughout a lecture. After about 10 minutes their attention begins to drift and by the end of the lecture they are taking in very little and retaining less. A classroom research study showed that immediately after lecture students recalled 70% of the information presented in the first ten minutes and only 20% of that from the last ten minutes.

Various Active Learning Exercises

Students' attention can be maintained throughout a class session by periodically giving them something to do. Many different activities can serve this purpose of Which the most common is the small-group exercise. At some point during a class period, the instructor tells the students to get into groups of two or three. When the groups are in place, the instructor asks. a question or poses a short problem and instructs the groups to come up with a response. telling them that only the recorder is allowed to write but any team member may he called on to give the response. Alter a suitable period has gone the teacher randomly calls on one or more students or teams to present their solutions. Calling on students rather than asking for volunteers is essential. If the students know 'that someone else will eventually supply the

answer, many will not even bother to think about the question. Active learning exercises may serve the purpose of variety of objectives. It can include.

(1) **Recalling previous content:** The students may be given one minute to list as many points as they can recall about the previous lecture or about a specific topic covered

(2) **Responding to questions:** Any questions an instructor would normally ask in class can be directed to groups. In most classes especially large ones very few students are willing to volunteer answers to questions. even if they know the answers. When the questions are directed to small groups. most students will attempt to come up with answers and the instructor will get as many responses as he or she wants.

(3) **Problem solving:** A large problem can always be broken into a series of steps, such as understanding the problem statement, predicting a solution, solving them or outlining a solution procedure, and checking or interpreting the solution. When working through a problem in class, the teacher may complete some steps and ask the student groups to attempt others. The groups should generally be given enough time to think about what they have been asked to do and begin formulating a response.

(4) **Analytical, critical, and creative thinking:** The students may be asked to list assumptions, problems; explain a technical concept, find the logical flaw in an argument; predict the outcome of an experiment or explain an observed outcome in terms of course concepts; or choose from among alternative answers or designs or models or strategies and justify the choice made. The more practice and feedback the students get in the types of thinking the instructor wants them to master, the more likely they are to develop the skills.

(5) **Generating questions and summarizing:** The students may be given a minute to come up with two good questions about the preceding lecture segment or to summarize the major points in the lecture just concluded.

Co-operative Learning Task

It is instruction that involves students working in teams to accomplish an assigned. task and produce a final product. The teacher has to take care that during the implementation of co-operative learning certain points are mandatory which includes:

(1) Good inter-personal relationship among students.

(2) Healthy and positive interdependence among children.

(3) Awareness about their individual contribution.

(4) One to one interaction among them.

(5) Able to use team spirit and skills in them.

(6) Assessing the work of their team.

Effectiveness of Cooperative Learning Process

It is found that the effectiveness of cooperative learning in higher education is noteworthy. Cooperatively-taught students tend to exhibit better grades on common tests. better analytical. creative, and critical thinking skills, deeper understanding of learned material. greater intrinsic motivation to learn and achieve, better relationships with peers. more positive attitudes toward subject areas, lower levels of anxiety and stress. and higher self-esteem. No doubt that with such innovations in the methods quality can he achieved and the purpose of IQAC can be served.

Educational Evaluation Methods

(1) Educational evaluation methods are ideas put into practice as teaching strategies and tools for implementing effective modes of teaching.

(2) Educational evaluation methods give teachers achievable goals in the classroom and ways to perfect teaching strategies.

(3) There are many different educational evaluation methods used across institutions today.

(4) Evaluation shows how much knowledge was gained by teaching the lesson. Evaluation lets the teacher know if the lesson was a success.

(5) Common evaluation methods include tests, quizzes. writing a paper or creating a project. Never test a student on content that wasn't addressed in the lesson. This wouldn't be fair to the student and may cause undue stress to him.

(6) Continuous Comprehensive Evaluation technique is useful to identify difficulties and weaknesses in learning of student.

(7) It is also useful for all round development of the student. But it is necessary to use variety of evaluation tools and techniques.

(8) An adequate educational evaluation enhances instruction. Just as evaluation impacts student learning and motivation. it also influences the nature of instruction in the classroom.

Good Evaluation and Assessment Points

(1) Good assessment is valid and considers validity as a concept that needs to be fully understood.

(2) Like reliability, there are technical terms and issues associated with validity that are essential in helping teachers and administrators make reasonable and appropriate inferences from evaluation results.

(3) Both intended and unintended consequences of evaluation need to be examined with appropriate evidence that supports particular arguments or points of view.

(4) Evaluation that is fair, leading to valid inferences with a minimum of error is a series of measures that show student understanding through multiple methods.

(5) A complete picture of what students understand and can do is put together in pieces comprised by different approaches to evaluation.

(6) While evaluating it is stressed that important decisions should not he made on the basis of a single test score, some educators at the local level.

(7) There is a need to understand the entire range of evaluation techniques and methods. with the realization that each has limitations.

Evaluation Efficient and Feasible

Good evaluation is fair and ethical and there are four views of fairness: as absence of bias as equitable treatment, as equality in outcomes, and as opportunity to learn. It includes entire chapters on the rights and responsibilities of test takers, testing individuals of diverse linguistic backgrounds, and testing individuals with disabilities or special needs. Student knowledge of learning targets and the nature of the evaluations prior to instruction. Student prerequisite knowledge and skills, including test -taking skills.

