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The Journal of *Horizons of Holistic Education* (HHE), published by the Children's University, is an International quarterly Interdisciplinary Journal which covers topics related to holistic development of children. HHE covers all the areas which deal with the children, such as Child education, Child psychology and Panchkosh development of children, children's literature and so on. It also includes intellectual efforts encompassing Sociology, Vedic Science, Medicine, Psychology, Drawing, Music, History, Geography, Home Science, Philosophy, Economics, Commerce and Literature concerned with Children. The researches based on such topics shall be given priority.

Aim and Scope — an International journal of *Horizons of Holistic Education* (quarterly) aims to publish original research papers, related to the theory and practice of various disciplines of Humanities. We invite you to contribute your fulllength research papers, short communications and Review articles and Articles concerned with holistic modern development in the area of liberal sciences pertaining to the children's studies.

FROM THE VICE CHANCELLOR'S DESK

Education is an important element in the existence of human being. Education is the power of a people. Also, happiness comes when people have an education. Education gives us knowledge, value, skills, etc. So, schooling is very much crucial for education. School is the first part of our education. Schools and Colleges are part of education.



The Bhartiya education system is quite an old education system that still exists. It has produced so many genius minds that are making the nation proud all over the world. However, while it is one of the oldest systems, it is still not that developed when compared to others, which are in fact newer. This is so as the other countries have gone through growth and advancement, but the Indian education system is still stuck in old age. It faces a lot of problems that need to be sorted to let it reach its full potential.

The National Education Policy – 2020 is a giant step in improvement of the present education system. Besides education, every student must learn art, yoga, dancing, singing, etc. These also make a child happy and safe. Students may succeed in their future through all these. So, we can understand that besides education, all these activities also play a significant role. In our nation, education is a right of all persons. Every person has the right to educate. Education gives us the right path to success. The Bhartiya education system provides a lot of happiness to every person in the country. Due to the Bhartiya education system, students learn and shine in the future. Education gives us an excellent fortune.

Everyone needs to be educated in our country. Education teaches us a lot of things. Education helps us to succeed in our life. So, education is one of the main parts of our life. We have to spread awareness of the education system.

To conclude it could be state that the Bharatiya education system has potential to make us Vishv Guru. Also, we can easily say that the modern age is the age of education. So it is a process for earning a lot of knowledge. We cannot forget the value of education in our life. So it is essential. It can help a person to grow his mental strength. Also, it can improve a personality of a person.

There are two types of education. The first one is formal education, and the second one is informal education. Students give their legal education from their schools or colleges. Besides, people take their informal education from their own life. So education is a necessary thing in our life.

Regards,

Mr. Harshad P. Shah
Vice Chancellor
Children's University

FROM THE CHIEF EDITOR'S DESK

Education is a social organization through which society imparts vital knowledge to its members, including basic facts, job skills, and cultural norms. One of the most critical advantages of education is that it improves individual life and helps society run smoothly.



Education means a continuous reconstruction we find that the present system of education in India has lost that dynamic character. Critical analysis of the whole problem will show that none of the aims – Vocational, knowledge, moral, social, personality building, living- has been fulfilled in our nation.

The education system must make its contribution to the development of healthy habits, attitudes and qualities of character so that the students become responsible and disciplined citizens of the country after the completion of their studies.

Such a development is not possible until a suitable atmosphere has been provided to the students during their academic career Through the spectacles of books our students have seen the panorama of the vast world, but through their own naked eyes they may not get even a bird's eye view of the things they are to face in life. There is a wide gap between theory and practice.

Indians are revolutionary by theory and evolutionary by practice. They are good planners but bad executors. The promise of our policy-makers to provide free and compulsory education to the children of the age group of 6-14 by 1964, has remained unfulfilled even after 50 years of independence. The National Education Policy – 2020 is a remarkable move towards changing the system of education but how the execution will take place is under dilemma.

There has been a mushroom growth of academies and other private educational institutions. These institutions have by and large become business concerns. The evil of tuition- mongering is on the rise. There is a plethora of government-run and private institutions.

It is high time now that we evolved a sound and uniform policy of education. Illiteracy has got to be removed from the country. Over-crowding in the schools and colleges has to be curtailed by opening new institutions both in the rural and urban areas.

Regards,

Dr. Jignesh B. Patel
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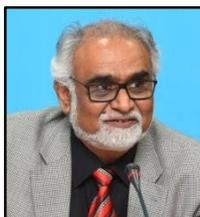
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A Study on the Lifestyle Changes among Female Students during Covid-19 Lockdown

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ABSTRACT

The present study is conducted with female students pursuing their graduation and post-graduation in various colleges of Visakhapatnam city. The study aimed to understand the lifestyle changes that occurred in the lives of female students during the Covid-19 lockdown. The study adopted the purposive sampling method and the sample size is 727 female students. The study found that the majority (88.2%) of the respondents opined that changes took place in their lifestyles during the Covid-19 lockdown period. The changes came in food intake, sleeping habits, reading habits, learned household work etc. The study observed that many female students were subjected to fear and stressed during the Covid-19 lockdown period. The study suggested that the universities and colleges should provide online career guidance and counselling to female students to reduce the stress about their future careers.

Keywords: Covid-19, female students, lifestyle changes, educational career

Introduction

This study presents information about the lifestyle changes that took place among female students during the Covid-19 lockdown period. As we know that the Covid-19 is a pandemic and its impact is on all sectors. Covid-19 originated in the Wuhan city of China, it was declared as a global pandemic by the World Health Organization (W.H.O) on March 11, 2020 (Rawat, D. et.al. 2021).The corona virus disease 2019 (Covid-19) has emerged as a global health threat, with every nation facing unique challenges during the outbreak. They have psychosocial and economic implications (Banerjee, D., & Bhattacharya, P., 2020). People living with Covid-19 are the carriers and it spreads through their sneeze, cough, or when droplets were on objects, if any one touch the surfaces, such as tables, doors and shake hands the disease transmit to one person to another. Other people may become infected by touching these objects or surfaces, then touching their eyes, noses or mouths before washing their hands. Due to this reason, the government of India has seriously announced that thoroughly clean hands regularly with soap and water or an alcohol-based hand sanitizer, and

to clean surfaces regularly. The impact of Covid-19 touched all facets of individual life and it is very high on students in general, female students in particular. They have to spend an entire day at home and have to attend online classes. The lifestyle and daily activities of the female students have suddenly changed due to the Covid-19 lockdown. As it is known that, and it is a regular practice in Indian families that mother teaches daughters about the household work, cooking, cleaning etc. The Covid-19 lockdown period helped them to learn such things.

Review of Literature

L.Narayananetal. (2020) found that the Covid-19 pandemic has severely impacted individuals from all walks of life. The impact is very high on health, economic, environmental and social sectors of the entire human population. In the absence of any effective drugs and vaccines for treatment, social distancing and other preventive measures are the only alternatives. The pandemic situation demands a certain way of regulating the society to reduce spreading of virus and safeguard oneself. The study found that the lifestyle changes adopted in hygiene and maintain good health, work from home, online teaching, digital shopping, changing internet habits and societal changes.

A. Chaudhary et al (2021) observed that the Covid-19 pandemic has created a mental health crisis among college students in India due to lockdown restrictions, overwhelming numbers of Covid-19 cases, facing the financial difficulties, etc. The study found that of the 324 students, 223 (68.8%) had high fear about Covid-19, 93 (28.7%) had moderate to severe depression, and 167 (51.5%) had mild to severe anxiety. This research study concluded that there is a very high fear of Covid-19 among students, along with anxiety and depression symptoms.

D. Rawatetal. (2021) conducted a review study which attempted to summarize the effect of Covid-19 pandemic on lifestyle behaviour among the Indian population. The study found that a change in lifestyle behaviour was observed due to the Covid19. The changes came in psychosocial and mental stress among the participants. There is a change in weight gain and a decline in physical activity. There is change in quantity as well as quality of sleep. The present review indicates the need for lifestyle behaviour programmes via using the platform of E-media and also for the dissemination of health education

Aakshi Chopra et al. (2020) study was conducted to understand the lifestyle changes among individuals. The study was conducted on 995 respondents. It was found that during the Covid-19 lockdown, many of them taken healthy meals and reduced taking unhealthy food, especially in the younger population (age <30 years). It is observed that there is a reduction in physical activity and increased daily screen time. The quarantine concept increased stress among one-fourth of the participants. Covid-19 marginally improved the eating behaviour, and one-third of participants gained weight and their mental health was also adversely affected.

Scope of the study

The Covid-19 impact is very high on individuals in society. It disturbed the daily activities, food habits and increased the mental health issues like stress, depression and anxiety. A few studies were conducted to understand the lifestyle changes in individuals in India. This study aimed to understand the lifestyle changes that took place among the female students who are pursuing graduation and post-graduation in Visakhapatnam city. The impact of Covid-19 is very high on students in general and female students in particular. As it is known that, and it is a regular practice in Indian families that mother teaches daughters about the household work, cooking, cleaning etc. The female students have to attend the household work, besides class work and also secure their physical and mental health. This study was conducted to understand the lifestyle changes that had taken place during the Covid-19 lockdown period among female students.

Objectives of the study

1. To study the socio-economic and demographic profile of the female students pursuing their graduation and post-graduation in various colleges of Visakhapatnam city
2. To understand the lifestyle changes in terms of physical and mental health among female students during the Covid-19 lockdown
3. To study the changes in the daily activities such as household work, physical activity and reading habits of female students
4. To provide appropriate suggestions to promote better life styles of the female students

Research Methodology

The present study is conducted in Visakhapatnam city. It is declared as a smart city and a big city in the state of Andhra Pradesh. The study adopted a quantitative research approach and descriptive research design. The study purposively selected four colleges from Visakhapatnam city i.e. St. Ann's college for woman, St. Joseph's College for Women, Gayatri Vidya Parishad Degree and Post-graduation College, and Dr. Lankapalli Bullaiah College of Engineering. The study adopted the purposive sampling method and selected 727 female students from these three colleges. The data was collected through the structured, pre-tested questionnaire which was shared via Google form. The data was collected in August 2021. The data were analysed through Ms-Excel 2010 version and SPSS 20th version.

Results and Discussion

The collected data through a structured questionnaire from 727 female students pursuing graduation and post-graduation are analysed and interpreted in the following tables. The following table presents the information about the age of the respondents.

