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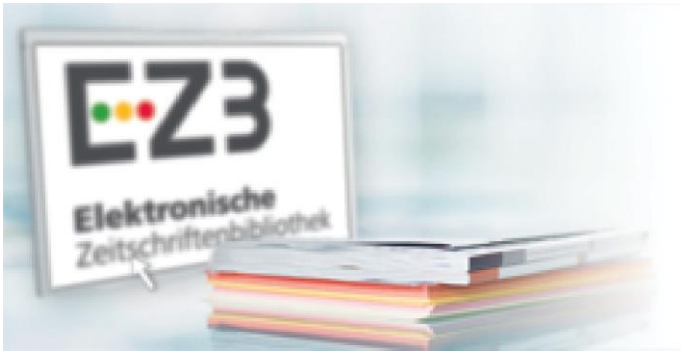

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CLIMATE CHANGE & SUSTAINABLE DEVELOPMENT: ACTS, IMAPACTS & PERSPECTIVE

A Pathway towards Sustainable Social Change : A Case –Study of Sikkim : India's first organic state.

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ABSTRACT

The reality of climate change is arguably no longer in question. It has been widely demonstrated that developing countries will be especially hard-hit by the changing climate and new interrelated risks. In most countries, climate change is expected to exacerbate existing development challenges through diminished agricultural productivity and food accessibility, enhanced water scarcity, financial insecurity and incidence of illness.

This paper reviews the two approaches to climate change, namely mitigation and adaptation, and examines the complex interrelationships between them, and between climate change and sustainable development. Adaptation is about reducing the effects of climate change on both human and natural systems; and mitigation is about reducing the causes of climate change by decreasing the anthropogenic impact on the climate system. The implications of an apparently warming world clearly mean that there is need for mitigation; but how effective will mitigation be, and how far are we prepared to go, to reconcile conflicting interests and tensions? Despite relatively slow progress, some forms of sustainable development have appeared, and these offer the best hope we have of mitigating human contribution to climate change, and adapting to its consequences. One such experiment is of the state of Sikkim : India's first organic state &its contribution towards sustainable social change. Hoping this paper will initiate a series of serious and productive deliberation on the topic.

Keywords: *Action research, Attitude.*

Climate change is a pressing issue globally and it calls for a strong governing framework which makes the roles and responsibilities more transparent at every stage. In reality, climate change is here now, and it is as much opportunity as risk for those who are wise enough to adapt early on. We should be beyond merely recognising the scientific fact of climate change. Credit crunch or not, now is the

time to and the right response and act. The long-term stability of our environment and economy depend on it.

Developing countries are faced with immediate concerns that relate to forest and land degradation, freshwater shortage, food security and air and water pollution. Climate change will exacerbate the impacts of deforestation and other economic pressures, leading to further water shortages, land degradation and desertification. Increasing global temperatures will result in rising sea levels. Populations that inhabit small islands and/or low-lying coastal areas are at particular risk of severe social and economic disruptions from sea-level rise and storm surges that could destroy cities and disrupt large coastal livelihoods. The widespread retreat of glaciers and icecaps in the 21st century will also lead to higher surface temperatures on land and increasing water stress. By 2025, as much as two-thirds of the world population, much of it in the developing world, may be subjected to moderate to high water stress. Estimates of the effects of climate change on crop yields are predominantly negative for the tropics, even when adaptation and direct effects of CO2 on plant processes are taken into consideration. Ecological productivity and biodiversity will be altered by climate change and sea-level rise, with an increased risk of extinction of some vulnerable species. The populations of the developing world are more vulnerable as their infrastructure is not strong and extensive enough to withstand a deleterious impact.

Role of developing and industrialized countries in addressing climate change: Mitigation and adaptation

"Adaptation" and "Mitigation" are two important terms that are fundamental in the climate change debate.

Adaptation is defined as adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderate harm or exploits beneficial opportunities. It is an understanding of how individuals, groups and natural systems can prepare for and respond to changes in climate or their environment. According to them, it is crucial to reducing vulnerability to climate change. While Mitigation tackles the causes of climate change, adaptation tackles the effects of the phenomenon. The potential to adjust in order to minimize negative impact and maximize any benefits from changes in climate is known as adaptive capacity. A successful adaptation can reduce vulnerability by building on and strengthening existing coping strategies.

In the global climate change debate, the issue of largest importance to developing countries is reducing the vulnerability of their natural and socio-economic systems to projected climate change. Over time, there

has been a visible shift in the global climate change discussions to- wards adaptation. Adaptation can complement mitigation as a cost-effective strategy to reduce climate change risks. The impact of climate change is projected to have different effects within and between countries. Mitigation and adaptation actions can, if appropriately designed, advance sustainable development and equity both within and across countries and between generations.

The Inter governmental Panel on Climate Change (IPCC) projects that the global mean temperature may increase between 1.4and 5.8 degrees Celsius (C) by 2100. This unprecedented increase is expected to have severe impacts on the global hydrological system, ecosystems, sea level, crop production and related processes. The impact would be particularly severe in the tropical areas, which mainly consist of developing countries, including India.

The climate change issue is part of the larger challenge of sustainable development. As a result, climate policies can be more effective when consistently embedded within broader strategies designed to make national and regional development paths more sustainable. The impact of climate variability and change, climate policy responses, and associated socio-economic development will affect the ability of countries to achieve sustainable development goals. The pursuit of these goals will in turn affect the opportunities for, and success of, climate policies. In particular, the socio-economic and technological characteristics of different development paths will strongly affect emissions, the rate and magnitude of climate change, climate change impacts, the capability to adapt, and the capacity to mitigate.

Public -Private Partnership Model - A Ray of Hope

Thus this paper attempts to highlight the case –study of. Hoping this paper will initiate a series of serious and productive deliberation on the topic.

Sikkim, the first in the world got the Future Policy Award 2018 for bolstering efforts to attain Sustainable Development Goals (SDGs). The Himalayan state of India was conferred with this honour during the World Food Week at headquarters of the Food and Agriculture Organization in Rome, Italy. It is India first organic state under Public Private Partnership model, to mitigate with a holistic approach with genuine efforts of state government.

On January 19, 2016 Prime Minister Narendra Modi declared **Sikkim** as the **first organic state** in the country. He also called the **state** a harbinger of **organic** farming, not only in India but around the world. India's north-eastern state of Sikkim has won the award for the being the **"100 per**

cent organic state" that promotes agroecological and sustainable food systems.

Sikkim became the first state in India to officially announce adoption of organic farming in the year 2003 to ensure long term sustenance of soil fertility, protection of environment and ecology, healthy living and decreasing the risk of health ailments. In 2003, Sikkim stopped imports of chemical fertilizers in the State and since then the cultivatable land there is practically organic and farmers of Sikkim are traditional users of organic manure. All of its farmland is certified organic. At the same time, Sikkim's approach reaches beyond organic production and has proven truly transformational for the state and its citizens," the statement said. Embedded in its design are socioeconomic aspects such as consumption and market expansion, cultural aspects as well as health, education, rural development and sustainable tourism.

The policy implemented a phase out of chemical fertilisers and pesticides, and achieved a total ban on sale and use of chemical pesticides in the state. The transition has benefitted more than 66, 000 farming families. The Sikkim tourism sector has benefitted greatly from the state's transition to 100 per cent organic as the number of tourists increased by over 50 per cent between 2014 and 2017, it said. "As such, Sikkim sets an excellent example of how other Indian states and countries worldwide can successfully upscale agroecology," it said. The 2018 Future Policy Award (FPA) commended proven policies that effectively scale up agroecological approaches at local, national and international levels. It celebrated outstanding examples for accelerating the transformative change in the way food is produced and consumed.

Sikkim, which in 1998 became the first Indian state to ban disposable plastic bags, is also among the first to target single-use plastic bottles. In 2016, Sikkim took two major decisions. It banned the use of packaged drinking water in government offices and government events. Second, it banned the use of styrofoam and thermocol disposable plates and cutlery in the entire state in a move to cut down toxic plastic pollution and tackle its ever-increasing garbage problem,"

However, concerns remain about the state's battle with plastic.

"Instead of plastic bags, people are opting for non-woven polypropylene bags which have a texture of cloth but are, in fact, plastic and people use them thinking that they are eco-friendly. So, the government needs to strengthen implementation more seriously and promote alternative options," "Also, multi-layered plastics like tetra paks, chips packets are a problem. People eat lot

of instant noodles here, so that is also adding to non-biodegradable waste," he added.

Having said that, the state is ahead of the national curve when it comes to getting rid of the scourge of plastic.

Organic farming :

Nearly 15 years ago, the state government decided to shun chemical pesticides and fertilisers and return to natural methods of farming. Today, Sikkim has the distinction of becoming the first state in India to go 100% organic in the agriculture sector. Although it had the advantage of never being a state which extensively used chemical fertilisers and pesticides, the turnaround nonetheless has been remarkable. From cutting subsidies on chemical inputs by 10% every year, it eventually banned its use altogether.