Teachers and school administrators have limited time and resources. Consideration must be given to the efficiency of different approaches to evaluation, balancing needs to implement methods required to provide a full understanding with the time needed to. develop and implement the methods, and score results. Teacher skills and knowledge are important to consider, as well as the level of support and resources.

We may consider a lot the importance in the fact of good evaluation appropriately incorporates technology. As technology advances and teachers become more proficient in the use of technology, there will be increased opportunities for teachers and administrators to use computer-based techniques (e.g., item banks, electronic grading, computer-adapted testing, and computer-based simulations), Internet resources, and more complex, detailed ways of

reporting results. There is to him, however. a danger that technology will contribute to the mindless use of new resources. such as using items on-line developed by some companies without adequate evidence of reliability. validity, and fairness, and crunching numbers with software programs without sufficient thought about weighting, error, and averaging.

Conclusion

To summarize, what is most essential about evaluation understands how general, fundamental evaluation principles and ideas can be used to enhance student learning and teacher effectiveness. This will be achieved as teachers and administrators learn about conceptual and technical evaluation concepts, methods, and procedures. for both large-scale and classroom evaluations. and apply these fundamentals to instruction. Thus, it is advisable for the 1 HEI's to incorporate such techniques which can drive the institution to peak of excellence and thus IQAC if functions well can meet the challenges and effectiveness can increase. So maintaining IQAC in the institute is a fruitful experience.

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Agriculture Sustainability in Relation to Water Management of Crops in Drought Prone Area

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"Sustainable agriculture involves a system for food and fibre production that can maintain high levels of production with minimal environmental impact and can support viable rural communities".

-(Mellon et al. 1995)

Agricultural Sustainability:

In an agricultural system sustainability essentially means that crop production and economic gain will flourish over and over long essentially infinite time to time. It is beyond question that agriculture is one of the most fundamental and essential of all human activities and that unless it continues to flourish the world as we know it cannot exist. The growth in population with resulting issues of food security, use of resources, environmental pollution and the distribution of wealth. These great changes have forced humans to look at questions as to whether life as now lived is truly sustainable. The two most fundamental resources for crop production are soil and water the maintenance of their quantity and quality that can be used as indirect measures of stability of crop production.

Water Availability and Stability:

Water is the second component of natural capital required for productive agriculture. The essential nature of water is supporting life of all kinds on our planet. This essential nature is never more evident than in the case of agriculture and all the human activities that surround it. On a world scale 67 % of water withdrawals are associated with agriculture compared with 19 percent for industry 9 percent for domestic and 5percent for other uses. No agro-economic or industrial development is possible without water. It is clear therefore that large quantities of water are required to support the growing of crops, while availability of water for irrigation has the potential to improve productivity and even to improve the long-term prospect for food production. It is well-known that misuses and overuse of irrigation can operate against stability

by generation salinity with in soil. A sustainable agricultural system requires that the water resource itself be sustainable. There are three sources of water use for irrigation, rain-fall, surface water and ground water, clearly rain-fall is the ultimate source of water in all cases. Present water use patterns in many areas are unsustainable and that the water is becoming scarcer day-by-day, the rapid increase in the use of is causing scarcity of water down streams.

Thus the key challenge for agricultural water management; is that how to achieve

"More Crop Per Drop".

India continues to be a predominantly agrarian economy with majority of its population depending on agriculture for livelihood. No wonder then that development of India as a nation rests on a sustained development of rural India. The predominantly rural nature of India emphasizes the need to bring about sustainable development of the rural areas and its people. It considered that India's rural development would essentially require an agriculture-led growth strategy. India as a whole is reasonably well endowed with fresh water resources but there are significant spatial and temporal variations in the availability of water. With rapidly growing populations and changes in life styles, urbanization, industrialization and commercialization in agriculture, together or coupled in conjunction with lack of water resources have all aggravated the problems of scarcity and degradation of water in the country. With rapidly depleting groundwater resources and erratic rainfall pattern water is rapidly becoming a scarce natural resource. Hence, the need for water conservation is critical and imperative requirement for balancing the environmental phenomenon.

Traditional Irrigation Systems and Problems:

Water management is required to mitigate the suffering of farmers due to droughts and also to enhance the crop productions, which works upon improving the accessibility and agriculture inputs that are crucial for enhancing the productivity of the different crops. Irrigation plays a major role in dry areas and improving the productivity of the different crops, but our traditional irrigation systems have many problems.

There are mainly three types of Traditional Irrigation Systems Namely Major, Medium and Minor. In this system there are two main sources of irrigation (1) Surface Water (SW)and (2) Ground Water(GW). Surface Water is provided by the flowing waters of rivers or from the still waters from tanks, ponds, lakes or artificial reservoirs. Irrigation from rivers is mainly through canals drawn for dams constructed across the rivers. This canal irrigation system has very common problems.

1. There is a very long gestation period associated with major projects; like for example Sardar Sarovar Project.
2. The bureaucracy associated with these projects not only consumes lot of time but also the costs over runs are much greater.
3. Quite a large area of precious agricultural land is also wasted to construct distribution systems.
4. There is a heavy loss of water due to seepage — sometimes this loss is as high as 50% of water released.
5. In this case water once released from the main dam cannot be stored for future consumption and so it has to be used during that specific period. This reduces the farmer's choice on the cropping patterns.
6. On a typical water distribution system, the quantity of water that finally reaches the field is about 55% of the water that enters the canal. The loss which is mainly due to Absorption, Percolation, Seepage and Evaporation. Thus, the overall efficiency of irrigation further reduces.
7. A well-known problem of head and tail and inequalities, poor maintenance and lack of repairing of infrastructure and highly unreliable water release schedules cause this uncertainty.