Table No. 1
Distribution of the respondents by their age

Age	Frequency	Percentage
18.00	272	37.4

19.00	196	27.0
20.00	168	23.1
21.00	79	10.9
22.00	12	1.7
Total	727	100.0

The data in the above table revealed that 37.4 per cent of the respondents belong to 18 years, 27.0 per cent of the respondents belong to 19 years, and 23.1 per cent of the respondents belong to 20 years. The mean age of the respondents is 19.1 years, median age is 19 years and mode is 18 years. The following table presents the information about the education of the respondents

Table No. 2
Distribution of the respondents by their education

Education	Frequency	Percentage
Graduation	674	92.7
Post Graduation	53	7.3
Total	727	100.0

The data in the above table revealed that the majority (92.7) per cent of the respondents are pursuing graduation and only 7.3 per cent of the respondents pursuing their post-graduation. The following table presents the information about the college of the respondents.

Table No. 3
Distribution of the respondents by their college

College	Frequency	Percentage
St. Ann's College for Women	273	37.5
Dr. Lankapalli Bullayya College of Engineering	61	8.4
St. Joseph's College for Women	128	17.6
Gayatri Vidya Parishad	265	36.5
Total	727	100.0

The data in the above table revealed that 37.5 per cent of the respondents were represented from St. Ann's College for women, 36.5 per cent of the respondents were represented from Gayatri Vidya Parishad, 17.6 per cent of the respondents were represented from St. Joseph's College for Women and remaining 8.4 per cent of the respondents are from Dr. Lankapalli Bullaiah College of Engineering. The following table presents the information about the caste of the respondents.

Table No. 4
Distribution of the respondents by their caste

Caste	Frequency	Percentage
OC	159	21.9
BC	482	66.3
SC	58	8.0
4.00	28	3.9
Total	727	100.0

The data in the above table revealed that the majority (66.3%) of the respondents belongs to backward classes, followed by 21.9 per cent of the respondents are from open category classes. The scheduled caste population represented only 8.0 per cent and 3.9 per cent of the respondents are from Scheduled Tribes. The following table presents the information about the religion of the respondents.

Table No. 5
Distribution of the respondents by their religion

Religion	Frequency	Percentage
Hindu	652	89.7
Muslim	43	5.9
Christian	32	4.4
Total	727	100.0

The data in the above table revealed that the majority (89.7%) of the respondents belong to the Hindu religion, 5.9 per cent of the respondents belong to the Muslim religion and 4.4 per cent of the respondents are belonging to the Christian religion. The following table presents the data about the native place of the respondents

Table No. 6
Distribution of the respondents by their native place

Native Place	Frequency	Percentage
Urban	484	66.6
Rural	219	30.1
Tribal	24	3.3
Total	727	100.0

The data in the above table revealed that the majority (66.6%) of the respondents' native place is an urban area, followed by 30.1 per cent of the respondents native place is a rural area and only 3.3 per cent of the respondents' native place is a tribal area. The following table presents the opinions of the respondents towards the changes that came in the lifestyles of students.

Table No. 7

Distribution of the respondents by their opinion on changes observed in students' life

Changes Observed in Students Life	Frequency	Percentage
Yes	671	92.3
No	56	7.7
Total	727	100.0

The data in the above table revealed that the majority (92.3%) of the respondents opined that the changes took place in the lifestyles of the students during the Covid-19 lockdown period and 7.7 per cent of the respondents stated that no changes did take place in the students' daily and routine activities. The following table presents the opinion of the respondents on the changes observed in their life.

Table No. 8

Distribution of the respondents by their opinion on changes noticed in their personal life

Changes noticed in their Life	Frequency	Percentage
Yes	641	88.2
No	86	11.8
Total	727	100.0

The data in the above table revealed that the majority (88.2%) of the respondents opined that changes came in their lifestyles during the Covid-19 lockdown period. And 11.8 per cent reported that no changes took place in their personal lifestyles. The following cross-table presents the relationship between education and changes noticed in their life.

Table No. 9

Distribution of the respondents by their education and changes noticed in their life

Education	Changes noticed in Their Life		Total
	Yes	No	
Graduation	602	72	674
Post Graduation	39	14	53
Total	641	86	727
Pearson Chi-Square: 11.660(b)	Df: 1	Significance: .001	

Analysis of the data on education and changes noticed in their personal life are cross-tabulated and the result shows that there is an association between two variables as it is evident that the Covid-19 affected the graduates and postgraduates equally and it is proved with the significant value 0.001. The following table presents the opinions of the respondents on the increased usage of smartphones during the Covid-19 lockdown.

Table No. 10**Distribution of the respondents by their opinion on increased smartphone usage**

Smartphone Usage	Frequency	Percentage
Strongly Disagree	25	3.4
Disagree	38	5.2
Agree	402	55.3
Strongly Agree	262	36.0
Total	727	100.0

The data in the above table revealed that the majority (55.3%) of the respondents agreed and 36.0 per cent of the respondents strongly agreed on the usage of the smartphone have increased among the students during the Covid-19 lockdown. The following table presents the opinions of the respondents on increased family relations during the Covid-19 lockdown.

Table No. 11**Distribution of the respondents by their opinion on increased family relations**

Family Relations	Frequency	Percentage
Strongly Disagree	25	3.4
Disagree	127	17.5
Agree	404	55.6
Strongly Agree	171	23.5
Total	727	100.0

The data in the above table revealed that the majority (55.6%) of the respondents agreed and 23.5 per cent of the respondents strongly agreed that the family relationships have been increased during the Covid-19 lockdown in their families. The following table presents the opinions of the respondents on increased interaction between friends during the Covid-19 lockdown.

Table No. 12**Distribution of the respondents by their opinion on increased interaction between friends**

Interaction Between Friends	Frequency	Percentage
Strongly Disagree	48	6.6
Disagree	243	33.4
Agree	356	49.0
Strongly Agree	80	11.0
Total	727	100.0

The data in the above table revealed that 49.0 per cent of the respondents agreed that interaction between friends is increased during the Covid-19 lockdown and followed by 33.4 per cent of the respondents not agreed that the interaction between friends have not increased during the Covid-19 lockdown. The following cross table presents the relationship between age and their interaction with their friends.

Table No. 13

Distribution of the respondents by their age and Interaction between Friends

Age	Interaction Between Friends				Total
	Strongly Disagree	Disagree	Agree	Strongly Agree	
18.00	20	99	121	32	272
19.00	14	64	102	16	196
20.00	11	48	81	28	168
21.00	3	26	46	4	79
22.00	0	6	6	0	12
Total	48	243	356	80	727
Pearson Chi-Square:18.213(a)		Df: 12		Significance: .109	

Analysis of the data on age and interaction between friends are cross-tabulated and the result shows that there is an association between two variables as it is evident that the students who have more age have more interaction with their friends during the Covid-19 lockdown. The following cross table presents the relationship between caste and interaction between friends.

Table No. 14

Distribution of the respondents by their caste and interaction between friends

Caste	Interaction Between Friends				Total
	Strongly Disagree	Disagree	Agree	Strongly Agree	
OC	13	47	79	20	159
BC	29	181	224	48	482
SC	5	7	39	7	58
ST	1	8	14	5	28
Total	48	243	356	80	727
Pearson Chi-Square: 19.555(a)		Df: 9		Significance: .021	

Analysis of the data on age and interaction between friends are cross-tabulated and the result shows that there is an association between two variables as it is evident that the SC and ST students disagreed on the interaction between friends, whereas more OC students are agreed that there is more interaction with their friends during the Covid-19 lockdown. The following table presents the opinions of the respondents on increased physical activity and walking during the Covid-19 lockdown.

Table No. 15

Distribution of the respondents by their opinion on increased physical activity

Physical Activity	Frequency	Percentage
Strongly Disagree	51	7.0
Disagree	192	26.4
Agree	386	53.1
Strongly Agree	98	13.5
Total	727	100.0

The data in the above table revealed that the majority (53.1%) of the respondents agreed that the physical activity and walking among students have been increased during the Covid-19 lockdown. The following table presents the opinions of the respondents on following more health care tips during the Covid-19 lockdown.

Table No. 16
Distribution of the respondents by their opinion on following more health care tips

Health Care Tips	Frequency	Percentage
Strongly Disagree	16	2.2
Disagree	39	5.4
Agree	447	61.5
Strongly Agree	225	30.9
Total	727	100.0

The data in the above table revealed that the majority (61.5%) of the respondents agreed and 30.9 per cent of the respondents strongly agreed that they followed more health care tips during the Covid-19 lockdown. The following table presents the opinions of the respondents on increased sleeping hours during the Covid-19 lockdown

Table No. 17
Distribution of the respondents by their opinion on increased sleeping hours

Sleeping Hours	Frequency	Percentage
Strongly Disagree	21	2.9
Disagree	99	13.6
Agree	407	56.0
Strongly Agree	200	27.5
Total	727	100.0

The data in the above table revealed that the majority (56.0%) of the respondents agreed and followed by 27.5 per cent of the respondents who strongly agreed that the sleeping hours were increased among students during the Covid-19 lockdown. The following table presents the opinions of the respondents on increased intake of food during the Covid-19 lockdown.

Table No. 18
Distribution of the respondents by their opinion on increased intake of food

Food Intake	Frequency	Percentage
Strongly Disagree	15	2.1
Disagree	105	14.4
Agree	438	60.2
Strongly Agree	169	23.2
Total	727	100.0

The data in the above table revealed that the majority (60.2%) of the respondents agreed and 23.2 per cent of the respondents strongly agreed that the intake of food was increased among

the students during the Covid-19 lockdown. The following table presents the opinions of the respondents on increased body weight during the Covid-19 lockdown.

Table No. 19
Distribution of the respondents by their opinion on increased body weight

	Frequency	Percentage
Strongly Disagree	48	6.6
Disagree	220	30.3
Agree	350	48.1
Strongly Agree	109	15.0
Total	727	100.0

The data in the above table revealed that 48.1 per cent of the respondents agreed that the bodyweight has been increased and followed by 30.3 per cent of the respondents who disagreed with an increase of body weight during the Covid-19 lockdown period. The following table presents the opinions of the respondents on increased reading hours of the students during the Covid-19 lockdown.