Under its 'Sikkim Organic Mission,' the government first began by spreading awareness about the benefits of organic farming, after which it offered farmers seeds and manure for the same. It also trained its farmers to adopt organic methods, and slowly but surely, they have embraced the change.

We started building the entire infrastructure that was needed for this massive change. Biofertilizer production units, seed processing units, automated greenhouses, soil testing labs, mobile soil testing labs, cold storage units and food processing units—all that was needed to complete the organic cycle started springing up in Sikkim," said one government official to The Better India.

REASONS FOR ORGANIC FARMING IN SIKKIM

Organic farming has been a traditional way of farming in Sikkim adopted by farmer's science ages. Due to unavailability of assured irrigation, farmers practice rain-fed farming system with an integrated approach. Integrated farming system is predominant in the state with agriculture, horticulture, animal husbandry in perfect coordination. Sikkim is rich in bio-diversity with abundant plant species because of which the soil is rich in organic matter content and makes the conversion easier. The fragile eco-system in Sikkim hills demand sustainable farming practices without depletion of natural resources. It is therefore advantageous for Sikkim to go into organic system of farming keeping in view of protection of soil from degradation. Because projection of environment and ecology and healthy living of the people for generation. There is some other reason also behind Sikkim going organic.

1. Farming under rain-fed conditions with low productivity.
2. Average fertilizer consumption 7 Kg/hectares and negligible pesticides consumption.

3. Rich-Biodiversity – ample scope for a farm production of organic manure, which is the main item in the menu of organic farming.
4. About 15000 hectares area under cardamom where fertilizer has never been used'
5. The total geographical area of the state is 729900 hectares out of which farming is done in about10.20 percent area and 89.80 percent of the area has not been touched therefore this untouched area is free from chemical affected.
6. Soil is rich in organic matter content which range from 2-7 percent organic carbon.
7. To promote tourism through organic village concept.

STEPS TAKEN BY SIKKIM GOVERNMENT IN A BID TO BECOME FULLY ORGANIC STATE

Sikkim is divided into five agro-climatic zones:- Tropical zone, sub Tropical zone, Temperate zone, sub-Alpine zone and Alpine zone. The main agricultural lands fall in Tropical, Sub Tropical and Temperate zone. The total geographical area of the state is 7,29,900 hectares out of which farming is done in about 10.20 percent area (74,303hectares) only where all the farming activities taken place and rest of the area constitutes of forest cover, permanent pastures, cultivable waste barren and uncultivable, land put to non-agricultural use land under miscellaneous trees and groves etc. To convert this agricultural land into organic farming Sikkim can become a fully organic state.

Sikkim has become India's first full organic state by implementing organic practices at around 75000 hectares of agricultural land. This agricultural land was gradually converted to certified organic land by implementing organic practices and principles as per guidelines laid down in National programmed for organic production.

After the declaration few programmes of organic farming were launched –

- Adoption of Bio-villages.
- Subsidy Reduction on chemical fertilizer:- Subsidies on chemical fertilizers and pesticides reduced at the rate of percent every where to make these inputs costlier and discourage purchase of chemical fertilizer.
- Stopped lifting of government of India quota of fertilizer and pesticides.
- Closed all sale points and outlets.
- Requested transport department not allow transportation of fertilizers and pesticides from outside the state.
- Alternative certified organic manures purchased and made available to farmers.

- To encourage on farm production of inputs large numbers of rural and vermicompost units subsidized.
- Eight units of vermiculture hatcheries were established in five government farms and three KVKS.
- Four plant protection an integrated pest management (IPM) laboratory established.
- Large scale training and orientation programmes organized.

While transitioning to an organic state was no small feat, the task was easier given the size of the state and agriculture land. Sikkim is one of the smallest states second to Goa, with total geographical area of 7.096 square kilometers. Farmland is a little over 10 percent of the total area. The government was tasked to bring some 75000 hectares under the cover of organic farming. Sikkim has the smallest population with a little over 6 lacks.

According to the government of Sikkim, farmers in Sikkim also use much lesser quantity of chemical fertilizers compared to other states 7 to10kg/hector. Per annum compared to national average of 70 kg/hector. Over the time the state government eliminated subsidies for chemical fertilizers. Despite this some of the crops have never encountered chemical and have been growing at the strength of organic input this has matter the organic movement easier. Green revolution launched in India in the early seventies, but mountainous state like Sikkim and other north eastern state where basically agriculture is rain-fed, the chemical use did not have significant impact on production and productivity. Considering all these aspect the government of Sikkim took a decision to adopt organic system of farming in the entire state and probably the first state in India to bring resolution in the state assembly to convert entire state into organic by 2015.

The state first initiated this journey by endorsing multiple efforts planning all sales of pesticides and chemical fertilizers. This left local farmers with no option but to go organic. Then two days workshop with expert in the organic fields and scientists assisted farmers in making this transition. By utilizing the famework set forth by the government agency which deals with organic accreditation, the National program for organic production Sikkim has eliminated the use of pesticides, chemical fertilizers and GMO’s and replaced these practices with working in conjunction with the local eco-system to preserve biodiversity and prevent erosion. Being a small state the land holding of farmers are very small. So organic farming has become an appropriate option for Sikkim. Becoming the 100 percent organic the costs that go into segregating, packaging, labeling and differential pricing are saved. When everything is organic, the price

automatically falls, become ordinarily in organic a retain deals with small quantities from a wide range of farmers. The supply chain is broken and discouraged, this adds the cost of produce. It organic marketed well it will also boost the tourism industry in the state. In this day and age of heightened environmental awareness a fully organic state is definitely gold worth. There were worries of production falling due to the heavy costs involved in the transition. The farmers were barely sustaining themselves. So questions were raised about feasibility of using indigenous technologies like pheromone loops to control fruit- files, bio-pesticides, bio- fertilizers and natural alternative like compost and manure made from dung , decayed leaves and dry grass.

Though the challenge looked insurmountable the government involved the local park in its vision. They included organic farming as a subject in the school curriculum , initiating compulsory training on organic farming and its advantages as part of capacity building and started to spread awareness on the why, how, what of the vision. The state thrive on sustainable farming without destroying its unique drivers flora, fauna and wild life habitat ultimately convinced its people to embrace the change.

Over the past 13 year, around 75000 hectors of land has been converted into certified organic farm following the guidelines prescribed by the national programme for organic production and finally in January 2016. Sikkim state was officially announced as the country's first fully organic state. The farmers in the state are using natural manure from cow in place of chemical fertilizer and pesticides or insecticides. The Sikkim can be emulated by the other states in the country especially those states which are focusing on agricultural practice which are focusing on agricultural practices.

Combating climate change will require mobilization of substantial resources. Success will depend on the establishment of mechanisms and approaches that incentivize the mobilization of resources for cost-effective and ambitious climate action at all levels. Cooperation between countries and between private and public-sector stakeholders is considered crucial. Thus government can plan to follow a certain path towards arranging the funds which provides incentive for the private sector.

The convergence will benchmark on the key advantages of the different agencies. While the community involvement and grass root level problems which can be identified by the social organizations, there problems can be addressed through project development and provision of sufficient funds from public and private funding. Channeling and incentivizing green funds is

essential in this context. Working groups, specific to industries, can be set-up for prioritizing inclusion of DRR and climate change adaptation. Government should give incentives to private sector for innovative PPP adopting green technologies through tax benefits, revenue subsidies etc. Such PPP models could be useful for pooling resources and expertise and for up-scaling climate change mitigation and adaptation initiatives.

Corporate level disaster policy and climate change adaptation compliance can also be formulated at national level by Government. Tool kits for PPP models for concerned sectors should be made available by Government – such kits need to be comprehensive dossiers indicating model concession agreements, risk and revenue sharing framework etc.

Detailed action plans under NAPCC should be prepared by Government in collaboration with private sector and civil society organizations. It is important that all decisions on climate changing are made in coordination with all concerned ministries and departments, and involve state planning commissions to align action plans. Government can create a welcoming investment environment through overall policies geared to the ease of doing business by giving incentives to private sector for innovative PPP adopting green technologies through tax benefits, revenue subsidies etc. They must work together closely to reduce vulnerability to climate change while enhancing economic growth and development for the country.

Market place and incubation facilities to upscale small and grass root innovations for sustainable models for climate change adaptation should be promoted by Government. Small infrastructure projects promoting alternative energies, non-conventional waste management technologies and green technologies can be promoted with active participation of private sector and civil society organizations. Development of flagship programmes to promote and support the establishment of a global network of national clean technology accelerator programmes as an effective platform to catalyse and accelerate innovations in clean energy and environmental technology in the SME sector, by leveraging the knowledge assets accrued.

A public policy for corporate social responsibility should be formulated at national level considering disaster risk reduction and climate change adaptation measures Sikkim in spite of achieving the full organic state, it has to continues its effort to maintain the status. For that it has to continue the certification programme. Certification also adds trust and provides support to the value addition industry.