Ground Water in Gujarat State:

Ground Water is provided by Wells, Tube-Wells (TW), Deep Tube-Wells (DTW), etc. in the State of Gujarat. Ground water is a phreatic condition at the top and in confined conditions in deeper layers. The alluvial aquifer is deepest in Mehsana, Banaskantha and Patan district. In this region, ground water from deep aquifers is being tapped using deep tube wells and high capacity pumps. Because of the over exploitation of ground water for irrigation purposes has resulted in the increased levels of Fluorides, Nitrites and Salinity in the regions.

The subterranean water is tapped by digging or drilling wells. Wells may be shallow (30 to 40 feet) or deep (86 to 100 feet or more). In either case it is necessary to lift the water before it can be used for irrigation. This makes the ground water costlier than the surface water.

There are three important factors that affect the recharge of ground water and they are rainfall, soils and topography. In almost whole of the state rainfall is unpredictable, uncertain and insufficient. This results in more extraction than recharge hence, resulting in the fall in level of ground water in the state. This will lead to water crisis in future.

Therefore, improving the efficiency of water used in irrigation would be the key to managing the demand of water to match with the available supplies in future. This can be achieved by adopting the new alternative technology like Drip and Sprinkler irrigation methods known as **Micro Irrigation System (MIS).**

Importance of Micro Irrigation (Drip & Sprinkler):

The advantage of Drip Irrigation System:

1. Very high efficiency of water use.
2. More crop yield compared to other methods.
3. Decreased tillage.
4. Better quality procedure.
5. Improved plant protection and reduced diseases.
6. Higher efficiency in use of fertilizers.
7. Satisfactory use of poor quality of water.
8. Shorter growing season and production of earlier crops.
9. Less weed growth and restriction of population of potential hosts.
10. Low labour requirement and relatively low operation costs.
11. Use in hills terrain and problems soils.
12. Improved infiltration in soils of low intake.
13. Low pressure requirement: This permits this system to be used even in green houses.
14. No tail water loss and soil erosion.
15. Ready adjustment to so sophisticated automatic control.
16. Mechanical operations can be done simultaneously with irrigation.
17. Constant optimal oxygen/moisture relation eliminates scraping and tilling.
18. There is no conflict between irrigation, spraying and harvesting.
19. Use of poor quality water.

The Advantages of Sprinkler Irrigation System:

1. Considerably improved water utilization over conventional method so that larger areas are irrigated.
2. It generally offers the only method of obtaining adequate distribution of water on certain rolling of hilly lands where levelling for surface irrigation is not feasible.
3. Land is saved as there is no loss for channels and bunds. It eliminates the need for farm ditches and more area is available for crop production.

4. The overall irrigation efficiency is from 65 to 80% while that of the surface irrigation ranges between 25 to 60 % only.
5. It is suitable where depth of the soil is limited by a hardpan or other restricting layers.
6. It is suitable on porous soil, such as sand, where water penetrates rapidly, and giving relatively excessive losses by deep percolation.
7. It is adapted to light application of water for shallow rooted crops, in germination of seeds and during the seeding period.
8. Sprinkler irrigation may be designed for smaller flows and is therefore preferred to over other methods. It's an economical method of irrigation where the annual requirement is low.
9. Leaching of salts from soil is effectively done as there are no drainage and salinity problems due to over irrigation.
10. Uniform distribution of water over the irrigated area is possible with appropriate design and operation of the system.
11. Due to reduced labour requirement labour can be used for other productive work on the farm. Mechanization and automation is possible to reduce the labour cost season.
12. Better weed control -due to elimination of channels and bunds that harbour weeds.
13. Fertilizer can be distributed through the system for rapid effective response.
14. Save fertilizers surface irrigation washes fertilizer below root zone.
15. Can irrigate at night. This eases power problems as irrigation can be done at any time. (Seminar on irrigation water management, 1992, (Vol. II, Ch. 26, by R. S. Saksena, page 639).

This project study is based on the economically proven irrigation techniques in the arid and semi-arid regions of the North Gujarat; and the concluding evidences draw attention to improve the overall economics of the irrigation performance as a best suitable means in the State of Gujarat.

Objectives of the present study:

The objectives of the present study are: -

(1) To study the current status of water resources in Agriculture and identifying critical Issues in planning and managing water resources, and exploring alternatives to resolve them.

(2) To create a mass awareness amongst the peoples of Gujarat about the current status of water resources.

(3) To identify and document successful Technological, organizational and managerial Interventions in both supply management and demand management and to assess their Socio-Economic implications.

(4) To specify alternatives for resolving various issues related to use and management of water, especially for mitigating the adverse effects of droughts.

Methodology:

This study involves a multi-disciplinary approach. It is based on the secondary data obtained from the various sources as well as on the cross sectional primary data collected through a field survey undertaken by the present work.