Table No. 20
Distribution of the respondents by their opinion on increased reading hours

Reading Hours	Frequency	Percentage
Strongly Disagree	51	7.0
Disagree	286	39.3
Agree	339	46.6
Strongly Agree	51	7.0
Total	727	100.0

The data in the above table revealed that 46.6 per cent of the respondents agreed on increased reading hours during the Covid-19 lockdown. Followed by 39.3 per cent of the respondents disagreed on increased reading hours. The following table presents the opinions of the respondents on increased stress among students during the Covid-19 lockdown.

Table No. 21
Distribution of the respondents by their opinion on increased stress

Stress	Frequency	Percentage
Strongly Disagree	41	5.6
Disagree	234	32.2
Agree	357	49.1
Strongly Agree	95	13.1
Total	727	100.0

The data in the above table revealed that the majority (49.1%) of the respondents agreed that the stress levels are increased among the students during the Covid-19 lockdown. And followed by 32.2 per cent of the respondents disagreed on increased stress levels. The

following cross table presents the relationship between caste and stress among the respondents.

Table No. 22
Distribution of the respondents by their caste and stress

Caste	Stress				Total
	Strongly Disagree	Disagree	Agree	Strongly Agree	
OC	9	42	88	20	159
BC	25	164	226	67	482
SC	4	15	35	4	58
ST	3	13	8	4	28
Total	41	234	357	95	727
Pearson Chi-Square: 13.900(a)		Df: 9		Significance: 0.126	

Analysis of the data on caste and stress are cross-tabulated and the result shows that there is an association between two variables as it is evident that the more ST students disagreed and strongly disagreed about the stress during the Covid-19 lockdown, it may be reason that they live in the interactive environment when compare to other communities. The following table presents the opinions of the respondents on increased loneliness among students during the Covid-19 lockdown.

Table No. 23
Distribution of the respondents by their opinion on increased loneliness

Loneliness	Frequency	Percentage
Strongly Disagree	49	6.7
Disagree	232	31.9
Agree	330	45.4
Strongly Agree	116	16.0
Total	727	100.0

The data in the above table revealed that the majority (45.4%) of the respondents agreed that the feeling of loneliness increased among the students during the Covid-19 lockdown. And followed by 31.9 per cent of the respondents disagreed on increased loneliness. The following table presents the opinions of the respondents on learned household work during the Covid-19 lockdown.

Table No. 24
Distribution of the respondents by their opinion on learned household work

Learned House Hold Work	Frequency	Percentage
Strongly Disagree	12	1.7
Disagree	35	4.8
Agree	468	64.4
Strongly Agree	212	29.2
Total	727	100.0

The data in the above table revealed that the majority (64.4%) of the respondents agreed and 29.2 of the respondents strongly agreed that they learned household work during the Covid-

19 lockdown. The following table presents the opinions of the respondents on learning new habits during the Covid-19 lockdown.

Table No. 25
Distribution of the respondents by their opinion on learned new habits

New Habits	Frequency	Percentage
Strongly Disagree	16	2.2
Disagree	62	8.5
Agree	494	68.0
Strongly Agree	155	21.3
Total	727	100.0

The data in the above table revealed that the majority (68.0%) of the respondents agreed and 21.3 per cent of the respondents strongly agreed that they learned new habits during the Covid-19 lockdown. It may be a reason that they have plenty of time during the Covid-19 lockdown period

Suggestions and Recommendations

1. The female students should increase their learning through e-classes, social media during the Covid-19 lockdown period. They have to increase the social service activities through National Service Scheme
2. The female students should reduce their sleeping hours and have to learn the new skills and enrol for online courses which help to their career development
3. The female students should spend less time on the usage of smartphone otherwise this habit increases the negative effects on the progress of the students and on their careers.
4. The female students should eat healthy and nutritious food for good health and follow the healthy tips suggested by their parents and grandparents
5. The female students should increase their physical activity to reduce their body weight.
6. The universities and the colleges should provide online counselling to the student youth towards gaining healthy personality development and to maintain healthy lifestyles.
7. The female students should spend some time on yoga and meditation which improves their physical and mental health

Conclusion

Overall, the study was conducted on its objectives and found that majority of the female students opined that lot of changes have been taken place in their lives during the Covid-19 lockdown period. The changes were noticed in intake of food, sleeping habits, reading habits, learning household work etc. The mode of learning in studies was changed and the respondents spent more hours with in their houses during lockdown. The study observed that many female students experienced fear and stress during the Covid-19 lockdown period. The

study suggested that the universities and colleges should provide online career guidance and counselling to female students to reduce the stress about their careers. The female students should spend some time on yoga and meditation which improves their physical and mental health.

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General well- being of teachers and professors during the Covid-19

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ABSTRACT

The present study is intended to examine the general well-being of teachers and professors during the Covid-19. The variables included for the study apart from general well-being are gender and types of designation. The study was conducted on a sample of 30 teachers (male, female) and 30 professors (male, female) randomly selected from the various schools and colleges located in mahisagar and panchmahal districts. A standardized questionnaire “**General well-being measure**” developed by Dr.Santosh K.Verma and Dr. Amita Verma was adopted for this study. The data was analyzed to examine the influence of individual factors on general well-being variables. ‘t’ test was used for calculation. The results show that there was no significant difference between the mean score of general well-being of teachers and professors, and there was no significant difference between the mean score of general well-being of male and female.

Key words: General well-being, Teachers, Professors, Gender.

1. Introduction:

Well-being is the experience of health, happiness, and prosperity. It includes having good mental health, high life satisfaction, a sense of meaning or purpose, and ability to manage stress. More generally, well-being is just feeling well.

Well-being is a positive outcome that is meaningful for people and for many sectors of society, because it tells us that people perceive that their lives are going well. many indicators that measure living conditions fail to measure what people think and feel about their lives, such as the quality of their relationships, their positive emotions and resilience, the realization of their potential, or their overall satisfaction with life—i.e., their “well-being.” Well-being generally includes global judgments of life satisfaction and feelings ranging from depression to joy.

Well-being integrates mental health (mind) and physical health (body) resulting in more holistic approaches to disease prevention and health promotion. Well-being is a valid population outcome measure beyond morbidity, mortality, and economic status that tells us how people perceive their life is going from their own perspective. Well-being is an outcome that is meaningful to the public. Advances in psychology, neuroscience, and measurement theory suggest that well-being can be measured with some degree of accuracy.

In this research, an attempt has been made to know the level of general well-being among teachers and professors during Covid-19.

2. Review of literature:

(1) Ms. Lokesh Kumari (2018): “General Well-Being, Emotional Intelligence and Adjustment of Senior Secondary School students in relation to some Demographic Variables”. The sample was collected from selected four districts. 640 senior secondary school students were selected as a sample. The tools are Emotional Intelligence Questionnaire (developed by the Investigator) General Well Being Scale by Dr. Ashok K. Kaliya & Ms. Anita Deswal (2005) A. K. P. Sinha & R. P. Singh Adjustment Inventory for School Students (2005) was used for this study. Mean and Standard Deviation were used For further investigation, “t”-test was employed. Pearson Correlation was computed to determine the relationship between variables. The main findings are significant difference was found between urban and rural area school students on general well-being. significant difference was found between urban and rural area school students on emotional intelligence. significant difference was found between urban and rural area school students on overall adjustment.

(2) Vali Mehdinezhad (2012): “Relationship between High School teachers’ wellbeing and teachers’ efficacy”. The sample of this study was high schools’ teachers in 9th to 11th grades in Zahedan, Iran. sample of this study was 290. The two questionnaires are Oxford Happiness Questionnaire of the Hills and Argyle (2002) and Teachers’ Sense of Efficacy Scale of the TschannenMoran and Woolfolk-Hoy’s (2001) was used for this study . SPSS 15 was used to produce mean, standard deviations, Pearson Product Moment Correlation (r), t-test, and Analysis of Variance. The results showed that the high school teachers scored over average on wellbeing and also marked relatively high scores on teachers’ efficacy and factors related to this variable. There was a positive relationship between teachers’ wellbeing and their efficacy in instructional activities. The results also showed that there was relatively high positive correlation between teachers’ wellbeing, teacher efficacy and sub variables related to teacher efficacy in female, older, married, and also teachers with 5-10 years job experiences in comparison with male, younger, single, and teachers with more than 10 years job experiences.

3. Objectives:

1. To study of general well-being of teachers and professors during the Covid-19.
2. To study of general well-being of male and female during the Covid-19.

4. Hypothesis:

1. There is no significant difference between the mean score of teachers and professors towards general well-being during the Covid-19.
2. There is no significant difference between the mean score of male and female towards general well-being during the Covid-19.

5. Method:

1. Sample:

In the present study sample was selected randomly. We taken 30 teachers (male, female) and 30 professors (male, female) selected from different schools and colleges of Mahisagar and Panchmahal districts. So, Total 60 sample was selected in this study. Data was collected by Google form.

Break-up of the sample:

		Types of designation(A)		Total
		Teachers (A1)	Professors (A2)	
Gender (B)	Male (B1)	15	15	30
	Female (B2)	15	15	30
TOTAL		30	30	60

2. Tool:

In order to measure general well-being of teachers and professors of mahisagar and panchmahal districts, we have used **General Well-Being Measure** developed by **Dr.Santosh K.Verma and Dr. Amita Verma**. There are 20 Items in this inventory. Reliability measured by K.R. 20 formula and was found to be 0.98. The test- retest reliability is at the rate of 0.91 for English version and 0.86 for hindi version. The validity of the scale of **General Well-Being Measure** is very high. This inventory is measured current level of General well-being.

3. Variables:

In Present research work the nature of various variables is given in the following table.

<i>Sr. No</i>	<i>Name of Variables</i>	<i>Nature of variables</i>	<i>Number of level</i>	<i>Area of level</i>
1	Type of Designation	Independent	2	1.Teachers 2.Professors
2	Gender	Independent	2	1.Male 2.Female
3	General Well-Being	Dependent	1	Raw score of General Well-Being.

6. Statistical Calculation:

Obtained information analyzed as per mean, SD & 't' Test method and hence, internal effect on the independent factors was examined.