Hence let us get future certificate processes organized properly with the least amount of cost of the farmers. Let us get out marketing right and move to higher value addition and branding our value chain must be properly lubricated for minimum commercial friction and finally let us get young people to the organic farm.

Thus in recent decade there has been a growing awareness of how intricate the interactions are between human beings and the environment. Fortunately, progress has been made in understanding this relationship, and new technologies have been effective in addressing environmental problems. However belatedly, there has been an acknowledgment of the incompatibility of the world's finite resources with humankind's increasingly greater needs for them, and of how such a challenge demands broadened collaboration among engineers, social scientists, politicians and financial powers.

Global agreement that the essential issues of the twenty-first century cannot be solved by any one discipline has led to the concept of sustainability. The trans-disciplinary contributions address these concerns with an overview of the diverse fields of study related to sustainability. This collection of work is intended to pave the way for further collaboration among scientists and nations as well.

"NATURE , HUMAN BEINGS & CULTURE constitute an amazing & abiding triangle.....through a persistent manipulation & sculpting of natures , human beings create their SOCIAL MILEU." - First Citizens 'Report on Environment.

Lets salute the efforts of the Sikkim Government to make this world " A REAL SOCIAL MILEU."

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Relationship between Intelligence and Leadership of Secondary School Students: A study

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ABSTRACT

Education in the largest sense is any act or experience that has a formative effect on the mind, character or physical ability of an individual. Preparing today's youth for their roles as tomorrow's leaders is a challenge we all face. If we wish that gifted student should take leadership opportunities, we must have to understand general intelligence, types of intelligence and their features. Considering the characteristics of secondary school students, adolescence age, leadership, giftedness, it is the best period for a study and understanding relationship between intelligence and leadership qualities of secondary school students.

The statement of the problem was to study the relationship between intelligence and leadership of secondary school students. The objectives of the study were to find the relationship between intelligence and leadership of secondary school students and to assess the relationship between intelligence and leadership of boys, girls, gifted and general students.

The co-relational research method was used. Population includes the secondary school students from Pune city. Purposive sampling method was used for selection of schools and students. The sample includes 115 students. The data was collected by using standardised Cultural Fair Intelligence Test (CFIT) and researcher developed Leadership Inventory (LI). Person's Correlation Coefficient Method was used as techniques for data analysis.

The conclusions of this research study are the correlation between intelligence and leadership among the students of secondary school is Positive. This correlation between Intelligence and Leadership is at low level in all students, moderate level in boys and general students, but very low level in girls and gifted students

Keywords: *Intelligence, Leadership, Secondary School Students.*

Introduction :

Education in the largest sense is any act or experience that has a formative effect on the mind, character or physical ability of an individual. In its technical sense, education is the process by which society deliberately transmits its accumulated knowledge, skills and values from one generation to another. Teachers in educational institutions direct the education of students and might draw on many subjects.

Intelligence is an umbrella term

describing a property of the mind including related abilities, such as the capacities for abstract thought, understanding, communication, reasoning, learning, learning from past experiences, planning, and problem solving. Intelligence is most widely studied in humans, but is also observed in animals and plants. Artificial intelligence is the intelligence of machines or the simulation of intelligence in machines. Intelligence tests are widely used in educational, business, and military settings due to their efficacy in predicting behaviour. Intelligence is significantly correlated with successful training and performance outcomes. It is the best predictor of success in job performance.

Leadership is a process that extends over many years. The realities of life require selection and training that occur early in the individual's career, but that is only the first step. Leadership calls for repeated assessment and repeated opportunities for training. Leadership is a performance of functions which help a group to achieve its objectives.

The future of the world civilization will soon rest in the hands of today's youth. To become productive and contributing individuals who can be effective and proactive in determining the course of tomorrow's world, today's youth must develop positive leadership, up-to-date knowledge, proper attitudes, required skills and high aspirations. Preparing today's youth for their roles as tomorrow's leaders is a challenge we all face. However it is well accepted that the ultimate aim of education is all round personality development, of which leadership development is a part, educational scenario in India is that schools have focused merely on academics. Nobody owns the responsibility beyond the academic achievements. Though many researchers and educationist have worked separately on leadership development and lots of literature and modules are readily available, very few curriculum designers have tried to merge it with school curriculum. Hence, it seems that the scope of education has remained limited to teaching of bookish knowledge.

Intellectually gifted individuals form highly valuable human resources of many countries in their period of crisis have tried to catch hold of this pool to train them and utilize their potential to overcome the crisis. If we wish that gifted student should take leadership opportunities, we must have to understand general intelligence, types of intelligence and their features. We must also have to understand leadership, types of leadership and their features. And then we must have to find a correlation between giftedness and leadership qualities. It is well agreed that a gifted leader increases the efficiency of a task completion. However, it is found that leaders are not necessarily intellectually gifted persons. If a gifted child

receives proper attention and opportunity for self-expression and leadership development, he/she can make noteworthy contribution to the welfare of society, the nation and humanity at large.

Secondary Education serves as a link between the elementary and higher education, and plays a very important role in this respect. In most contemporary educational systems of the world, secondary education comprises the formal education that occurs during adolescence. It is the period of maximum growth and development with regard to mental functioning. Intelligence reaches climax during this period. Intellectual powers like logical thinking, abstract reasoning, critical thinking and concentration are almost developed.

1. Review of related researches

Hardy R.C (1995), Chan D.W. (2000), Schneider B., Earhart K. H., Earhart M.G. (2002), Adam, G. J. and Wiemann, C.M.(2003), have worked on evaluation tools for identifying, detecting or measuring leadership qualities.

Dobosz, R.P. &Beaty L. A. (1999), Hart L, Gary J. M, Duhamel C.C. &Homefield K. (2003) and Moran M.M. & Weiss M. R. (2006) have studied relation between the various sports activities and leadership development.

Bakken L., Romig C. (1992), Culp III K &Kohlhagen B. (2000), Kuhn P. & Weinberger C. (2005), Oria J., Cureton V.Y. &Canhan D. (2001), Powell & Rhyne L. (2006) put forward the need of a leadership development programme.

Some researchers have tried to establish the relationship between various personality factors and the leadership. Charbonneau, D., & Nicol, A. M. (2002) have tried to find the relationship between emotional intelligence and leadership in adolescents. While M. C. McCullough, M. Ash Bridge, D. &Pegg, R. (1994) found the effect of Self-esteem, locus of control etc. on adolescent leadership behaviour. Singer, M. (1990) has worked on correlation of aspirations to leadership.

Wilson P., Marlino, D., Kickul J. (2004) examined the diverse and motivations of teens across gender & ethnic identity.

There are some miscellaneous topics covered by researchers which would not be categorized. Yip J., Liu &Nadel A. (2006) worked to find out whether there is difference between youth leaders and adult leaders while Downing, Cris (2006) worked on generation gap. Provencher, M. P. (2006) concluded that it is never too young to lead. Zacharatos, A., Borling, J. &Kelloway, E.K (2000) explains the relation between family background & leadership style. They conclude that adolescents who perceive their

parent exhibiting transformational leadership behaviour would themselves display this behaviour.

There are researches regarding development of leadership qualities among adolescents. Martine K, T., Schilling, T. &Hellison D. (2006) worked on compassionate and caring leadership among adolescents. Rickets, J. C. & Rudd, R.D. (2002) have worked on a topic similar to the topic that researchers have selected. They developed a comprehensive leadership education made to train, teach and develop leadership in youth.

Van Linden, J.A.&Fertman, C.I. (1998) based on fifteen years of work with teens and adults provide Flexible strategies that can be used with adolescents in any program and in varied settings.

Yu. H. C. & Lewis-charp, H. (2006) find that along with promoting leadership skills the program must encourage youths to contribute and make a difference in their communities.

Bakken, L & Romig C. (1992) analyzed that males deserve more 'control' (lead) and ’affection’ is less while females have more ‘affection’ desire than the ‘control’. This gives hint that one must plan different programmes for male and female adolescents.

While taking the review, researchers found that 'Gifted Students did not have higher leadership potential than their counterparts' (Loh, G. & Chang, A. S.C. 1996). But actual age group of sample was not given. Considering gaps in the previous researches this study intends to explore the relationship between leadership and intelligence of secondary school students.

3. Need and importance of the Study

Considering the characteristics of secondary school students, adolescence age, leadership, giftedness, it is the best period for a study and understanding relationship between intelligence and leadership qualities of secondary school students. Hence, the researchers have selected to study the relationship between intelligence and leadership of secondary school students.

Following are the main reasons behind the importance of this research study.

- This research work is helpful for understanding adolescent gifted leadership behaviour which will help for preparing various models of leadership.
- It also helps to develop those areas of personality among gifted so they can occupy the higher places in the future.
- Leadership development training programmes can be developed for training of leadership qualities.
- The results of the test may be useful for guiding and counseling purpose.

4. Statement of the Problem

To study the relationship between intelligence and leadership of secondary school students.