Selection of sample:

The MIS adaptors selected for the survey were classified in to four groups of marginal farmers, small farmers, medium farmers, and big or large farmers. From Patan district, two talukas, & from each talukas 3 to 5 villages were selected with total 24 MIS adaptors by Probability Proportion Sampling (PPS) Methods.

Water Resources in Gujarat State:

The state of Gujarat is located in western region of India. The land resources of Gujarat State are 5.96% of India's total land resources, roughly 2.63% of the country's freshwater resources whereas it has 4.03% of the country's population. Thus the state has less advantage in terms of per capital water availability as compared to other state in the country.

The state has four district regions namely:

(1) South & Central Gujarat

(2) North Gujarat.

(3) Saurashtra

(4) Kutch

Total Water Resources of the Gujarat State

Sr. No.	Region	Total Water Resources	Surface Water Resources	Ground Water Resources	%
1	South Gujarat*	35700	31750	3950	71.40
2	**North Gujarat****	**5300**	**2000**	**3300**	**10.60**
3	Saurashtra	7900	3600	4300	15.80
4	Kutch	1100	0650	0450	2.20
	Total	**50,000**	**38,000**	**12,000**	**100.00**

(* = South of Sabarmati River, ** = **North of Sabarmati River**)

(Source: Reference Manual for Hydro geologists, GWSSB, Gandhinagar, 2005)

Background of Patan District:

Patan district is formed as a new district divided by Mehsana district and parts of Banaskantha district. Administratively, the district is divided in 8 Talukas including one newly Vagadod Taluka and two Taluka namely Randhanpur and Satalpur as per re-organization made on 15-10-1997 by the Gujarat state. Annual rainfall in this districts is about 355 mm to 572 mm. Soils are sandy to sandy loam type. The water retention capacity of soil is very low. The infiltration rate of soil is very high. The major crops grown in this district are Pearl-Millet, Wheat, Cotton, Jowar Sorghum, Castor, Pulses, Mustard, Ground Nut, Vegetables, Tobacco, and Spices like Isabgul, Cumin, and Fennel etc. and there is considerable area under fruits trees and orchards like Kagadi Lime, Ber, Guava, Sapota, and Pomegranate (table 6.1). About 19.42 % of kharif Bajra and 18.10 % Jowar of the state is cultivated in this district. In addition, about 4.68 % of Castor fall in this district other important fruits, crops which can benefit from drip and grown in sizable areas are Ber, Lime, Guava, Pomegranate, Sitafal, Amala and Papaya. The distribution of rainfall is uneven and the crops suffer water stress conditions at one or the other stages, the district faces the problem of draught at every 2-3 years partial or complete failure of crops occur quite often in the district.

Wells and Tube-Wells with pump sets are the predominant irrigation sources and as high as 15 thousand Wells are there in this district. The irrigated area is about 32.27 percent of the gross cultivated number of Wells existing in two districts are of low yields. Development of most effective method of irrigation with limited water is of utmost important in this district.

In little Rann of Kutch region (Satalpur, Radhanpur, Sami, Hari and Chansma Talukas) the availability of water is not good and the soils are saline- sodic in nature. MIS has an advantage in saline areas as a low salt concentration level is maintained in the root zone due to daily irrigation which removes the salt from the root zone and to the periphery.

In this paper, following three crops were chosen namely (1) Cotton (2) Isabgul (3) Wheat to show the benefit of Micro Irrigation System (MIS) namely Drip & Sprinkler irrigation system.

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CROP: COTTON (B.T.)

(Costs in Rs. Per ha)

Patan

Sr. No.	Item	Drip	%	Furrow	%
A.= Costs in Rs.					
1	Cost of Seed bed preparation/ Land preparation	875	4.00	932	3.42
2	Cost of Planting Treatment	611	2.79	695	2.55
3	Cost of Seedling/Seed	1268	5.79	1268	4.65
4	Cost of Fertilizers/Manuring	5402	24.69	6855	25.12
5	Cost of Pesticides and Chemicals	2503	11.44	3559	13.04
6	Cost of Interculturing/Weeding	1855	8.48	2407	8.82
7	Cost of Irrigation (Water Saving)	1903	8.70	2753	10.09
8	Cost of Harvesting	3754	17.15	4159	15.24
9	Cost of Packaging and Transportation	1907	8.71	2001	7.33
10	Cost of Other Labour Making Bed and Water Channel	1805	8.25	2658	9.74
11	Total Expenditure	21883	100.00	27287	100.00
B.= Income					
12	Total Income	44400		39509.7	
13	Net Income (12-11)	22517		12222.7	
14	Production per Hector in Kg/Quintals/Tonnes	24		21.59	
15	Market Price in Rs. per Quintals/Tonnes	1850		1830	

CROP: ISABGUL

(Cost in Rs. Per ha)

Patan

Sr. No.	Item	Drip	%	Furrow	%
A.= Costs in Rs.					
1	Cost of Seed bed preparation/ Land preparation	4203	28.11	4695	4695
2	Cost of Planting Treatment	315	2.11	315	1.87
3	Cost of Seedling/Seed	317	2.12	319	1.90
4	Cost of Fertilizers/Manuring	2106	14.08	2155	12.82
5	Cost of Pesticides and Chemicals	404	2.70	506	3.01
6	Cost of Interculturing/Weeding	190	1.27	310	1.84
7	Cost of Irrigation (Water Saving)	3875	25.91	4698	27.94
8	Cost of Harvesting	1609	10.76	1705	10.14
9	Cost of Packaging and Transportation	1415	9.46	1585	9.43
10	Cost of Other Labour Making Bed and Water Channel	519	3.47	525	3.12
11	Total Expenditure	14953	100.00	16813	100.00
B.= Income					
12	Total Income	26730		24048.6	
13	Net Income (12-11)	11777		7235.6	
14	Production per Hector in Kg/Quintals/Tonnes	8.91		8.07	
15	Market Price in Rs. per Quintals/Tonnes	3000		2980	