7. Results and discussions:

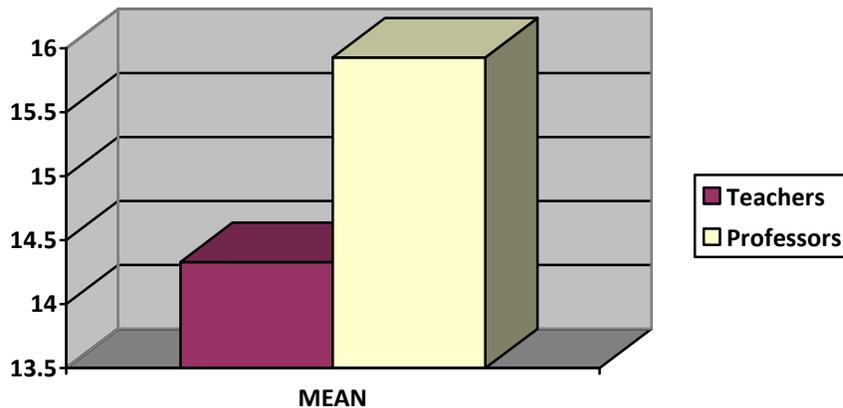
1. Table-1:

Showing Mean, SD & 't' value of general well-being in relation to their types of designation.

Sr. No	Group	N	Mean	SD	't' Value	Level of Sign.
1	Teachers	30	14.33	3.82	1.90	NS
2	Professors	30	15.93	2.54		

Table value=2.00 at 0.05 level

As can be seen from table that 't' value of 1.90 is not significant at 0.05 level. This means that the two groups under the study differ not significantly in relation to general well being. The mean score of teachers group is 14.33 as against the mean score of 15.93 of the professors group. It should be remembered here that, according to scoring pattern, higher score indicate higher general well-being. Thus from the result according to the mean it could be said that the teachers and professors have equal level of general well-being. The hypothesis that "There is no significant difference between the mean score of teachers and professors towards general well-being during the Covid-19" is accepted.



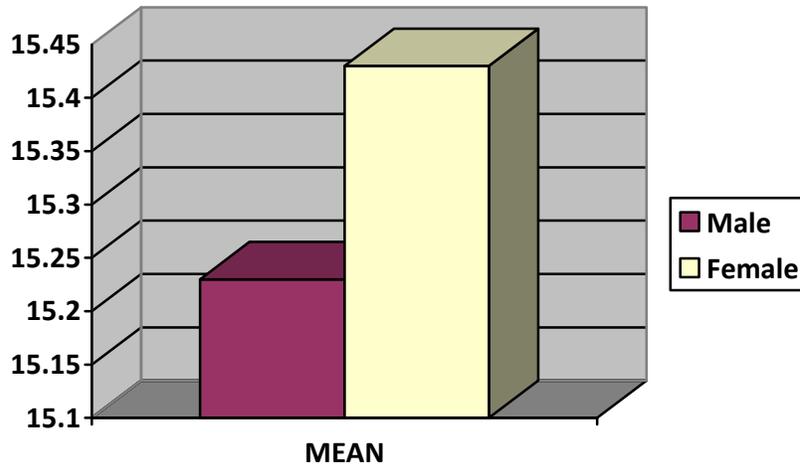
2. Table-2:

Showing Mean, SD & 't' value of general well-being in relation to their Gender.

Sr. No	Group	N	Mean	SD	't' Value	Level of Sign.
1	Male	30	15.23	3.21	0.27	NS
2	Female	30	15.43	2.47		

Table value=2.00 at 0.05 level

As can be seen from table that ‘t’ value of **0.27** is not significant at 0.05 level. This means that the two groups under the study differ not significantly in relation to general well-being. The mean score of male group is **15.23** as against the mean score of **15.43** of the female group. It should be remembered here that, according to scoring pattern, higher score indicate higher general well- being. Thus from the result according to the mean it could be said that the male and female have equal level general well-being. The hypothesis that “There is no significant difference between the mean score of male and female towards general well-being during the Covid-19” is accepted.



8. Conclusions:

1. Significant difference was not found between teachers and professors towards general well-being.
2. Significant difference was not found between male and female towards general well- being.

9. References:

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Troubles and Outlook of Child Labor

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ABSTRACT

Child labor is a global issue that prevents children from fulfilling their potential. Child labor is a violation of children's rights - the work can harm them mentally or physically, expose them to hazardous situations or stop them from going to school. Not all work done by children is classed as child labour. Children under the age of fourteen is called as child. The main conditions in which children are work are purely unregulated and mostly they work without food, and with lowest wages. The child labor prohibition and regulation act 1986 prohibits the work of children those who are working in the places where certain processes are undertaken. For the purpose of collecting data from the child laborers', the researcher has prepared an Interview Schedule and has administered the same among fifty child labors of Kovilpatti region through random sampling. The present study aims to explore the reasons underlying the children to take up the job. The result reveals that the children have come from different family background, work experiences and situations. The factor analysis applied to bring out the problems for child labor reveals that it is the depression, drug dependency which leads to worse or crime and mental disorder. Though there are number of Laws and Acts enacted to control and to eradicate the child labour, there are children who need to work for their livelihood and to look after the families.

Keywords: Child Labor, Livelihood, NGO's, Poverty, Problems,

Introduction:

Child labor refers to the employment of children in any work that deprives them of their childhood, interferes with their ability to attend regular school, and that is mentally, physically, socially or morally dangerous and harmful. In villages, it is a common sight to see children of poor families working in fields or elsewhere to contribute to the family income. Such children are deprived of opportunities of education and are also prone to health risks. Child labor has existed to varying extents throughout history. During the 19th and early 20th centuries, many children aged 5–14 from poorer families worked in Western nations and their colonies alike. These children mainly worked in agriculture, home-based assembly operations, factories, mining, and services such as news boys— some worked night shifts lasting 12 hours. With the rise of household income, availability of schools and passage of child labor laws, the incidence rates of child labor fell. In the world's poorest countries, around one in four children are engaged in child labor, the highest number of whom (29 percent) live in sub-Saharan Africa. The vast majority of child labor is found in rural settings and informal urban economies; children are predominantly employed by their parents, rather than factories. Poverty and lack of schools are considered the primary cause of child labor. Globally the incidence of child labor decreased from 25% to 10% between 1960 and 2003, according to the World Bank. Nevertheless, the total number of child laborers remains high, with UNICEF and ILO acknowledging an estimated 168 million children aged 5–17 worldwide were involved in child labor in 2013.

Child labor refers to the employment of children in any work that deprives them of their childhood, interferes with their ability to attend regular school, and that is mentally, physically, socially or morally dangerous and harmful. In villages, it is a common sight to see children of poor families working in fields or elsewhere to contribute to the family income. Such children are deprived of opportunities of education and are also prone to health risks. In a sense, child labor is open exploitation as it deprives children of education and pushes them into exploitative situations. The side-effects of working at a young age are: risks of contracting occupational diseases like skin diseases, diseases of the lungs, weak eyesight, TB etc.; vulnerability to sexual exploitation at the workplace; deprived of education. They grow up unable to avail development opportunities and end up as unskilled workers for the rest of their lives. It has been observed that in villages especially, representatives of various industries lure children with promises of jobs and wealth and bring them to the city where they are employed as bonded labor in factories. Many children are also employed as household help where they are paid minimum wages and are made to do maximum physical work.

According to Article 23 of the Indian Constitution any type of forced labor is prohibited. Article 24 states that a child under 14 years cannot be employed to perform any hazardous work. Similarly, Article 39 states that “the health and strength of workers, men and women, and the tender age of children are not abused”. In the same manner, Child Labor Act (Prohibition and Regulation) 1986 prohibits children under the age of 14 years to be working in hazardous industries and processes.

Review of Literature

Sampath Kumar R.D, (2007) in his book ‘ Urban Child Labor: Abuse and Neglect’ covers wide range of issues pertaining to the nature and extent of Child Labor in India and various forms of abuse and neglect in family and work settings. Children engaged in the urban work settings such as construction, hotel and tea stalls, two-wheeler motorized service units and domestic service in the city of Visakhapatnam, Andhra Pradesh, India are covered in the study. Three hundred child laborers, three hundred employers and 210 parents/caretakers were interviewed and data were analyzed and interpreted using large sample tests and other statistical measurements. The book discusses the implications to social policy and social work education.

Ghosh (2008) examined the geographical review of Child Labor between the time periods of 2005 to 2008. The major variables or indicators used in income, poverty, unemployment, dependency load etc. the method is used in the 2001 census of Child Labor. He found that economic growth leads to an increase in Child Labor rather than decrease.

Mohapatra and Dash (2011) examined the Socio-Economic problem of Child Labor between the time periods (2009-2010). The major variables used in poverty, illiteracy, unemployment, low wages, ignorance, social prejudice, regressive tradition, poor standard of living, backwardness, superstition, low status of women have combined to give birth to the terrible practice of Child Labor. Method used in growth rate sample data through investigation or interview, they found that the migrant’s family form various district of Odisha their social economic condition is very poor which make them to go for Labor.

Massauda, D (2013), examined the Situation analysis of The Suffering of Children in Ouargla, between the time periods 2012-2013. The major variable used in education, income, mentality of family member, backwardness, over population, unemployment etc. They found that lack of basic education of parents, norms and culture, large family size and physical and verbal abuses by family members were the major factors identified to send their children to work.

Research Gap: From the views of the above studies, it is understood that the previous researchers have examined the abuses of child labor, geographical location, problems from different perspectives and the sufferings of children while this study concentrates and analyses the problems of child labor to take up the job in Kovilpatti region and how to avoid child labor problems.