5. **Objectives of the Study**

The objectives of the study were as the following:

1) To find the relationship between intelligence and leadership of secondary school students
2) To assess the relationship between intelligence and leadership of boys of secondary school students
3) To measure the relationship between intelligence and leadership of girls of secondary school students
4) To evaluate the relationship between intelligence and leadership of gifted secondary school students
5) To find the relationship between intelligence and leadership of general secondary school students

6. Assumptions of the Study

The following are the main assumptions considered in the study.

- Intelligence is an important characteristic of leadership.
- Leaders are intelligent than the group members or their followers.

7. Research questions

Following are the null Hypotheses proposed by the researchers:

- What is the relationship between intelligence and leadership of secondary school students?
- What is the relationship between intelligence and leadership of boy students?
- What is the relationship between intelligence and leadership of girl students?
- What is the relationship between intelligence and leadership of gifted students?
- What is the relationship between intelligence and leadership of general students?

8. Scope limitations and delimitations of the Study

Scope: This research is associated with the relationship between intelligence and leadership of secondary school students. It provides a statistical data regarding the relationship level between intelligence and leadership of secondary school students.

Limitations: The conclusions of this study are depended on the responses given by the students to the tools used for data collection.

Delimitations

- This study is delimited only to the secondary school students from Pune city.
- It is delimited to the students English Medium Secondary Schools.

- An instrument (Leadership Inventory) used in the study for data collection is developed by the researchers.

9. Research Methodology

- **Research Method**

In this research study, a co-relational research method was used to investigate relationship between intelligence and leadership of secondary school students.

- **Population and sample**

The population includes the secondary school students from Pune city. Purposive sampling method was used for selection of schools and students. The sample was collected from two schools, out of these one is special school for gifted students. The sample includes 115 students.

- **Tools for data collection**

The data was collected by using following tools-

1. Cultural Fair Intelligence Test (CFIT)

The Culture Fair Intelligence Test (CFIT) was conceived by Raymond B. Cattell in 1920s. It is a non-verbal IQ test to measure student's analytical and reasoning ability in the abstract and novel situations. The test includes mazes, classifications, conditions and series. Such problems are believed to be common with all cultures. That's the reason that the testing industry claims it free from all cultural influences. In the test, the 50 items were presented with an incomplete, progressive series.

2. Leadership Inventory (LI)

The leadership inventory was developed by the researchers which help to measure planning skill, decision making skill, communication skill, self-confidence, Initiative, commitment and involvement with group and motivating others and inter relations skills of the students. In the test, 50 statements were written with complete meaningful sentences with five choices always, frequently, occasionally, seldom and never.

- **Statistical techniques for data analysis**

To find correlation between intelligence and leadership of secondary school students, Person's Correlation Coefficient Method was used as techniques for data analysis.

10. Relationship between Intelligence and Leadership

To study relationship between intelligence and leadership of secondary school students, the researchers had calculated *Pearson's* correlation coefficient between intelligence and leadership of secondary school students (All students, Boys, Girls, Gifted students and General students). The means of scores obtained from the Cultural Fair Intelligence

Test (CFIT) and Leadership Inventory (LI) were used to calculate the correlation**.** The means, Standard deviation and Correlation coefficient of Intelligence and Leadership are given in the table.

Table No. 1

Means, Standard deviation and Correlation coefficient of Intelligence and Leadership

No.	Sample	Sample (N)	Variable	Mean	S.D.	(r)	Correlation
1	All students	115	Intelligence	48.94	12.37	0.31	Positive (Low level)
			Leadership	191.98	14.66		
2	Boy students	55	Intelligence	48.73	13.96	0.42	Positive (Moderate level)
			Leadership	188.95	14.23		
3	Girl students	60	Intelligence	49.13	10.51	0.19	Positive (Very low level)
			Leadership	195.13	14.69		
4	Gifted students	65	Intelligence	55.85	7.39	0.12	Positive (Very low level)
			Leadership	194.08	14.65		
5	General students	50	Intelligence	39.96	11.82	0.41	Positive (Moderate level)
			Leadership	189.29	14.37		

From Table No. 1, the correlation between intelligence and leadership among the students of secondary school is Positive. The correlation between Intelligence and Leadership is positive and at low level in all secondary school students. The correlation between Intelligence and Leadership is positive and at moderate level in boy students. The correlation between Intelligence and Leadership is positive and at very low level in girl students. The correlation between Intelligence and Leadership is positive and at very low level in gifted students. The correlation between Intelligence and Leadership is positive and at moderate level in general students.

11. Conclusions

The conclusions of this research study are:

1) The correlation between intelligence and leadership among the students of secondary school is Positive.
2) The correlation between Intelligence and Leadership is positive and at low level in all secondary school students.
3) The correlation between Intelligence and Leadership is positive and at moderate level in boy students.
4) The correlation between Intelligence and Leadership is positive and at very low level in girl students.
5) The correlation between Intelligence and Leadership is positive and at very low level in gifted students.
6) The correlation between Intelligence and Leadership is positive and at moderate level in general students.

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Need of Holistic Education in Present Time: An Alarming Call

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ABSTRACT

In today's rapidly increasing globalised world, it is imperative to make learning and education a holistic experience beyond classroom academics. The classroom is the original cultivator of true learning and the lavishing green house that nurtures talent and creativity of human beings. The dynamics between a teacher and students define the essence of a classroom. A great teacher can transform the brick-and-mortar confinement and take students on a journey of pure learning, responding to their doubts and instilling an environment of curiosity and interactivity. Hence, to optimize the learning experience, schools and colleges in India are vying to embrace innovative methods, installing the latest educational technology and encouraging teachers to be more creative than ever. In present time the importance of education is increasing day by day on the other hand the education is miss used and manipulated by many and the purification of the process and the system is the craving need. In these circumstances the holistic education and the idea of major educational philosophers play a crucial role. This paper makes an attempt to understand the concept of holistic education and its need in present era

Keywords: *Holistic Education, experimental learning and inclusion.*

Introduction :

India has a rich tradition of imparting information and knowledge. The 'gurukula' was the education system in ancient India with shishya (students) living with the guru in the same house and obtain training and imbibe knowledge. Nalanda was the oldest university-system of education in the world that India gifted. Students from across the world were attracted to Indian knowledge systems and practices. Many branches of knowledge system had its origin in India. Education was considered at a higher virtue in ancient India. During the freedom struggle, several leaders like Gokhale, Ram Mohan Roy and Mahatma Gandhi worked for better education for our people, particularly women. Indigenous model of education was a major component of Gandhi's conception of Swaraj and Swadeshi. Post-Independence, the importance of education as a precondition for development was very well recognized by the leadership of the nation. In the last 20 years, education discourse in India has undergone a major transformation and new concepts such as rights-based approach to elementary education; shift in emphasis

from literacy and basic education to secondary, higher, technical and professional education; the endeavor to extend universalization to secondary education; reshape the higher education scenario.

However, modern India failed to capitalize on its initial edge due to years of colonial rule, financial constraints, and wrong policies and so on.

Need of Holistic Education:

Meaning of Holistic Education Previously, this research will explain the definition of Holistic Education Strategy separated from the definition of Contextual Teaching and Learning. Some experts define Holistic Education as: "Holistic Education is a philosophy of education based on the premise that each person finds identity, meaning and purpose in life through connection to the community, to natural world, and to humanitarian values such as compassion and peace" (Miller, 1999) "Holistic Education is cultivating the whole person and helping individuals live more consciously within their communities and natural ecosystems" (Miller, 2005). Holistic education is a discipline of education based on the premise that each person finds, meaning, identity and purpose in life through connections to the natural world, to the community, and to humanitarian values such as peace and compassion. Holistic education aims to call forth from people an intrinsic reverence for life and a passionate love of learning. This is the definition given by Miller, editor, founder and author of the journal Holistic Education. The term holistic education is often used to refer to the more democratic and humanistic types of alternative education. Flake, C. L (1998) describes this further by stating, "What distinguishes holistic education from other forms of education, at its most general level, are its objectives, its focus to learning through experience, its goals and the significance it places on primary human values and relationships, within a learning environment."

The concept of holism refers to the idea that all the properties of a given system in any field of study cannot be determined or explained by the sum of its component parts (Forbes, S. H, 1996). The system as a whole instead determines the behavior of its parts. There is no single source for a holistic education movement. There is neither a major form of expression nor a predominant proponent. It is difficult to define clearly a holistic education. There are a number of perceptions and values, however that most schools claiming to be holistic would follow (Miller.R, 2010). A holistic way of thinking rather than defining human possibilities narrowly, literally tries to integrate and encompass multiple layers of experience and meaning.

Why Holistic Education?

Parents, in drastically increasing numbers, are seeking alternatives to mainstream education. Few could criticize the commitment to academic excellence that most schools and teachers have and work hard to actualize. But more and more parents realize that just learning academics is not enough, and they see young people in their communities suffering from a lack of needed learning, and society suffering as well.