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CROP: WHEAT

(Cost in Rs. Per ha)

Patan

Sr. No.	Item	Drip	%	Furrow	%
A.= Costs in Rs.					
1	Cost of Seed bed preparation/ Land preparation	5936	29.59	6035	27.44
2	Cost of Planting Treatment	1816	9.05	1816	8.26
3	Cost of Seedling/Seed	1505	7.50	1509	6.86
4	Cost of Fertilizers/Manuring	1203	6.00	1308	5.95
5	Cost of Pesticides and Chemicals	509	2.54	605	2.75
6	Cost of Interculturing/Weeding	325	1.62	750	3.41
7	Cost of Irrigation (Water Saving)	4608	22.97	5902	26.83
8	Cost of Harvesting	2335	11.694	2335	10.62
9	Cost of Packaging and Transportation	1507	7.51	1509	6.86
10	Cost of Other Labour Making Bed and Water Channel	315	1.57	225	1.02
11	Total Expenditure	20059	100.00	21994	100.00
B.= Income					
12	Total Income	35716.88		30266.62	
13	Net Income (12-11)	15657.88		8272.62	
14	Production per Hector in Kg/Quintals/Tonnes	43.70		38.20	
15	Market Price in Rs. per Quintals/Tonnes	817.32		792.32	

The data represented here bring out the positive impact of Micro Irrigation System (MIS).

Conclusion:

As the study reveals that MIS is certainly beneficial to farmers in terms of water saving, monitoring gains and increase in assets etc. Thus, for example considering water savings it has been found that it's quantity in irrigation is considerably reduced with various crops. In the above analysis it been found that the MIS has various advantages like water saving, cost saving in fertilizers & pesticides, productivity gain etc. Irrigation and rain water management are the major and important inputs of successful agriculture for the development of Indian economy.

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First Edition

ગ્રંથાલય અને સમાજ

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ગ્રંથાલયએ મહત્વની સંસ્થા છે. જેમાં સમાજનું મુખ્ય યોગદાન રહેલ છે. આધુનિક સમયમાં ગ્રંથાલયોની માંગ ખુબ જ વધી રહી છે.પહેલાના સમયમાં ગ્રંથાલયોએ માત્ર (પાઠય સામગ્રી) ભેગી કરવાનું સ્થાન ગણવામાં આવતું હતું.

ગ્રંથાલ કેળવણીનું અવિભાજય અને અવિવાર્ય અંગ ગણવામાં આવે છે. પ્રાથમિક શાળામાં શિક્ષણનો માત્ર પ્રારંભ થાય છે. પરંતુ શિક્ષણએ બાલ્યકાળ કે યુવાકાળ જ નહિ પણ એ તો જીવનપર્યત ચાલતી પ્રક્રિયા છે.વિજ્ઞાન અને ટેક્નોલોજીના વ્યવહાર અને વિનિમય માટેનું આવશ્યક અને અનિવાર્ય માધ્યમએ પુસ્તકો છે.

ગ્રંથાલયનું મહત્વઃ-

જ્ઞાનનો સંગ્રહ અને સાચવણીઃ-

કોઈપણ દેશની સંસ્કૃતિ અને સભ્યતાનું મૂલ્યાંકન ત્યાંના ગ્રંથાલયોના માધ્યમથી થાય છે. આપણા દેશની પ્રાચીન માન્યતાઓને ગ્રંથાલયમાં જીવીત રખાય છે. તેમજ ગ્રંથાલયમાં પાઠયસામગી ભેગી કરીને તેને સાચવવામાં આવે છે.જેનાથી આવનારી પેઢી તેનો લાભ લઈ શકે અને વર્તમાન સમયમાં તેનો ઉપયોગ કરી શકાય છે.

૧. અનુસંધાન કાર્યમાં ઉપયોગઃ-

અનુસંધાન કાર્યમાં ગ્રંથાલયનું ખુબજ મહત્વ છે. ગ્રંથાલય સમગ્ર પ્રકાશિત થયેલ પાઠયસામગીનો સંગ્રહ તરત જ કરે છે. આ સામગ્રીનો ઉપયોગ અનુસંધાનકર્તા તરત જ કરે છે. આ રીતે ગ્રંથાલય તેના પ્રત્યેક અનુસંધાનકતાને નવા વિચારો તરત જ આપવાનું કાર્ય કરે છે.

૨. અનુસંધાન કાર્યમાં સહયોગઃ-

અનુસંધાન કાર્યમાં ગ્રંયાલયનું ખૂબજ મહત્વ છે. ગ્રંથાલય સમગ્ર તરતજ કરે છે. આ સામગ્રીનો ઉપયોગ અનુસંધાનકર્તા તરતજ કરે છે. આ રીતે ગ્રંથાલય તેના પ્રત્યેક અનુસંધાનકર્તાને નવા વિચારો ઉપલબ્ધ કરીને સહયોગ આપવાનું કામ કરે છે.