Research Methods & Materials

The validity of any research is based on the convenient method of data collection and analysis of the data collected. The data is collected through primary data as well as secondary data. Convenient sampling techniques are used to select the respondent from the available database. Accordingly the researcher has selected 50 child labor respondents in the study area. The statistical tools applied are Percentage analysis, t test and factor analysis. The main objective of this paper is to analyze the problems of child labor

Table 1 Demographic Profile

Items	Frequency	Percent	Cumulative Percent
Age wise Classification			
Below 8 years	13	26.0	26.0
9-11 years	16	32.0	58.0
12-14 years	21	42.0	100
Total	50	100.0	
Gender wise classification			
Male	23	46.0	46.0
Female	27	54.0	100
Total	50	100.0	
Residential Status			
Rural	16	32.0	32.0
Semi urban	21	42.0	74.0
Urban	13	26.0	100
Total	50	100.0	
Education			
Illiterate	10	20.0	20.0
3-5	16	32.0	52.0
6-7	24	48.0	100
Total	50	100.0	
Experience			
Below 2 years	26	52.0	52.0
3-4 years	14	28.0	80.0
5-6 years	8	16.0	96.0
Above 6 years	2	4.0	100
Total	50	100.0	
Mode of wage payment			
Daily	29	58	58.0
Weekly	6	12	70.0
Monthly	15	30	100
Total	50	100.0	
Information on Employment			
Through own efforts	7	14.0	14.0
Through parents	16	32.0	46.0
Through relatives	12	24.0	70.0
Through others	15	30.0	100
Total	50	100.0	
No. of family members			
Below 3	7	14.0	14.0

4-6	30	60.0	74.0
Above 6	13	26.0	100
Total	50	100.0	100.0
No. of working hours			
8 hours	31	62.0	62.0
10 hours	12	24.0	86.0
12 hours	7	14.0	100
Total	50	100	
No. of day's work in a week			
5 days	4	8.0	8.0
6 days	30	60.0	68.0
7 days	16	32.0	100
Total	50	100	
Satisfied with the job			
Yes	18	36.0	36.0
No	32	64.0	100
Total	50	100	

Source: Primary Survey

This table 1 shows the demographic profile of the selected respondents. Most of the respondents belong to the age of 12-14 years. Most of the respondents are female and the area they situated is semi urban, 48 percent of respondents are having the education knowledge of 6th to 7th standard. Highest percents of respondents are having experience of below 2 years in their field, 58 percent of labors are the daily wagers. Most of the respondents are having 4-6 members in their family and highest percent of labors are become as labor through their parents. Approximately 60 percent of respondents are working six days and 8 hours/day in a week. Most of the child labors are not satisfied with their job.

Table: 2 Factor Analysis for Child labors problems

Rotated Component Matrix			
Variables	Components		
	Depression	Health issues	Exploitation
Low salary	.768		
Depression	.753		
Drug dependency	.724		
Stress	.715		
Long working hours	.690		
Starvation	-.600		
Standard of living decline	.525		
Slavery	.395		
Unemployable even at the future		.695	

Impaired memory and fatigue		.644	
Mental disorder		-.544	
Health problem (Mentally, Physically)		.499	
Premature ageing		.477	
Malnutrition		.404	
Worse or crime		.402	
Sexual harassment		-.377	
Exploitation			.765
No education			.674
Destitution			.646
Frustration			.479
Abducted from their families			.478
% of Variance	17.47	14.09	13.17
Cumulative % of Variance	17.47	31.57	44.73
Total	39.05	31.50	29.44
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			

Source: Calculated

Depression :The Eight Impact filtered under this component are Low salary (.768), Depression (.753), Drug dependency (.724), Stress (.715), Long working hours (.690), Starvation (.600), Standard of living decline (.525), Slavery (.395). This factor has a variance of 17.47 percent and form 39.05 percent out of total.

Health Issues :The Eight components filtered under this component are Unemployable even at the future (.695), Impaired memory and fatigue(.644) Mental disorder (.544),Health problem(.499), Premature ageing(.477), Malnutrition (.404), Worse or crime (.402),Sexual harassment (.377), This factor has a variance of 14.09 percent and form 31.50 percent out of total.

Exploitation: The Five components filtered under this component are Exploitation (.765), No education (.674), Destitution (.646), Frustration (.479), Adducted from their family (.478) This factor has a variance of 13.17 percent and form 29.44 percent out of total. The observation derived from the test is that the child laborers are suffering a lot due to depression (39%), Health issues (32%), and Exploitation (29%).

Table: 3 t Test for suggestions to avoid child labor

Statements	t	p Value	Mean	Std. Deviation	95% Confidence Interval	
					Lower	Upper
Regular employment for parents	21.32	.000	3.56	1.18	3.22	3.90
Cash incentives to parents	20.43	.000	3.08	1.07	2.78	3.38
Quality education at free of cost	16.74	.000	2.58	1.09	2.27	2.89

Government support	15.41	.000	2.50	1.15	2.17	2.83
Locate school in every villages	15.28	.000	2.70	1.25	2.34	3.06
Compulsory school education	14.69	.000	2.14	1.03	1.85	2.43
Legal action can be taken by government	14.51	.000	2.72	1.33	2.34	3.10
Parental Awareness	14.04	.000	2.32	1.17	1.99	2.65
Creating strict law	13.86	.000	2.48	1.27	2.12	2.84
Creating inclusive learner friendly environment	13.75	.000	2.04	1.05	1.74	2.34
Supporting NGO's	13.56	.000	2.30	1.20	1.96	2.64
Discouraging people to employ children	13.04	.000	2.14	1.16	1.81	2.47
Punishment to employer	12.09	.000	1.86	1.09	1.55	2.17
Punishment to parents	11.89	.000	2.28	1.36	1.89	2.67

Source: Derived

As per t test, it is noted that Regular employment for parents is the foremost factor to avoid child labor with the t value of 21.32 which is followed by Cash incentives to parents (20.43) Quality education at free of cost (16.74) Government support (15.41) Locate school in every villages (15.28) Compulsory school education (14.69) Legal action can be taken by government (14.51), Parental awareness (14.04), Creating strict Law (13.86), Creating inclusive learner friendly environment (13.75), Supporting NGO's (13.56). Discouraging people to employ children (13.04), Punishment to employer (12.09), Punishment to parent (11.89). All the statements are statistically significant as the p values are less than 0.05. Hence it is concluded that to avoid child labor Regular employment should be given to their parents.

Suggestions to avoid child labor

Based on the analysis, following suggestions are given to avoid child labor and its relevant problems:

- Regular employment should be given to their parents which helps them to run their without any financial problems. This leads to the reduction of child labor.
- Incentives can be provided to the parents in the form of cash to manage their financial needs.
- Good quality of education can be provided to the children at free of cost which helps to reduce the number of child laborers'.
- Government should provide financial and non-financial support to control this problem.
- Implementation of schools in every villages and providing compulsory education will surely reduce the child labor.
- Creating awareness among the parents, implementation of additional strict laws against child labor and taking legal action against the parents (by the government) those who involved their children in work are given a better remedy to the problem.

Conclusion:

This study aims to examine the underlying reasons why children go to work. The results reveal that the children came from different family backgrounds, work experiences and circumstances are used as labor. Factor analysis used to uncover child labor problems reveals

that it can lead to health problems, mental illness worsening or guilt. Based on the analysis, it is strongly recommended to implement strict laws and creating awareness about education among children and their parents with proper care and advice to maintain their livelihood. The law created for compulsory education should focus on the welfare of children in support of NGOs such as child protection, without deviating from their education.

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Barriers of Making Indian School Education Inclusive: Path Ahead

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ABSTRACT

India is having a large system of elementary education having about 26.45 crore children and 96.8 lakh of teachers. But still a large number of children of disabled categories are not able to take benefit of education although it is their fundamental rights. It is a Constitutional obligation on the part of Government to see that all children of school going age get quality education. In this regard, the RPWD Act, 2016 has been passed and NEP-2020 has made special provisions to see that all the CWSNs are getting elementary education. The objectives of the study were to reveal the barriers and suggest pathways to make education available to all the school going age children. The methodology followed was a descriptive survey study by studying a sample of six elementary schools from Baroda, Gujarat State. From these schools, all principals, 30 teachers, the parents, and fifteen students were selected for the study. Data were collected by using observation technique, open-ended questionnaire, teachers' competency scale, attitude scale for teachers, and interviews with parents and students. The data collected was analyzed qualitatively and tabulated. The main barriers are; infrastructure facilities at school, in competencies of teachers, rigid curriculum, differentiated instruction not being followed, lack of support from teachers, non-availability of assistive technologies, and lack of sufficient financial allocation. The path as suggested was enforcement of policy of inclusion and proper monitoring of the policy, training of teachers to use proper pedagogical practices, individual attention to CWSNs, and enhancing school facilities, and co-operation of parents and teachers.

Key Words:- School Education, Inclusive, Indian Education System

Introduction

Inclusive education is now a worldwide accepted programme with the declaration of Salamanca Summit (UN Declaration, 1994) in Spain. Almost all the countries have accepted this and trying their best to make it a success. In 2016, India passed RPWD Act and as per the Act, all children with special needs have the right to quality education. Population-wise India is the second largest country in the world and a very large number of children with certain disability and with special needs need to be educated. India has a total enrolment of about

26.45 crore children in its schools (MHRD, 2021). Out of this total enrolment, 2,16,6131 children are of CWSNs (elementary schools with 1,90,6467 and secondary schools with 2,59,664 children). Out of the total students' enrolment, the government regulated schools have more children than the private schools (63:37 ratio of public to private school enrolment). There are a total of 1.5 million schools and out of this, almost one-third are private schools (4,21, 861 schools). The Government has been spending about Rs.6.43 lakh crore on education and on school education Rs.56, 537 crore that is 15% of total expenditure of central government. The rest 85% comes from states and union territories. The expenditure of government is on government schools and government-aided schools as the private schools manage their budget except the subsidised money received from government for enrolling economically weaker sections children as per RTE, 2009). Although the number of children with certain special needs at school is very large, still there are a large number of children who are out of the system because of lack of accessibility and dropping out of the system. The study of Lindsey (2007) reveals that in India, 98% of CWSNs take admission in school. Therefore to have equity and quality in education, systematic efforts have been made by Indian Government and there are still certain barriers that need to be addressed for making school education inclusive in true sense. The present study addressed the barriers of making education inclusive that is to enrol CWNs in general schools and impart quality education.

Inclusive Education Concept

Inclusive education as defined by UNESCO is the inclusion and teaching of all children in formal or non-formal learning environments without regard to gender, physical, intellectual, social, emotional, linguistic, cultural, religious, or other characteristics. The Salamanca declaration (1994) has made all the nations of the world to sign the agreement that no one shall be left out of the ambit of education. It is not only humanitarian value to educate all but is the fundamental rights of all individuals to be educated. Therefore, the disadvantaged people; socially, economically, physically, mentally or emotionally shall be educated in the same set up along with the normal ones. So, inclusive education is to enrol all children in the school and make them to learn. As it was there earlier in 1960s, the concept of special education where disadvantaged children were given special treatment separately than in normal classroom and in 1980s the concept of integrated education, whereby children with special needs were made to learn in the same set up along with normal children but no special provision was created for them. But in inclusive education, the teacher has to plan and teach all children in the same set up and see that all the children are learning. Therefore, it needs different orientation and training about teaching methods and approaches on the part of the teacher and also positive attitude towards the education of children with special needs. The schools also need to provide all needed infrastructure facilities and adopt a policy of inclusion. Literature reveals that inclusive education is not only economical but also benefits all types of children. Although India passed the PWD Act, 1995 and the RPWD Act, 2016, the schools have not fully geared to make education inclusive. Feeling the need of making education inclusive, it has formulated policy for inclusive education under Chapter VI in NEP, 2020. However, still there are certain barriers to make education inclusive.