Parents worry about the negative social influence they see affecting their children. Parents see themselves having less impact on their children's behavior, relationships, and attitudes than the media and marketing which directly targets children. As a result children's senses of themselves and self-images are under pressure. This pressure is expressed in:

- Increased competitiveness in many aspects of a child's social life, such as sports, out-of-school activities, and of course, school.
- Obsessive concern for their "look," from their body shape to their clothes.
- Violence in many forms, from the physical to the psychological and emotional.

Parents are also worried about negative learning attitudes they see developing in their children. Parents saw their children as infants eager to learn, and this eagerness dissipated as these same children's schooling increased. Learning becomes a necessary chore, driven by rewards and punishments, and too often devoid of direct meaning in their children's lives.

Many parents also look at our current society in which social problems seem to be getting worse; in which those considered successful are too often greedy, corrupt, and brutal; in which families and communities seem increasingly dysfunctional; and they ask, "Why aren't we as humans learning what we need to know in order to live good and meaningful lives?"

It doesn't appear that we will learn such things from learning more mathematics, literature, or history. Parents see the need for their children to learn these other things as well as academics, and they look for schools that give time, attention, energy, and resources, to such learning. Parents generally do not come to holistic education from philosophical musings, but from a perceived need for their children that they feel is not currently met.

What Holistic Education offers?

- Emphasize learning by doing and provide hands-on projects and opportunities
- Design integrated curriculum focused on thematic units

- Help our students learn to develop problem-solving and critical-thinking skills
- Provide regular opportunities for group work and the development of social skills
- Facilitate understanding and action as the goals of learning as opposed to rote knowledge
- Emphasize collaboration and cooperation rather than competition
- Educate for social responsibility and democracy
- Integrate community service and service learning projects in the daily curriculum
- De-emphasize the use of text books in favor of varied learning resources
- Create life-long learners
- Assess by evaluation of children's projects, goals and learning experiences
- Help students understand and respect their learning styles.

Conclusion:

In simple words the purpose of holistic education is to prepare students to meet the challenges of living as well as academics. Holistic education believes it is important for young people to learn:

- About themselves.
- About healthy relationships and pro-social behavior.
- Social development.
- Emotional development.
- Resilience.
- To see beauty, have awe, experience transcendence, and appreciate some sense of "truths."

Consider your life's greatest challenges. What did you need to know to overcome the obstacles you faced? Consider your greatest successes. What did you need to know in order to achieve those successes? Then ask yourself, how many of those things that I needed to know did I learn in school?

For thousands of years before schools there were social groups which taught people about the great adventure of being human; its trials and tribulations, its challenges, and its enormous possibilities for human goodness and even greatness. These groups were extended families, communities or tribes or clans, and religions. For the most part, these groups have disappeared or become compartmentalized in people's lives.

Now, it is predominantly popular culture (the media, music) and schools from which young people can learn about what it means to be human. But culture has its own agenda (not the welfare of children), and schools were not designed to replace extended families, communities, and religions. They were designed to prepare people for the world of work; to give them the skill sets that would help them up the ladder of material success. We want that education by which character is formed,

strength of mind is increased, the intellect is expanded and by which one can stand on one's own feet. (Swami Vivekananda Vol-5).Holistic education covers a wide range of philosophical orientations and academic practices. Its focus is on completeness, and it attempts to avoid excluding any significant aspects of the human experience. It is an eclectic and inclusive movement whose main characteristic is the idea that educational experiences foster a less materialistic and a more spiritual worldview along with more dynamic and holistic views of reality It also proposes that educational experience promote a more balanced development of – and cultivate the relationship among – the different aspects of the individual (intellectual, physical, spiritual, emotional, social and Aesthetic), as well as the relationships between the individual and other people, the individual and natural environment, the inner-self of students and external world, emotion and reason, different discipline of knowledge and different structure of knowing. Holistic education is concerned with life experience, not with narrowly defined" fundamental skills". Krishnamurti writes: If the unity of life and the oneness of its purpose could be clearly taught to the young in schools, how much brighter would be our hopes for the future! (Krishnamurti, J.1974). Holistic education is a philosophy of education based on the premise that each person finds identity, meaning, and purpose in life through connections to the community, to the natural world, and to spiritual values such as compassion and peace. (Miller, R.1997).

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Professional Development of Teachers through e-Resources Tools

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ABSTRACT

Information and communication technology has become the part and parcel of teaching profession. The education system has moved its journey from physical to virtual class. In today's rapidly increasing globalised world, it is imperative to make learning and education a holistic experience beyond classroom academics is a need of the hour. To equip oneself one must have several resources and tools. The teachers being a right channel of imparting education to the scholars and learners needs to imbibe the professional development. The present paper elaborates the ways and means through which the teachers can avail the professional development. The paper highlights the e-resources and its usage for professional development of the teachers.

Keywords: *Professional Development, e-Resources.*

Introduction :

Societies in the 21st Century expect all children to be prepared to think critically, solve problems and be creative. The achievement of this expectation rests, first and foremost, upon the development of a highly qualified and committed teaching force (Darling-Hammond, 1995). In other words, the knowledge, skills, abilities, and commitments of teachers prepared today will shape and inform what is possible for the future generation of students. Teacher development has been conceptualized in different ways, and reviewing those conceptions is beyond the scope of this work. Bell and Gilbert (1996) focused teacher's development as a process in which social, personal, and professional development is occurring, and one in which development in one aspect cannot proceed unless the other aspects develop too. Social development refers to working with, and relating to, other teachers and students to reconstruct the socially agreed knowledge about being a teacher of a given discipline. By personal development is meant attending to feelings about the change process, about being a teacher and about education of the teacher's discipline, and reconstructing one's own knowledge about being a teacher of that discipline or subject area. Professional development deals with changing concepts and beliefs about education in that discipline and changing

classroom activities. These three aspects are interactive and interdependent.

The American Association of State Colleges and Universities Task Force on Professional Development for Teachers Report lists three premises of Professional development ("To Create a Profession: Supporting Teachers as Professionals" AASCU Report 2001).

1. The teacher is the single most important factor in student learning.
2. Student learning will increasingly be the measure or determinant of teacher effectiveness, meaning, teachers would be evaluated in terms of their capacity to promote student learning, regardless, of student background and preparation.
3. The quality of a teacher is affected by his knowledge of content and by his knowledge of how to teach. It is at the intersection of knowledge of content and knowledge of strategies that much of staff development efforts should be focused.

Role of ICT in Professional Development of Teacher :

Higher education in the 21st century will find it difficult to survive without creating space for diversity within the curriculum as well as student &faculty bodies. The role of faculty will change from being an information provider to becoming a mentor, facilitator and co-learner. There was a time when the world was big and also slows in changing. Today the world is small and quick in wearing a new garb. The boundaries & the barriers among the nations have vanished. The whole world shrunk into a small village. The process of globalization has brought people close to one another & as such, the challenges in life have multiplied. A student is no longer a citizen of his own land. He is a world citizen. So he has to be taught trained & developed from larger perspective of globalization. Information & Communication technology (ICT) an interdisciplinary domain focuses on providing student with the tools to transform their learning and to enrich their learning environment. The knowledge, skills, behaviours identified for this domain enable student to develop thinking & learning skills that produce, creative & innovative insights; develop more productive ways of working and solving problems individually and collaboratively; create information products that demonstrate their understanding of concepts, issues relationship & processes; express themselves in contemporary and socially relevant ways; communicate locally and globally to solve problems; share knowledge and understand the implications of the use of ICT and their social and ethical responsibilities as uses of ICT.

Educational system all round the world are under increasing pressure to use

ICTs to reach students the knowledge & skills they need in the 21st century. The UNESCO (1998) The World Education Report on "Teachers &Teaching in Changing World" describes the radical implication that information & communication technologies have for conventional teaching & learning. It predicts the transformation of teaching learning process & the way teachers & learners gain access to knowledge& information. It states,

To effectively harness the power of the new information & communication technologies (ICTS) to improve learning, the following essential condition must be met.

- Student & teachers must have sufficient access to digital technologies & the internet in their classrooms, school & teacher education Institutions.
- High quality, meaningful & culturally responsive digital content must be available for teachers & learners.
- Teachers must have the knowledge & skills to use the new digital tools & resources to help students to achieve high academic standards.

Professional Development through e-resources: A Emerging Approach :

The widespread availability of computers and internet access opens up a new means for providing professional development: online workshops and professional exchanges. The online professional development can provide "anytime, anyplace" flexibility that results in new professional development opportunities being available; incorporate many of the principles of effective professional development; enable new collegial relationships and professional learning communities; provide access to resources, colleagues, and experts that may not be available otherwise; spread professional development activities over time and integrate them directly with classroom practice; give teachers a chance to experience for themselves new ways of learning, which can inform their decisions about the use of technology with their students; increase access to personalized learning experiences; potentially reduce the costs of professional development programs; and can be blended with face-to-face meetings, study groups, coaching, and other professional development activities to enhance comprehensive professional development programs.