૩. વ્યક્તિત્વના સવગી વિકાસમાં સહયોગઃ-

વ્યક્તિને પોતાના સવગી વિકાસ કરવા માટે ગ્રંથાલય દ્વારા અવસર આપવામાં આવે છે. ગ્રંથાલયમાં સંગ્રહિત પાઠયસામગ્રીનો ઉપયોગ કરીને કોઈપણ વ્યક્તિ પોતાના કાર્યમાં સફળતા પ્રાપ્ત કરીને પોતાની પ્રગતિની સાથે-સાથે દેશની પ્રગતિમાં પણ પોતાનું યોગદાન આપી શકે છે.

૪. સ્વશિક્ષા માં સહયોગીઃ-

ગ્રંથાલય દ્વારા તે શિક્ષા પ્રાસ કરી શકે છે. અને ગ્રંથાલયમાં આજીવન સભ્ય બનીને શિક્ષા મેળવી શકાય છે.

૫. અવકાશનો ઉપયોગઃ-

ગ્રંથાલય દ્વારા વ્યક્તિ પોતાનો બેકાર સમયનો ઉપયોગ કરીને સમય સમય પર ગ્રંથાલયમાં આવી ને પાઠયસામગીનો ઉપયોગ કરી શકે છે.

૬. રાષ્ટ્રના નિમણિમાં સહયોગઃ-

ગ્રંથાલય એ રાષ્ટ્રનિમાણ સંસ્થા છે.મહાન વિધ્વાનો અને રાજનૈતિક વિચારો તેમન સમાજ સુધારકોના પુસ્તકો તથા અન્ય પાઠયસામ્રગી દ્વારા સંગ્રહ કરવામાં આવે છે. વ્યકિત તેને વાંચી ને પ્રેરણા પ્રાસ કરી શકે છે.

૭. રાષ્ટ્રીય તથા આંતરરાષ્ટ્રીય સહયોગઃ-

ગ્રંથાલયો દ્વારા પારસ્પરિક સહયોગ તેમજ સદ્ભાવના, રાષ્ટ્રીય એકતા, આંતરરાષ્ટ્રીય શાન્તિ, સદ્ભાવના અને સહયોગથી વૃધ્ધિ કરી શકાય છે.

ગ્રંથાલયના કાર્યોઃ-

ગ્રંથાલયના સફળ સંચાલન માટે નીચેના કાર્યો કરવા પડે છે.

૧. નવા-નવા સાહિત્યને ગ્રંથાલયમાં ભેગુ કરવુ.

૨. એકત્રિત કરેલ સાહિત્યને વ્યવસ્થિત ગોઠવવું.

૩. વાચકો દ્વારા માંગવામાં આવેલ સાહિત્યને પુનઃપ્રાપ્તિમાં સહયોગ આપવો.

૪. વાચકોમાં વાંચન પ્રત્યે જાગૃતિ લાવવાના પ્રયત્નો કરવા.

૫. સંશોધનકાર્યનો આગળ વધારવા માટે સંશોધનક્તની જરૂરિયાત પ્રમાણેની પાઠય સામગ્રી આપવી.

૬. વાચકોની માંગને ધ્યાનમાં રાખીને નવા પુસ્તકો વસાવવા.

૭. વાચકોને સંદર્ભસેવા આપવી.

૮. વાચકોને સારકરણ, અનુક્રમણિકા તેમજ અનુવાદ સેવા આપવી.

૯. પ્રકાશનમાં સહયોગ આપવો.

૧૦. દરેક વાચકોની માંગને પૂરી કરવા સહકારિતાનો રાખવી જોઈએ.

૧૧. ગ્રંથાલયમાં ચેતના ઉત્પન્ન કરવી.

૧૨. ગ્રંથાલયમાં આજીવન સેવા પ્રાપ્ત કરતા રહે તે માટે વાચકોને પ્રોત્સાહન આપવું જોઈએ.

૧૩. સામાજિક પ્રવૃતિમાં ઉત્સાહ વધારવો જોઈએ.

ગ્રંથાલયના કાર્યક્ષેત્રને જાણવા માટે ચાર ભાગમાં વિભાજીત કરી તેનો ઉપયોગ ક્યા અને કઈ રીતે કરી શકાય છે તે સમજાવવામાં આવ્યું છે.

૧. શૈક્ષણિક ગ્રંથાલય

૨. સંશોધન ગ્રંથાલય

૩. વિશિષ્ટ ગ્રંથાલય

૪. સાર્વજનિક ગ્રંથાલય

શૈક્ષણિક ગ્રંથાલયઃ-

શિક્ષણસંસ્થા સાથે સંકળાયેલા ગ્રંથાલય ને શૈક્ષણિક ગ્રંથાલય કહેવાય છે. શાળા, કોલેજ અને યુનિવર્સિટીઓનો શૈક્ષણિક ગ્રંથાલયમાં સમાવેશ થાય છે. કોઈપણ શૈક્ષણિક સંસ્થા સંપૂર્ણ સાધન સંપન્ન ગ્રંથાલય વિના અધૂરી છે. ગ્રંથાલયના હેતુ અને કાર્યો માતૃસંસ્થાના હેતુ અને કાર્યોની મર્યાદામાં હોય છે. જેમકે વૈદકીય કોલેજ સાથે સંકળાયેલા ગ્રંથાલયોમાં ગ્રંથસંગ્રહ (પુસ્તકો) વૈદક અને આનુષંગિક વિષયોને લગતા વસાવવામાં આવે છે તથા તેમાં વિધાર્થીઓ તથા પ્રાધ્યાપકો જ તેના વાચકવર્ગ હોય છે.
શૈક્ષણિક ગ્રંથાલયોમાં નીચે મુજબના ગ્રંથાલયોનો સમાવેશ કરવામાં આવે છે.