Scenario of Inclusive Education at school

As per Eighth All India School Education Survey-2016, out of a total 12,99,902 schools in the country, only 2,74,445 (21.11%) schools adhere to inclusive education for disabled children (NCERT, 2016). The number of teachers who have received training of at least two weeks in inclusive education is 80,942 (1.32%) out of the 58,76,273 total teachers. The number of schools where special educator/resource teachers never visited is 42.69%. Out of the total schools in the country, 10.47% have Handrails, 3.81% have adapted laboratory and 7.64% have adapted lavatory. The basic infrastructure facilities like separate toilet facilities, ramp, drinking water, and trained teachers to teach CWSNs, Resource centre, ICT facilities, Library facilities, books and reading materials in Braille language, Clinical and counselling facilities, parent-teachers collaboration, teachers and administrators' competencies are the basic problems. The UDISE Report (2019) of NIEPA revealed that 83.43% schools have electricity, 97.14% schools have drinking water facility, 95.8% schools have toilet facility for boys and girls, and 84% schools have library facility. Out of the total number of schools, 97.78% of Government schools received text books, the gender disparity index is 1.02 at elementary schools, and only 67.65% school have ramp facility. In the elementary schools, a total of 19,06,467 CWSNs are enrolled. In the secondary schools, only 2,59,664 CWSNs are enrolled. The report mentioned that the transition rate of children from primary to upper primary is 92.80%, and from upper primary to secondary, it is 91.43%. The dropout rate at primary school is 1.45% and at secondary level it is 16.07%. It can be observed that it is mostly the CWSNs who are out of the school as they are either not enrolled or drop out of school.

Teachers' competency and attitude towards inclusive education is a major challenge for making education inclusive. A large percentage of teachers are not having any training to deal with the CWSNs. The teachers without any exposure to the problems of CWSNs have no idea as to the pedagogical approach appropriate for inclusive classrooms. The parents and children also think that if the CWSNs are present in the same classroom along with normal children, their educational development and academic achievement will be lowered. Since the teachers are not having proper training, inclusive education policy of the Government is facing a real challenge to make education really inclusive. As the CWSNs are not getting proper education at schools and the parents are not aware about the education that can be beneficial for their wards, they are hesitating in sending their children to schools. Further, many of the children are withdrawing from the system after admission because of the ill treatment by peer groups and even by their teachers. This is specially a great problem among the SCs, STs, and girls in rural areas and more for the disabled children. Therefore, even if children are enrolled in the system, they hardly reach to the secondary schools.

Review of Related Literature

The related in the area of barriers to inclusive education were reviewed by the researcher and the studies in India and abroad are presented here under teachers' attitude, infrastructure facilities, unavailability of trained teachers, unavailability of assistive technology, teaching competencies of teachers, knowledge of disabilities, and miscellaneous studies.

Teachers' attitude towards inclusive education

The studies conducted by Engelbrechat and Forlin, (1998); Bothma, (1994); Bagwandeem, (1994); and Bothma, Gravett and Swart, (2000) and Amr et al (2016) revealed that teachers' attitude towards inclusive education act as barrier for making education inclusive. These studies also revealed that teachers' attitude depends on their training and knowledge of inclusive education. The other studies by Firdaus et al (2009); Bhatnagar and Das (2014); and Pradhan (2021b) in Indian contexts also revealed that teachers attitude towards inclusive education is not favorable and play a major role for its success.

Infrastructure facilities

Inadequate infrastructure facilities acts as barrier for making education inclusive was studied and confirmed by Bothma, (1994); Bagwandeem, (1994); Engelbrechat and Forlin, (1998); Bothma, Gravett and Swart, (2000); Bhatnagar and Das (2014), Eunice et al (2015); Mamidi, B. B., Nakarapu and Singh (2016); Amr et al (2016), Choi (2021); and Biswal (2021). The study of Vidyathan and Devan (2013) found that disabled students have experienced different barriers like infrastructure facilities, aid and appliance in elementary schools and these could be resolved by SarvaShikshaAbhijan in Indian schools to some extent. Another study conducted by Alison (2010) in developing countries at University of Sussex found that in the 27 developing countries that were surveyed, it was found that the problems of inclusion are; infrastructure facilities and distance of school from home of disabled children.

Unavailability of trained teachers

The UDISE Report, 2019 revealed that India has a total of 96.83 lakh of teachers and primary schools are having more per cent of female teachers. It also reports that about 26.87% of the teachers are without any teachers' training. The study of Bhatnagar and Das (2014) in India revealed that teacher even if had certain training in pre-service mode, they did not have any training in inclusive education and this acts as a major barrier for making education inclusive. Such a finding was also reported by Eunice et al (2015) in Nigeria and Biswal (2020) in India that the schools did not have adequate number of trained teachers to make education inclusive.

Unavailability of assistive technology

The Covid19 Pandemic spurred the fact that students in general and more particularly in rural India did not have access to mobile devices and internet connectivity. This is a serious problem with the disadvantaged group children and CWSNs. The study of Bhatia and et al (2016) revealed that the students of Special Teacher education course did not have inputs and adequate knowledge of assistive technologies in their regular program of teacher education. The study of Mathur and Rao (2009) in India revealed that primary schools in India and its libraries did not have adequate assistive technologies. The study conducted by Salem and Sajjad (2016) in Pakistan revealed that teachers, parents and the blind students were not aware of any assistive technology that can be used by them for learning. Eunice et al (2015) in Nigeria also revealed that elementary schools in their countries did not have adequate assistive technology in their schools. It can be deduced here that in primary schools across countries do not have adequate assistive technologies.

Teaching Competencies of Teachers

Teachers are the main person to initiate and make education process inclusive. Teachers' competencies play a main role in this regard. It was found by Choi (2021) that in the five Asian countries that were studied by him, the teachers were not having the needed competencies to make teaching-learning inclusive in schools. The study conducted by Alison (2010) in 27 developing countries also found that teachers were not having proper training and therefore teaching competencies to teach in inclusive setting. A study conducted in Jordan by Amr and et al (2016) studied by selecting a sample of 87 school teachers found that teachers lack the needed competencies to teach in inclusive settings. Similarly two studies that were conducted in India by Bhatnagar and Das (2014) on 24 school teachers and Srivastava (2018) in Jaipur city of India and Pradhan (2021a) in Gujarat found that teachers lack knowledge and skills of different methods of teaching disabled children and make education inclusive. It was also found that teachers are not trained to teach in inclusive settings.

Knowledge of disability

To make education inclusive, teachers shall be able to identify the disabled children. In this regard two studies were found. The studies by Srivastava (2018) on teachers in Jaipur city and Shetty and Raj (2014) found from their study that most of the school teachers possess poor knowledge of different types of disability but they know about autism. The study by Mamidi, Nakarapu, and Singh (2016) also found that teachers lack the knowledge of disability among children in Andhra Pradesh. However, whether teachers can identify the disabilities of children is doubted.

Miscellaneous Studies

Stofile (2008) found that poverty of children as a major barrier to inclusive education. She also found that implementers have not understood the objectives and process of inclusive education and it affects the success of inclusive education.

Bhatnagar and Das (2014) found that schools have not adopted any policy of inclusion and therefore inclusive education is not taken up as priority in India.

Ballard (1999) studied the process of inclusion and found that such a process needs medical and curative model of education and it poses a great problem for teachers.

Alison (2010) studied the barriers of inclusive education in 27 developing countries and found that the barriers of inclusive education are; inaccessible school buildings, lack of appropriate facilities at school, lack of teacher training in inclusive education methodologies, lack of appropriate teaching and learning materials, lack of extra support in the classroom for children with disabilities, social stigma and negative parental attitudes to disability, and poverty of parents

Sah, P (2012) studied the barriers of inclusion and presented that the process of inclusion has the following barriers; Large mass of disabled children's parents' unawareness of inclusive education, Different disabilities require different supports, Services are mostly confined to cities or district headquarters, Limited data on the magnitude, spread and educational status

of children with disabilities, Limited Community involvement in programme of government agencies, Limited skilled teachers, Regular school teachers are reluctant to work with children with disabilities, non-flexible curriculum at many levels, and Lack of proper information to families.

UNESCO (2016) observed that educational exclusion is a form of social exclusion characterised by a lack of, or diminished participation in quality education and learning. It has its roots in exclusive policies and exclusive practices. Children are excluded from education for a host of different reasons including social, economic and cultural factors.

Govinda and Bandhopadhyaya (2016) have analyzed the barriers and have put the barriers to inclusive education under six headings; Inadequate budgetary allocation to elementary education, Neglect of early childhood care and education, Encouragement of the private sector to provide basic social goods, Failure to ensure common school system, Continuation of child labour, and Exclusion of children with special needs.

Implications from review of related literature

The following implications can be drawn from there viewed literature on barriers to inclusive education presented above.

1. Most of the studies were descriptive survey type conducted with questionnaires and observations of the sites.
2. All studies have mostly revealed that teachers' skills, competencies, and attitude act as barriers to inclusive education.
3. Teachers were not trained for making education inclusive.
4. Schools did not have inclusion policy.
5. Parents and children were not aware of the facilities that are available in schools.
6. Curriculum of school is not flexible to promote inclusion.
7. Schools are not equipped with needed assistive technologies for CWSNs.

Rationale of the study

India has been making serious efforts since its independence to make education available to all its citizens. Schools are established with in walk able distance, enrolment drives are organized, may schemes like mid-day meals, free books and materials are distributed, teachers training are organized, and specially RPWD Acts, National Education Policy and financial allocations are made to see that all children both normal and disabled of any types; physical, mental, social, emotional or any kind are admitted to schools and get quality education. Many research studies are also conducted to assess gender parity, barriers for education of CWSNs, and success of elementary education. However, the system is still having certain barriers to make education accessible and quality education is organized. It is therefore essential to understand the barriers of inclusive education in India and organize the system accordingly.

Research Questions

The following research questions are raised on the basis of the literature and rationale of the study as presented above.