There are many factors that must be considered in order to create an effective online professional development program, such as defining the professional development needs addressed, planning the connections with other professional

development activities, developing local expertise to create and facilitate online workshops, providing incentives to participants, and making sure adequate technology access and support is available. Along with its potential benefits, online teacher professional development has many potential barriers to its implementation and effective use. It includes: knowledge about online technologies and programs; support from administrators; access to technologies; time, financial support, and parental support; teachers' beliefs and practices and availability of material.

Professional Development with e-resources :

ICT has brought us various innovative e-learning tools and resources. Technology usage in classroom motivates students and teachers to facilitate instruction. Integration of technology in education is practiced when it is used as an extension of human capabilities. Technology usage in classroom is a systematic approach to the academic processes. The tools which allow teachers to participate in online professional development, include Web 2.0 tools such as:

Twitter - Twitter is a website, owned and operated by Twitter Inc., which offers a social networking and micro blogging service, enabling its users to send and read other users' messages called tweets. Tweets are text-based posts of up to 140 characters displayed on the user's profile page. It helps in developing collaborative networks between teachers in different schools to test professional development strategies and techniques.

Web Blogs - A blog is a user-generated website where entries are made in journal style and displayed in a reverse chronological order. The term "blog" is a mingling of the words web and log. Blogs provide comments or news on a particular subject, some function as more personal online diaries. The modern blog evolved from the online diary, where people would keep a running account of their personal lives. Most such writers called themselves diarists or joul11alisls. Blogs can be hosted by dedicated blog hosting services or they can be I1In using blog software, such as Word Press, Movable Type, Blogger or Live Journal, or on regular web hosting services, such as Dream Host. Many blogs provide commentary or news on a particular subject: others function as more personal online diaries. A typical blog combines text, images, and links to other blogs, web pages, and other media related to its topic. The ability for readers to leave comments in an interactive format is an important part of many blogs. Most blogs are primarily textual, although some focus on art (art log), photographs (photo blog), sketch blog, videos blog, music (MP3 blog), audio (pod

casting) etc. and have become wider network of social media.

Wlkis - It allows teachers to participate in continuing education staff development opportunities offered by certified trainers within or outside the school district, along with classroom applications for Wikis. Wikis are websites which can be edited by anyone the owner allows. In this case, teachers allow their students to edit class Wikis. Wikis are more versatile than a class blog, because blogs are typically one way communication and Wikis are updated by teachers and students. Wikis are a free teaching and learning technology tool for teachers to use in education settings. Wikis have become very popular in education since 2006. There are currently over 100,000 registered education Wikis. Education Wikis come with an upgraded membership, worth $50 annually, for teachers. The upgraded membership also eliminates advertisements and allows the ability to restrict public viewing. To support the demand for Wikis in education, Wiki spaces (the developer) is now offering 250,000 education Wikis with the upgraded membership to teachers. Registration is free and all services are free. Services include the ability to upload documents, pictures, videos, and more by teachers and students.

Podcasts - A podcast is a series of digital media files (either audio or video) that are released episodically and often downloaded through web syndication. The word usurped webcast in common vernacular, due to rising popularity of the iPod and the innovation of web feeds. The mode of delivery differentiates podcasting from other means of accessing media files over the internet, such as direct download, or streamed webcasting. A list of all the audio or video files currently associated with a given series is maintained centrally on the distributor's server as a web feed, and the listener or viewer employs special client application software known as a pod catcher that can access this web feed, check it for updates, and download any new files in the series. This process can be automated so that new files are downloaded automatically. Files are stored locally on the user's computer or other / device ready for offline use, giving simple and convenient access to episodic content. podcast provides video and audio continuing education materials to teachers participating in staff development activities and courses.

Skype - Skype is a software application that allows users to make voice calls over the Internet. Calls to other users within the Skype service are free, while calls to both traditional landline telephones and mobile phones can be made for a fee using a debit-based user account system. Skype has also become popular for its additional features which include instant messaging, file

transfer, and video conferencing. It provides teachers with opportunities to talk to other teachers and facilitators to share and reflect on staff development activities using the Internet.

Moodle - Moodle (abbreviation for Modular Object-Orier.ted Dynamic Learning Environment) is a free and open-source e-learning software platform, also known as a Course Management System, Learning Management System, or Virtual Learning Environment (VLE). Moodle was originally developed by Martin Dougiamas to help educators create online courses with a focus on interaction and collaborative construction of content, and is in continual evolution. It provides a virtual learning environment that allows facilitators and certified trainers to develop and conduct staff development for teachers.

Flat Classroom - Collaborative projects using Web 2.0 tools to foster communication, collaboration, and creation between teachers around the world.

Micro-blogging - Micro-blogging is a form of multimedia blogging that allows users to send brief text updates (say, 140 characters or fewer) or macromedia such as photos or audio clips and publish them, either to be viewed by anyone or by a restricted group which can be chosen by the user. These messages can be submitted by a variety of means, including text messaging, instant messaging, email, MP3 or the web. The content of a micro-blog differs from a traditional blog as it is typically more topical, smaller in aggregate file size (e.g. text, audio or video) but is the same in that people utilize it for both business and individual reasons. Many micro-blogs provide this short commentary on a person-to-person level, or share news about a company's products and services.

Social Book Marking - Social book marking is a web-based service to share internet bookmarks. The social book marking sites are a popular way to store, classify, share and search links through the practice of folksonomies techniques on the internet. In a social book marking system, users store lists of internet resources that they find useful. These lists are accessible to the public or a specific network, and other people with similar interests can view the links by category, tags, or even randomly. Some allow for privacy on a per-bookmark basis.

Instant Messaging - An instant messaging application allows one to communicate with another person over a network in relative privacy. There are many options like Gtalk, Skype, Meetro, ICQ, Yahoo! Messenger, MSN Messenger, Waytosms.com, Ultoo.com, Fullonsms, 160by2.com and AOL for instant messaging. You can add associates to a Contact list or buddy list, by

entering their email address or messenger ID.

Readymade power-Point Presentations and Web Pages - Being teachers and teacher educators, we need to link our lessons with latest knowledge in our fields. But, do we have enough time to move for collecting material from various sources? Content from the web is doing wonders for us. Readymade power point slides save a lot of our precious time, hence, giving opportunity for action research and, of course, more time for our personal lives. These power point slides and special web pages are helpful in providing updated matter to the students and in a better understandable time saving form. Also, students can be encouraged to go for searching power - point presentations for the technology based lesson plans they need to transact and also for their future professional life. Just add 'ppt' to your searches and enjoy the difference. Most reliable site for this is slideshare.com, you just have to become a member of this site, which is free of cost, than you can download as many powerpoint presentation as you wish.

Text Chat - Internet Relay Chat (IRC) and other online chat technologies allow Users to join chat rooms and communicate with many people at once, publicly. User may join a pre-existing chat room or create a chat room about any topic. Whether you are in another person's chat room, or one you've created yourself: you are generally free to invite others online to join you. This facilitates both one-to-one communication and many-to-many interaction.

Readymade Programs / Softwares - Specially made software could be downloaded from Internet to work. These software work on the policy of self-learning. They guide and instruct the users in order to work in right direction and motivate to work for the concept of 'mastery learning'. Teachers and teacher educators need to guide the students in using such software as. Geo Gebra, a free and multi platform dynamic mathematics software for schools that joins geometry, algebra and calculus. http://www.geogebra.org), (Teach2000 is a vocabulary trainer that helps to memorize words in foreign languages, using multiple-choice questions and flashcards: http://teach2000 .memtrain.com/).

Ning - Ning is an online platform for people to create their own social network, launched in October 2005. Ning a teaching and learning collaboration transforming teacher professional development.

Internet Forums - Internet forums allows Users to post a "topic" for others to review. Other users can view the topic and post their own comments in a linear fashion, one after the other. Most forums are public, allowing anybody to sign up at any time. A few are

private, gated communities where new members must pay a small fee to join.

Search Engines - Just wish and write in the search option box, click ... In seconds, a list of the related websites would open, browse them one by one to find the relevant information suitable to you. It could be the required website, images, videos, news articles documents and so on. We have been using this option to find matter about the topics, ordinarily not available in books. The quality of teaching and learning could be refined using search engines. These searches, many a time, lead to multiple information sources for the information seeker. To find the proverbial needle in this haystack (or tiny fly in the web), search engines act as desired means. Some of the popular search engines are:

www.google.com;
www.yahoo.com;
www.altavista.com;
www.khoj.com.

Google Docs - collaboration with other teachers in the continuing education projects an assignments. Google Docs are web-based word processor, spreadsheet, presentation, and form applications provided free by Google. These applications allow teachers and student to create and/or edit documents online, while collaborating with others. Google Doc provides all the necessary document creating and handling services typically provided in education desktop productivity software packages.