૧. વિશ્વવિધાલયનાં ગ્રંથાલયો

૨. મહાવિધાલયનાં ગ્રંથાલયો

૩. ઉચ્ચત્તર માધ્યમિક શાળા,માધ્યમિક શાળા, પ્રાથમિકશાળાનાં ગ્રંથાલયોનો સમાવેશ થાય છે. કોઈપણ શિક્ષણની સંસ્થા ગ્રંથાલય વિના અધુરી ગણવામાં આવે છે.

શૈક્ષણિક ગ્રંથાલયના કેટલાક મહત્વપૂર્ણ કાર્યા છે.

૧. શિક્ષણસંસ્થાના સ્વરૂપમાં તથા તેની જરૂરિયાતો મુજબની પાઠયસામગ્રી પુરી કરવી.

૨. રોજ-બરોજની જરૂરિયાત પૂરી કરવા હેતું વિધાર્થીઓ અને સંશોધન કર્તાઓની શોધ સંબંધિત પાઠયસામગ્રી પૂરી પાડવી.

૩. વિધાર્થીઓને વાંચન પ્રત્યે રસ જગાડવો.

૪. વિસ્તાર સેવાઓનું આયોજન કરવું.

૫. અભ્યાસ દરમિયાન વિધાર્થીઓને બોધ્દિક મદદ પુરી પાડવી.

૬. જરૂરિયાત સાહિત્યનો સંગ્રહ કરવો.

૭. બીજા ગ્રંથાલયો સાથે સહયોગથી કાર્ય કરવું.

સંશોધન ગ્રંથાલયઃ-

સંશોધનસંસ્થા સાથે સંકળાયેલા ગ્રંથાલયોને સંશોધનુગ્રંથાલય કહેવામાં આવે છે. આ ગ્રંથાલયમાં પુસ્તકો ખૂબવિશાળ પ્રમાણમાં જોવા મળે છે. સંશોધનાર્થીઓને ધ્યાનમાં રાખીને ગ્રંથાલય સેવા આપવામાં આવે છે. તેમજ પલેખસેવા ખાસ પ્રકારની આપવામાં આવે છે.

વિશિષ્ટ્રિ ગ્રંથાલયઃ-

જે ગ્રંથાલયમાં કોઈ ખાસ વિષય માટેની સામગ્રી ઉપલબ્ધ હોય તેવા ગ્રંથાલયો અને કોઈ વિશિષ્ટ હેતુ સાથે અસ્તિત્વમાં આવેલાં અને વિશિષ્ટ્ર વાચકોને સેવા આપતાં ગ્રંથાલયને વિશિષ્ટિ ગ્રંથાલય કહેવામાં આવે છે.

વિશિષ્ટ્રિ ગ્રંથાલયના (ખાસ ગ્રંથાલય) ના કાર્ય નીચે મુજબનાં હોય છે.

૧. વિશિષ્ટ્રિ સ્ત્રોત સામગ્રીઓના માધ્યમથી સબંધી સદ્સ્યોની ખાસ રસ અને જરૂરિયાતો પુરી પાડવી.

૨. નવા સાહિત્યનું સંશોધન અને મૂલ્યાંકન કરવું.

૩. સંદભ સેવા અને વિકેન્દ્રીકરણનું કાર્ય કરવું.

૪. અન્ય ગ્રંથાલયો અને પ્રલેખન કેન્દ્રોથી સહયોગ સંબંધી કાર્ય કરવું.

૫. અનુક્રમણીકા અને સારકરણ કાર્ય કરવું.

૬. માહિતીનું સંકલન અને માહિતીઓનું વર્ગીકરણ કરવું.

૭. માહિતી સંગ્રહ અને પુનઃપ્રાતિમાં મહત્વપૂર્ણ સહયોગ પૂરો પાડવો.

સાર્વજનિક ગ્રંથાલયઃ-

સાર્વજનિક ગ્રંથાલયએ સૌના માટેનું એટલેકે સમાજના બધાજ લોકો એટલેકે સાર્વજનિક ગ્રંથાલયનો અર્થ છે કે સમાજના બધા સ્તર અને કક્ષાના લોકલ માટેનું ગ્રંથાલય. આ ગ્રંથાલય દ્વારા સમાજના પ્રત્યેક વર્ગ, ધર્મ, લિંગ, ઉંમર વગેરે કોઈપણ પ્રકારના ભેદભાવ વગર પુસ્તકોનો ઉપયોગ કરવાની સુવિધા આપવામાં આવે છે.

સાર્વજનિક ગ્રંથાલય એ એક સમાજનું અંગ છે. જુદા જુદા ગ્રંથાલયશાસ્ત્રીઓ અને વિવિધ સંસ્થાઓએ સાર્વજનિક ગ્રંથાલયોને પરિભાષિત કરવાનો પ્રયત્ન કર્યો છે.