1. What are the barriers of making elementary education inclusive in India?
2. How the barriers of making education inclusive can be resolved?

Objectives of the Study

The study is conducted with the following objectives

1. To find out the barriers of elementary education to make it inclusive, and
2. To find out as to how the barriers of making education inclusive can be resolved by the system of elementary education.

Clarification of terms used in the study

Barriers to inclusive education: The term barriers to inclusive education are taken as those school facilities and infrastructure facilities that work as obstacles to make education inclusive. Such obstacles are; ramps facility, drinking water facility, toilets for girls and boys, classroom facilities and teacher-student ratio, adequate number of teachers, black board, computers, internet facilities, electricity, teachers' attitude and competencies to teach in inclusive classrooms.

Methodology of the study

As per the objectives of the study, the methodology needed is descriptive survey. The details of sampling procedure, tools and techniques used for data collection, data collection procedure, and analysis are presented here.

Data needed for the study

In order to achieve the objectives of the study the data needed are; barriers that are faced by the elementary schools; administrators, teachers, parents, and children were needed for the first objectives. For the second objective, data about the plan and strategies needed at the school level, and state level as needed change in attitude, skills and competencies of teachers, change in financial help and other provisions are needed from different stake holders of education.

Population of the study

The target population of the study is all the elementary schools of Government of Gujarat, Government Aided schools, and Private schools located in Baroda city. There are a total of 400 elementary schools In Baroda city as per the records of Baroda Corporation (2021).

Sample for the study

To conduct the study, a convenient sample of six schools (five Government-aided and one un-aided) was taken. From these schools, the six principals, and five teachers, few parents and children from each school were taken. So, the final sample consists of six principals, and thirty teachers, ten parents and fifteen children of elementary schools from Baroda city.

Tools for data collection

The researcher developed an open ended questionnaire for teachers and principals of schools to find the facilities in school premise, classrooms, teaching learning materials, assistive technology, availability of counsellors, and support service to CWSNs and Socially and Economically disadvantaged group. An unstructured interview for principal and observations

of school campus and classroom teaching was done to find the barriers as asked to teachers in the questionnaire. An attitude scale for teachers' attitude towards inclusive education and another scale to measure teachers' level of teaching competency in inclusive setting were used by the researcher. Both these tools were validated and reliability were estimated earlier by the researcher (Pradhan, 2021a; Pradhan, 2021b). The researcher conducted unstructured interviews with fifteen CWSNs children and their parents to know as to what barriers are being faced by them for getting access to education and continue to get education.

Collection of data

The researcher visited the sample schools personally and administered the questionnaire on teachers and principals. Further, the researcher interviewed the principals and observed the schools and classrooms. The selected CWSNs and their parents were interviewed at their suitable place and data collection was done within a span of one month time. The data collected by observation and interviews were recorded by preparing field notes. The Teachers' Attitude towards inclusion scale and Teachers' Competency to make education inclusive scale were administered to the teachers personally by the researcher.

Analysis of data

The data collected was put to analysis by categorizing the data under two different headings as per objectives; barriers and path ahead. The data were content analysed and emerged themes from the open-ended questionnaire and interviews were tabulated. The data collected with the help of Teachers' attitude, and Teachers' Competency were analysed by using Mean and SDs. The detail of analysis is presented below.

Barriers to make education inclusive

School premise;

The researcher observed the school premise and noted that none of the schools have any ramps for the physically disabled children. About the availability of toilets and sanitation facilities, it was found that all the schools have separate toilets for boys and girls but no special provisions for the disabled children. The schools have drinking water facilities that supply of tap water/filtered water for the children at a common place.

Infrastructure facilities

The detailed of infrastructure facilities available in the sample schools are presented in table-1 below. Before dealing about the data as collected by observation, it is noteworthy to mention that all the selected schools were old enough that is two schools established before India's independence, three schools during 1980s, and one during 1990s. It can be seen that all the school campuses were well maintained and had adequate number of toilets for boys and girls separately. There was drinking water facility, library, and playgrounds in all the schools. However, the observation of the researcher further revealed that the washrooms were not maintained properly. The taps were rusted and there was bad smell emanating from the toilets in majority of the schools. It was noted that none of the schools had ramps for the physically disabled children.

Table 1: Infrastructure and Physical facilities at selected schools

Sr. No.	No. of students	Toilets for boys	Toilets for girls	Drinking water facilities	Ramps	Library	Play ground
1	530	4	4	Tap water	No	6660 books	available
2	337	2	2	Tap water	No	8435	available
3	572	3	2	Tap water	No	available	available
4	875	0	4	Tap water		600	available
5	490	2	2	Tap water	No	175 books	available
6	846	3	3	Tap water	No	available	available

Teaching learning facilities in selected primary schools

The selected schools had adequate number of teachers with professional qualifications. It can be seen from table-2 below that all the schools had adequate number of classrooms, Blackboards (cemented/whiteboard), library with enough books, play materials, teaching-aids, and computer facilities. The student-teacher ratio was ranging from 26-141. However, per classroom, the students' number was 48-73. But it can be said that in most of the schools, the classroom were overcrowded.

Table No.2: Teaching learning facilities in selected primary schools

Sr. No.	No. of Teachers	No. of Computers	No. of classrooms	Student-Teacher ratio	Students per classroom	Total No of Blackboard
1	11	2	7	59	76	28
2	8	21	7	42	48	16
3	22	30	10	26	57	10
4	18	3	14	49	63	14
5	11	3	10	45	49	10
6	6	52	14	141	60	14

Assistive technologies

The schools that were surveyed by the researcher revealed that half of the surveyed schools had 2-3 computers (Table-2 above) but the other half had more than 20 computers and all the students in these schools had access to computer facilities. The computers had broad band internet connectivity. But the numbers of computers that were in working conditions was very limited. On further enquiry from teachers, it was found that more than 40% students did not have mobile technology at home for online classes during pandemic. The blind students were not having the facility of Braille facility at schools. Textbooks in Braille are also not available to students.

The Government has produced 300 videos for school children and provided to students in WhatsApp to make use of these materials. Over 15000 CWSNs have been benefitted by such technology during the COVID19 pandemic. To compensate the loss of teaching by teachers, the Government has produced videos by expert teachers and distributed to children free of cost. It has also made provision to assist the poor children with no device to take help of locals and Sarpanch (Head of Village panchayat) to have access to such technologies. The lessons were also telecasted in 13 TV channels by Vande Gujarat DTH channel. Overall, it can be said that schools are not equipped with modern assistive technology and self-learning materials in particular but Government has been helping in certain way to make education equitable.

Teachers’ attitude and competencies

The Teachers’ Attitude scale and Teachers’ competency to make education inclusive scale were administered on 30 teachers and the Mean and SD were presented in table-3 below. The maximum score one can obtain in Attitude scale was 125 and in Teachers’ competency o make education inclusive was 40. The Means and SDs of both the scales were calculated from the obtained scores of the sample teachers.

Table No.3: Means and SDs in Teachers’ Attitude and Competency for Inclusive Education

Sr. No.	Variables	Mean	SD
1	Teachers’ Attitude	64.35	4.44
2	Teachers’ Competency	18.54	4.25

The Mean and SD of Teachers’ Attitude towards inclusive education as presented above reveal that teachers have moderate attitude towards inclusive education and they are heterogeneous that is there are teachers who have also negative attitude and at the same time few teachers having very high positive attitude as denoted by SD. About their teaching competency, it can be said that the Mean Value of 18.54 is from a maximum score of 40 and therefore it can be said that teachers have low level of teaching competencies as the Mean is below 50% of maximum score. The teachers are also heterogeneous in terms of their competencies. A large number of teachers were with low level of competencies and a also high number of teachers with high teaching competencies. So, teaching competency among teachers to make classroom inclusive is a real problem as overall the Mean level competency is below 50% of maximum score.

Expert help and Counselling to CWSNs

The schools have occasional visits by health professionals and by qualified clinical experts in psycho-therapies. The students with hearing impaired are referred to doctors for hearing aids and are provided on subsidised rates by Government. The children with poor economic background and castes are given scholarship and free book supply by the Government.

Barriers as voiced by CWSNs and their parents

The fifteen CWSNs and their parents interviewed and the data collected was categorized as per the themes emerged from there. The table below presents the barriers as expressed by students and parents.

Table No. 4: Barriers of inclusive education as expressed by students and parents.

Sr. No.	Barriers of inclusive education	Number of Parents views	Number of Children views
1.	Accessibility of school	6 (60%)	13 (86.67%)
2.	Infrastructure facilities	8 (80%)	14 (93.34%)
3.	Availability of assistive technology	10 (100%)	15 (100%)
4.	Un co-operative teacher	7 (70%)	12 (80%)
5.	Bully by peers	7 (70%)	13 (86.67%)
6.	Rigid curriculum	6 (60%)	15 (100%)
7.	Lack of teachers' competency to teach	8 (80%)	12 (80%)
8.	Teachers do not encourage their participation in classroom and co-curricular activities	9 (90%)	14 (93.34%)
9.	No individual attention to problems of CWSNs	9 (90%)	15 (100%)
10.	Total No.	10	15

It can be observed from the Table-4 above the major problems of inclusive education at elementary schools are; individual attention to students' problems, rigid curriculum, unavailability of assistive technology, infrastructure facilities at schools are not enough, schools are far away and for the physically disabled there is no ramps, teachers do not encourage them to take active part in classroom and co-curricular activities, and teachers are not competent to teach in inclusive settings.

Path ahead

The data collected from the principals, teachers, parents, and CWSNs about the future course of action to make education inclusive, the following points emerged from the analysis of data.

- a. There is a need of strict enforcement of inclusive policy of Government in primary schools in terms of admission of students, classroom process, examination, and inclusive pedagogy.
- b. There is a need of continuously evaluating and monitoring the process of making education inclusive.
- c. The school teachers shall be trained to enhance their competencies to make education inclusive.

- d. Teachers and parents shall meet on regular basis to understand the disabled children and facilitate them.
- e. All schools shall have adequate number of teachers, infrastructure facilities, and assistive technologies
- f. There shall be proper budget allocation for all schools.
- g. Professional development of teachers shall be on continuous basis.

Findings of the study

The following findings can be derived from the present study about barriers to inclusive education and path ahead.