Conclusion:

Continuing education has taking on a whole new setting for teachers. Staff development is rapidly moving into the online world of participation in facilitated courses an collaborative networks. Teachers are using Web 2.0 tools to participate in continuing education when it is convenient for them, without the constraints of the rigid school day schedule. All teachers need to refresh themselves and improve their skills by attending or participating in professional development opportunities designed to invigorate learning Professional development represents a vital on-going activity that all teachers should address in order to remain current in their academic disciplines and up to date on education. Atrends that might affect their teaching methodologies, curriculum, and student-centered considerations such as dealing with learning disabilities. Professional development opportunities can be a one-day seminar or a semester night course at the local university). What is important is that all teachers refresh their credentials whether or not 'state certification and licensure requirements mandate such actions.

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Effect of *Tapovan Garbhasamskar Program* in the context of Developmental Milestones at Neo Natal Stage

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ABSTRACT

Pre natal stage is very crucial for creation of strong foundation for human development. The present study has tried to find out in effect of Garbhasamkar on the development of child at neo natal stage. for the purpose the researcher has collected the data from the mothers who have participated and non participated in Garbhasamskar program run by the Children's University. The researcher has developed rating scale for the measurement of child development of children from birth to six months of age. The researcher found that development of children whose mothers were participated in Garbhasamskar program was significant higher than non participatory mother's children. Further socio economic status of family, education of parents and type of family have no significant difference in child development of children of participatory women.

***Key words**: - Child development, Garbhasamskar.*

Introduction

Human development begins with pre natal stage. It is very crucial period for the new emerging life. Physical, mental and spiritual well being of mother, tremendously effects on the development of fetus. It is very important for any nation taking care holistically of pregnant women. In every culture there are traditions and practices for such care. India has very rich and ancient heritage related to every aspect of life. Indian ancient thinking about human existence is very different from other nations. In India life is continue from one birth to another. It is very abstract thought and it provides strong base for the prenatal care.

Significance of Study

Children's University is concerned with holistic development of children from womb to 18 years. The area of research covered a very wide spectrum. It includes formal and informal education. It covered prenatal education, pre-primary, primary, secondary and higher secondary education. The various projects related to parenting and extension services will be greatly supported by this type of researches. This is the

primary study in the long journey of research. On the basis of this study major extensive research work may be planned in future. So the study is closely concerned with functions of Children's University.

The main objective of this study was to measure the developmental mile stones on the basis of responses collected from the mothers. The development during neo natal stage is strongly affected by the conditions of mother during pregnancy. This study has tried to measure the developmental mile stones of neo natal children whose mothers had participated in *Garbhasamskar* process during pregnancy. The result will be useful to establish connection between experiences provided to mother during pregnancy and development of child.

Theoretical Background

Concept of *Tapovan* Research Centre

I. It is a centre of researches in eugenics.
II. Incredible centre for educating pregnant women; it has a beautiful garden and other facilities.
III. A unique place for nurturing best progeny for transforming the society
IV. A centre of development and implementation of profound and the best practices in *Garbh-sanskar* and *Garbh-vignan*
V. A centre for the harmony of family and the expecting mothers A research-centre for studying the developmental progresses of a child in the womb and the expecting mother's physiological, psychological and affective development.

Activities of *Tapovan*a Research Center

1	Pranayam/Yoga
2	Prayer
3	Meditation
4	Garbhasamvad
5	Art skills/ Paintings
6	Games–Intellectual
7	Music
8	Reading/Discussion
9	Showing Film/ Video
10	Prakrtivihar
11	Sanskrit Reading
12	Personal Counseling
13	Group Counseling
14	Mathematical Physical Puzzles
15	Development of Elocution
16	Storytelling

Prenatal Care- Empirical Evidences:

Pregnancy is one of the best gifts of God, which is naturally given to womanhood. Pregnancy is very crucial period of women's life and it is full of physical, pathological and psychological changes. This is period of joy and bliss for women but sometimes woman faces stress, anxiety, fear. It is a complete pregnancy care guideline to get a marveloushealthy child. It is those 'nine

months' crucial period when maximum efforts are to be taken for betterment of the offspring's. This psychological state of mind leads women toward poor mental and physical health. Though pregnancy is natural phenomenon and not disease but in modern era it is assumed that it is compulsory required some medical attention. The well being of mother is directly effects to child in womb. Further the journey of child birth is actually starts from the decision of parents.

American Association for the Advancement of Science (AAAS) (2013) established that 'Babies Learn to Recognize Words in the Womb'. Eino Partanen (2017) has proved that the babies in the womb can hear the rhythm of speech, rhythm of music etc. He says that "the fetus can learn much more detailed information than we previously thought and that the memory traces are detectable after birth". Eino Partanen also explains the science around what happens when the mother talks to her baby in her womb and explores the potential benefits of this early communication. His findings are available in the "Proceedings of the National Academy of Sciences".

Hopper (2016) has also proved that newborns recognize the theme song from their mother's favorite soap opera. Prof. Hopper's team has established the world's first research centre dedicated to the study of fetal behavior. He finds that, "Nothing much has been known about fetal behavior. The general view has been that new-borns are not able to do very much: they are born with reflexes but have no memory. We have been able to prove memory develops earlier."

Scottish Government, NHS's (Health Scotland) entire procedure of 'Hearing and listening in the womb' from 0 to 24 weeks and then till birth, with a practical research. It says between 0 and 16 weeks is an early stage the unborn baby is surrounded by sound, vibrations and motions which are 'felt' through the skin and skeletal systems.

Tyagi (2014) says that it is possible to give energy for the development of body, mind and soul of the child in the womb by listening to special kind of music.

Graven and Browne (2008) found that voices can be heard in the womb above the natural noises of the mother and other distorted noises from outside. Intonation patterns of pitch, stress and rhythm can be heard clearly as well as music. Further, Studies by DeCasper and Fifer and Kolata() published by American Association for the Advancement of Science, found that unborn babies respond to the rhythm of being read to. The development of listening before birth is vital to the progression of listening and attention skills after birth. Thus, these findings draw parallels between science and stories i.e proven facts from the research world and Indian mythological stories of Abhimanyu, Prahlada etc.

***Tapovan Garbhasamskar* :**

'Garbhasamskar' is procedure related to child birth which began from the decision of parent to child birth. Garbh is sanskrit term which mean fetus in womb. Another word is '*Samskar'* which mean cultivation of mind. So '*Garbhasamkar'* refers develop the brain of the fetus. In the tradition of Indian ancient culture it is believed that education of human start from the conception. The period of pregnancy is very crucial period to educate the child.

Garbha means the internal part here the fetus which is growing in mother's womb. Jointly Garbha+Sanskar mean reforming, polishing and ultimate, molding and cultivating the unborn. Garbha sanskar can be defined as developing a educated, civilized, cultured, pretty, purified, impressible, responsive but still physically, spiritually, psychologically, religiously steady people.

The Sanskrit term '*Garbha'* refer fetus in the womb and '*Samskar*' refer educating the mind. So '*Garbhasamskar*' basically refer develop the brain of the fetus. Traditionally ethnicity, it is assumed that value-based parenting start when the child is conceived relatively after the child is born that is why elders in the family speak about the significance of positive thoughts and feeling during pregnancy.

ध्रुव चतुर्णा सान्निध्यातः स्यात विधिपूर्वकम ।
ऋतुक्षेत्रामम्बुबीजानां साम्राज्यातअडकुरो यथा ॥

सुश्रुत ३/३३

Rutu means fertile period, Kshetra means Uterus and reproductive organs, Ambu means nourishment, Beej means sperm and ovum.

Children's University is specific university which is working for holistic child development from mother's womb to adolescence. This ambit of the university provides wide scope for prenatal care and education. The basis of the university is ancient Indian wisdom and thousands of years old traditions. The university has started its work in the area of prenatal stage since last almost decade. The university has developed its own '*Garbhasamskar*' program based on Indian wisdom and modern science.

Garbhasamskar has developed more and accepted due to scientific a fact that proves it significance and importance in the growth of a child. Research has confirmed that more than 60 percent of the baby's brain growth occurs in the intrauterine stage. Further more studies have revealed that an unborn baby has the capability to pay attention and reply to outside stimulus. Doctors and experts accept as true that hormonal secretions generated can appreciably influence baby. While it may sound extraordinary and incredible bonding with baby does not have to stay until birth.

Research indicates that even in the womb the baby recognize, understand hears listens and feels, perceived his mothers lowing attachment. Communicating with baby is an important part of '*Garbhasamskar*'. Special techniques such as optimistic thinking, visualizing, music, relaxation, tender massage of the belly are used to create this communication and it is used to form baby.

The physical condition of the parents is directly accountable for the health of a child, not only the physical health, but also their emotional and spiritual, religious health affects the child in the womb. The surrounding environment, the food, the activities, in fact the whole thing the mother is exposed to during the pregnancy directly affects the child. The resonance of the veena, flute sound and mantras gives health to the pregnant woman and the child within. It is achievable to give power for the growth of the body, mind and soul of the child in the womb by listening to particular music. At the very point of time when both decide to have baby in their lives the process of Garbhasamkar starts.