વિલિયમ ઈવાર્ટ William Ewart:- ના મત અનુસાર "સાર્વજનિક ગ્રંથાલય એટલે એ ગ્રંથાલય જે લોકો દ્વારા સમર્પિત લોકોના મનોરંજન માટે નિશ્ચિત નિયમ દ્વારા સ્થાપિત, લોકોના નાણાં દ્વારા સંચાલિત હોય તે સાવજિનિક ગ્રંથાલય છે."

બી. એસ. રસેલ B. S. Russel અનુસાર "સાર્વજનિક ગ્રંથાલયો વાસ્તવમાં લોકો માટે અને લોકો દ્વારા સંચાલિત સંસ્થા છે."

એલ. એ એ.ગ્લોસરી ઓફ લાઈબ્રરી ટર્મ્સ, અનુસાર, "એ ગ્રંથાલય જે એક સમુદાય, જિલ્લા, નગર કે ગામના સમસ્ત રહેવાસીઓની નિઃશુલ્ક સેવા કરે છે અને જે સાર્વજનિક ધન દ્વારા પૂર્ણતાઃ કે આંશિક આર્થિક સહાય પ્રાપ્ત કરે છે તે સાર્વજનિક ગ્રંથાલય છે."

સાર્વજનિક ગ્રંથાલયના ઉદ્શોઃ-

સાર્વજનિક ગ્રંથાલયનો સીધો સંબંધ સમાજ તેમજ લોકો સાથે છે. સાર્વજનિક ગ્રંથાલયોના પાયાનો હેતુ માહિતી એકઠી કરવાનો,વ્યવસ્થાપન કરવાનો, તેમજ તેનો મહત્તમ ઉપયોગ કરાવવાનો અને આવનારી પેઢી માટે તેની સાચવણી કરવાનો છે.

૧. સમાજના દરેક વર્ગને કોઈપણ ભેદભાવ વિના સાહિત્ય પૂરૂ પાડવું.

૨. સમાજના દરેક વર્ગની માહિતી, શિક્ષણની જરૂરિયાત પૂરી પાડવી.

૩. માહિતીનો સંગ્રહ કરીને તેની સાચવણી કરવી.

૪. સાર્વજનિક ગ્રંથાલયો નિરક્ષરને પણ સાક્ષર બનાવવાનું યોગદાન આપે છે.

૫. સાર્વજનિક ગ્રંથાલયો મહત્વપૂર્ણ શિક્ષણમાં મદદરૂપ થાય છે.

૬. સંશોધનનાં કામમાં મદદરૂપ થાય છે.

૭. વ્યક્ત્વિનાં સંપૂર્ણ વિકાસમાં મદદરૂપ થાય છે.

૮. આજીવન સ્વ-શિક્ષણ પૂરૂ પાઠવવનમાં મદદરૂપ થાય છે.

૯. સમાજનાં દરેક વગની માહિતી, જ્ઞાન પ્રાપ્ત કરવાનાં હેતુથી પાઠયસામગી પુરી પાડવી.

૧૦. શૈક્ષણિક,સામાજિક અને સાંસ્કૃતિક ગતિવિધિઓને પ્રોત્સાહન પુરૂ પાડવું.

૧૧. ઔપચારિક શિક્ષણથી વંચિત લોકોને ઓપચારિક શિક્ષણનાં માધ્યમથી શિક્ષિત બનાવવા.

અમેરિકન ગ્રંથાલય એસોસિયન અનુસારઃ

૧. સમાજની વ્યક્તિ માત્રને સ્વશિક્ષણમાં સહાય કરવી.

૨. ઔપચારિક કેળવણીમાં સહાય કરવી.

૩. બહુશ્રુત માંગને સંતોષવી.

૪. શૈક્ષણિક, સાંસ્કૃતિક અને નાગરિક પવૃતિઓમાં સહાય કરવી.

૫. નવરાશની પળોમાં સમાજને મનોરંજક અને પ્રેરણાત્મક સાહિત્ય આપવું.

ડૉ. રંગનાથનના મત મુજબ:

સાર્વજનિક ગ્રંથાલયના કાર્યો:-

સાર્વજનિક ગ્રંથાલય તે સામાજિક સંસ્થા છે. તેનું કાર્ય જનતા કે સમુદાયના પ્રત્યેક જાતિ, વર્ગ, સ્તર અને ભાષાથી સંબંધિત સદસ્યોથી સંબંધિત છે. માટે તેનાં કાર્યો અધિક વ્યાપક અને વિસ્તૃત પ્રકૃતિનાં

રહ્યાં છે. ડૉ. રંગનાથને સાર્વજનિક ગ્રંથાલયનાં કાર્યોની પ્રકૃતિનો અભિવ્યક કરતા જણાવ્યું છે કે, 'સાર્વજનિક ગ્રંથાલયના કાર્યો શૈક્ષણિક, રચનાત્મક, રાજનૈતિક, આર્થિક, પ્રૌદ્યોગિક, સાંસ્કૃતિક તથા પુરાવિદ છે.'

સાર્વજનિક ગ્રંથાલય પોતાનાં શૈક્ષણિક કાર્યો દ્વારા લોકોની શૈક્ષણિક અભિરુચિને વિકસાવે છે.

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