Ancient References related to Garbhasamkar

1. In Ramayana too reference is found that before the birth of Lord Rama during 'putra kameshthi yagya' the Agni devata gave King Dashratha 'payas' which can be considered as a form of 'Garbha Sanskar' only.
2. In Mahabharat also there is a well known mythological story as to how Lord Krishna had taught Abhimanyu to enter in 'chakravyuha' when he was in his mother Subhadra's womb. This story too proves the fact that men during mythological period too believed the concept of Garbha Sanskar.
3. Had Prahlad's mother not been an ardent devotee of Lord Vishnu, Prahlad would have turned out to be a demon like his family. Prahlad listened to his mother's devotional prayers while still in her womb, and turned out to be the greatest devotee of Lord Vishnu. Eventually, these events lead to the downfall of his father's evil demon empire.
4. Lord Hanuman's mother Anjana was an ardent devotee of Lord Shiva. When she was pregnant she ate a blessed dessert meant to produce divine children. Lord Hanuman was thus born with divine powers. He dedicated his life to fighting evil and was loyal to Ram and Sita.
5. Ashtavakra's mother Sujata wanted her son to be the most intelligent sage ever. So she would sit in on the

classes taught by her father and husband while she was pregnant. In a class taught by her husband, the unborn baby spoke up and corrected his father sage Kahoda. Kahoda feeling insulted cursed his son to be born deformed. So Astavakra was born physically challenged. But as he had taken part in the classes of his learned father and grandfather while in the womb of his mother, he was a genius. The story goes on to say that because of his intelligence, he was able to fix his physical handicap.

Objectives of the Study:

1. To study the effect of *Tapovan Garbhasamskar* Program on development of child upto 6 months.
2. To study the effect of *Tapovan Garbhasamskar* Program on development of child upto 6 months in relation to level of education of parents.
3. To study the effect of *Tapovan Garbhasamskar* Program on development of child upto 6 months in relation to socio economic status of parents.
4. To study the effect of *Tapovan Garbhasamskar* Program on development of child upto 6 months in relation to type of family.

Variables:

Independent Variables:

1. *Tapovan Garbhasamskar* Program developed and run by Children's University.

Intervening Variables:

1.	Socio Economic Status of family	high and low
2.	Education of Parents	High : More than graduate Low : Less than graduate
3.	Type of family	Joint and Nuclear

Dependant Variables:

1. Child Development from birth to six months

Hypothesis:

1. There will be no significant difference between mean scores of *Tapovan* children and Non *Tapovan* children on child development scale.
2. There will be no significant difference between mean scores of *Tapovan* children on child development scale in relation to SES of family.
3. There will be no significant difference between mean scores of *Tapovan* children on child development scale in relation to Education level of parent.

4. There will be no significant difference between mean scores of *Tapovan* children on child development scale in relation to type of family.

Research method:

The researcher has adopted experimental design to find out the effectiveness of activities of *Tapovan* Reseach Centers of Gujarat.

Experimental Design:

The present study was experimental research. For the purpose two group post test design was selected. Children's university has established centers across the Gujarat state for pre natal care which is popularly known as *Tapovan Research Centers*. The women participated in the *Tapovan* center's activities are considered as experimental group whereas women who have not participated in *Tapovan* center's activities are considered as controlled group.

Population:

In present study women of residing in Gujarat and having children whose age is up to six months was considered as population of the study.

Sample:

In this study the researcher has randomly selected mothers having children with age below six months. For the purpose of the study the researcher has selected 153 women from the list of participants who were actively involved more than three months in activities of *Tapovan Research centers*. The researcher has collected data for controlled group as random sampling technique.

Table-1

Sample of the study

Experimental Group	Controlled Group	Total
153	153	306

Tool of Study:

To measure the effectiveness of the *Tapovan* program the researcher has developed three point rating scale. The researcher has developed this rating scale on the basis of developmental milestones of the child from birth to six months. This scale consists of 20 statements on which the respondents will gave their opinions. The tool has three points for response by mother on the basis of their observations of child. The respondents were instructed to select appropriate category for their child's behavior. The three points categorical shows the development of child. The researcher has quantified each response. The child has achieved or shows behavior at excellent level, moderate level and not satisfactory level then it is evaluated as 3,2 and 1point respectively.

Data Collection:

The researcher has collected data through *Tapovan* counselors working at these centers. Counselors have collected data from women who have participated and non-participated in *Tapovan* Research centers. The researcher has evaluated each sheet on the basis of evaluation pre-determined criteria. Finally the researcher has analyzed the data with the help of MS Excel and calculated t-score for the testing of hypothesis.

Data Analysis and Interpretation:

The data is analyzed to find out the level of significance between mean scores for various independent variables selected.

Table: 1

Comparison in relation to participation and Non-participation in *Tapovan* center's Activities

Participation	N	m	SD	SE	t Score
Tapovan	153	50.22	7.33	1.25	4.89
Non *Tapovan*	153	44.10	10.09		

Table No: 1 shows the data for experimental group and controlled group i.e. group who has participated and non-participated in *Tapovan* activities. The total number for both groups was 153. The mean score and SD for *Tapovan* group is 50.22 and 7.33 respectively whereas mean score and SD of non-*Tapovan* is 44.10 and 10.09 respectively on child development scale. The t-score is 4.89 which is higher than table value at 0.01 level. (df=304) This shows significance difference between two mean score. The null hypothesis 'There will be no significant difference between mean scores of *Tapovan* children and Non *Tapovan* children on child development scale.' is rejected.

This reveals positive effects of *Tapovan* center's activities on child development up to six months.

Table: 2

Effectiveness on CD in Relation to Socio-Economic Status of Parents

Level of SES	N	m	SD	SE	t Score
Upper SES	93	50.10	7.70	2.19	0.24
Lower SES	61	49.57	9.32		

Table No: 2 shows the data for upper level and lower level of socio-economic status for experimental group. The number for both groups was 93 and 61 respectively. The mean score and SD for upper level SES is 50.10 and 7.70 respectively whereas mean score and SD of lower level of SES is 49.57 and 9.32 respectively on child development scale. The t-score is 0.24 which is less than table value at 0.01 level. (df=152) This shows difference between two mean score is not significant. The null hypothesis 'There will be no significant difference between mean scores of *Tapovan* children on child development scale in relation to SES of family.' is not rejected.

This reveals that level of socio-economic status of parents does not effects the child development up to six months. It can be also said that the effectiveness of *Tapovan* center's activities are equal for upper and lower level group in term of socio-economic status.

Table: 3

Effectiveness on CD in Relation to Level of Education of Parents

Level of Education	N	m	SD	SE	t Score
High education	98	50.24	7.98	1.44	0.06
Low education	56	50.16	6.02		

Table No: 3 shows the data for upper high and low level of education for experimental group. The number for both groups was 98 and 56 respectively. The mean score and SD for parents having high level of education is 50.24 and 7.98 respectively whereas mean score and SD of parents having lower level of education is 50.16 and 6.02 respectively on child development scale. The t-score is 0.06 which is less than table value at 0.01 level. (df=152) This shows difference between two mean score is not significant. The null hypothesis 'There will be no significant difference between mean scores of *Tapovan* children on child development scale in relation to Education level of parent.' is not rejected.

This reveals that level of education of parents does not effects the child development up to six months. It can be also said that the effectiveness of *Tapovan* center's activities are equal for higher and lower level group in term of education.

Table: 4

Effectiveness on CD in Relation to type of Family

Type of Family	N	m	SD	SE	t Score
Nuclear Family	117	50.36	6.23	3.36	0.18
Joint Family	36	49.75	10.16		

Table No: 3 shows the data for nuclear and joint family for experimental group. The number for both groups was 117 and 36 respectively. The mean score and SD for nuclear family is 50.36 and 6.23 respectively whereas mean score and SD of joint family is 49.75 and 10.16 respectively on child development scale. The t-score is 0.18 which is less than table value at 0.01 level. (df=152) This shows difference between two mean score is not significant. The null hypothesis 'There will be no significant difference between mean scores of *Tapovan* children on child development scale in relation to type of family.' is not rejected.

This reveals that type of family does not effects the child development up to six months. It can be also said that the effectiveness of *Tapovan* center's activities are equal for joint and nuclear family participants.

Major Findings:

1. Activities conducted by various *Tapovan* centers are found effective in terms of child's developmental milestones up to six months.
2. Socio-economic status, level of education and type of family are not found effective factors in relation to effectiveness on child development among the participants who have actively participated in *Tapovan* activities. This reveals that these activities are equally effective and useful for all classes in term of socio-economic status, level of education and types of family.

Discussion on Findings:

The study is carried out to measure the generalized effect of *Tapovan* research center activities on child development. The study shows very optimistic results for *Tapovan* centers activities designed and carried out by Children's university. This primary and piloting study will encourage future in depth studies in terms its effectiveness. The study shows encouraging evidence for *Tapovan* centers and its activities. Though this is very small scale study, it is necessary to conduct scientific, controlled and in depth studies for this emerging area of multidisciplinary research.

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