Barriers to inclusive education

1. The elementary schools are not well equipped with needed facilities to make education inclusive and this act as major barriers for students' access and retention in schools.
2. Teachers are not competent to make education inclusive. Teachers have not developed positive attitude towards inclusive education.
3. Individual attention is not paid to CWSNs and differentiate pedagogical practices are not followed by teachers.
4. The school curriculum is rigid and this acts as a barrier to make education inclusive.
5. Peer support, and technological supports are not used by teachers to make education inclusive.
6. Extra time is not given to CWSNs students. No bridge course is provided to students remaining absent.
7. Co-operation of counsellors and experts are not available to CWSNs.

Path ahead

1. Inclusive policy shall be strictly followed by schools and the administrative officials.
2. Regulatory authorities shall ensure availability of infrastructure facilities and assistive technologies at schools for inclusive education. Close monitoring of inclusive education at schools by administrators is needed.
3. Allotment of suitable funds to schools is essential.
4. Continuous professional training of teachers in inclusive pedagogy is needed.
5. All stakeholders including parents shall meet regularly to help and plan for inclusion.
6. Pupil centred curriculum with lot of flexibility shall be designed.

Conclusion

It is concluded that making education inclusive is not a one-man show. It needs collaborative effort among policy makers, middle management, teachers and parents of the students. There have been sincere efforts made at national and local level to make education inclusive. But there are a host of barriers still faced by the system. Some of the main barriers are; infrastructure facilities, school building not as per the accessible criteria, incompetent teachers, rigid curriculum, attitude of teachers, lack of systematic efforts and policy for monitoring and teachers professional development. It needs proper enforcement policy parameter, financial allocation for infrastructure and assistive technologies, and training of

teachers. India can make it as the education for all children is a fundamental right and a humanitarian value.

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A Study of the Religious Influences on the Scientific Temper of Pupil Teachers

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ABSTRACT

In 2014, India's government announced "National Science Day" to foster scientific temper in public to change people's narrow mindset. Despite our best efforts, we have not been able to inculcate scientific view in our people. The explanation for this could be due to more unscientific religious influences on people's mindset. Hence the researcher opted to investigate scientific temper of pupil teachers on the basis of their religion.

The findings of the present study revealed that pupil teachers of Hindu & Muslim and Muslim & Other religious students have quite different scientific temperaments. Other religious pupil teacher's scientific temper is higher, followed by Hindu and Muslim religious pupil teacher's scientific temper.

Key words: Scientific temper, pupil teachers, religious influences

Introduction:

"Believe nothing simply because it has been told to you; or because it is traditional; or because you have imagined it; Do not believe what your teacher tells you merely out of respect for the teacher; but whatever you find to be conducive to the good, the benefit, and the welfare of all beings, that doctrine believes and clings to, and take it as your guide," *Lord Buddha*.

One of the goals of the Teacher Education programme, according to the National Council of Teacher Education, is to "cultivate rational thinking and scientific temper." (N.C.T.E., page 20, 1996-97). The government of India declared 'National Science Day' in 2014 to promote scientific temper. The major goal of this initiative is to raise public awareness about scientific temper in order to modify people's restricted mindsets.

Despite all of our efforts, we have not been successful in instilling a scientific mindset in the majority of Indian population. The reason could be different religious practices followed in our country. Some followers of different religion leave unscientific customs and tradition and some

remains stick to that under the name of religion. These unscientific practices are not only followed at home but also carried out in educational institutions also. As part of our educational system, I believe the roots of these issues may be found in our country's traditional rote memory teaching system.

The only way to remedy this situation is for a teacher to step in. Instead of blindly accepting everything, he or she can develop the habit of reasoning, critical and reasonable thinking, and finding truth. The success of a school's science reform is highly dependent on the school's teacher (Darling-Hammond, 1996). It should begin at the primary level of our educational system, so that future generations are instilled with a strong scientific temperament.

It is vital for the instructor to possess these qualities in order to foster these attributes in students. Teachers who are well informed in scientific knowledge and temper must be prepared by teacher training institutes of education (D.El.Ed.). Keeping all of the foregoing in mind, the researcher opted to investigate scientific temper of pupil teachers on the basis of their religion.

Statement of the Problem:

The problem selected by researcher is ‘A study of the religious influences on the scientific temper of pupil teachers.’

Operational Definition:

1. **Scientific temper-** Scientific temper is a psychological trait associated with rational thinking, decision-making, problem-solving, antipathy to superstition, and attitudes toward science and science-related issues around the world in future primary teachers.
2. **Pupil teachers** –Pupil teachers are the students pursuing diploma in elementary education in the teacher training colleges of Mumbai city.

Aim of the Study:

The broad aim of the study is to identify scientific temper of pupil teachers on the basis of their religion of D.El.Ed. colleges in the Mumbai region.

Objectives of the Study:

1. To find out religious difference in scientific temper among pupil teachers.
2. To find out difference in scientific temperament among Hindu and Muslim pupil teachers.
3. To find out difference in scientific temperament among Hindu and Other religious pupil teachers.
4. To find out difference in scientific temperament among Muslim and Other religious pupil teachers.

Hypothesis of the Study:

1. There is no significant difference in scientific temper among pupil teachers on the basis of their religion.

(a). Hindu(b). Muslim(c.) Other

2. There is no significant difference in the scientific temper of Hindu and Muslim pupil teachers.

3. There is no significant difference in the scientific temper of Hindu and Other religious pupil teachers.

4. There is no significant difference in the scientific temper of Muslim and Other religious pupil teachers.

DESIGN OF THE STUDY:

Methodology of the study

The researcher proposes to investigate the scientific temperament of pupil teachers from D.El.Ed. colleges in this study. As a result, the descriptive method is used in this case. The researcher employed the causal-comparative technique in this study to compare scientific temper among pupil teachers based on their religion.

Sample of the study

The present study's sampling frame is the NCTE-affiliated D.El.Ed. colleges in the Mumbai region. The participants in this study are 235 pupil teachers from 08 NCTE-affiliated D.El.Ed. colleges in the Mumbai region.

Tool of the research

The scientific temper of pupil teachers at D.El.Ed. institutes connected with the NCTE of Mumbai region was measured using a readymade tool termed the "scientific temper scale." Pradhan, L., prepared the tool (1996). There are 30 items on the scale.

Scope and Delimitation of the Study

- Rather than using a qualitative approach to research methodology, the current study used a quantitative approach.
- The research is delimited to examining the scientific temperament of pupil teachers based on their religious beliefs.
- The research is delimited to pupil teachers' scientific temper as measured by a readymade scientific temper tool.

ANALYSIS AND INTERPRETATION:

Testing of Hypothesis 1:

There is no significant difference in scientific temper among pupil teachers on the basis of religion.

(a). Hindu(b). Muslim(c.) Other

The statistical techniques used to test this hypothesis is ANOVA'

The following table shows the relevant statistics for scientific temper among prospective primary teachers on the basis of religion

Table 1- Relevant statistics for Scientific Temper among pupil teachers on the basis of Religion.

Source of Variance	SS	Df	MS	'F' value	Table Value		I.o.s.
					0.05	0.01	
Between group variance	302.0778	2	151.0389	5.74	S	S	S
Within group variance	6106.0924	232	26.3194				

(SS – Sum of squares; MS – Mean of square; S – Significant)

Tabulated 'F' for df (2, 232) = 3.03 at 0.05 level

= 4.68 at 0.01 level

At the 0.01 level of significance, the obtained 'F' = 5.74 is higher than the calculated F. As a result, the null hypothesis is rejected. On the basis of religion, there is a significant difference in scientific temper among pupil teachers.

Testing of Hypothesis 2, 3 and 4 –

2. There is no significant difference in the scientific temper of Hindu and Muslim pupil teachers.
3. There is no significant difference in the scientific temper of Hindu and Other religious pupil teachers.
4. There is no significant difference in the scientific temper of Muslim and Other religious pupil teachers.

The statistical hypothesis used to test this hypothesis is 't' test.

The relevant statistics regarding the mean difference in the scientific temper of pupil teachers based on their religion are shown in the table below.

Table 2- Difference in mean score of Scientific Temper of pupil teachers on the basis of Religion

Group	N	Mean	SD	't' value	I.o.s.	
					0.05	0.01
Hindu	131	72.54	5.41	3.10	1.97	2.60
Muslim	66	70.06	5.24			
Hindu	131	72.54	5.41	0.22	1.97	2.60
Other	38	72.71	3.73			
Muslim	66	70.06	5.24	2.99	1.98	2.62
Other	38	72.71	3.73			

Interpretation of 't':

For Hindu and Muslim pupil teachers, the derived value of 't' is 3.10, which is higher than the table value. At the 0.01 level, 't' is thus significant. This shows that the scientific temper of Hindu and Muslim pupil teachers differs significantly.

For Hindu and Other religious pupil teachers, the obtained value of 't' is 0.22, which is lower than the table value of 1.97. As a result, at the 0.05 level, 't' is insignificant. This suggests that there is no significant difference in the scientific temperament of Hindu and Other religious pupil teachers.

For Muslim and Other religious pupil teachers, the derived value of 't' is 2.99, which is higher than the table value. At the 0.01 level, 't' is thus significant. This suggests that Muslim and Other religious pupil teachers have quite different scientific temperament.

Conclusion of the study:

The scientific temperaments of Hindu & Muslim and Muslim & Other Religious pupil teachers differ significantly. Other religious pupil teachers have a higher scientific temper, followed by Hindu and Muslim religious pupil teachers, who have the lowest scientific temper.

Discussion:

When compared to pupil teachers from the Muslim religion, other religions (mainly Buddhist and Christian) have a more scientific temperament. Most Muslim girls participating in higher education, such as the D.El.Ed. programme, are first-generation female students of their religion. As a result, there's a more chances that these female students' thinking and behaviour are influenced by religious and superstitious beliefs. It has also been observed that first-generation female students are rarely involved in decision-making processes and are completely reliant on their families for little daily living problems or life decisions. As a result of all of these circumstances, pupil teachers of the Muslim faith have a lower scientific temper than pupil teachers of other minority religions and Hindu religions.

The findings are similar to those of R. Gupta (2019). A study comparing Hindu and Muslim students' scientific attitudes. Students of Hindu faith have a higher level of scientific temper than students of Muslim religion, according to the findings of the study. These two groups differ significantly on various aspects of scientific temperament, including value viewpoint, antipathy to superstition, attitude toward science, and world view perspective.

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Relationship between Learner's Perception towards Self Directed Learning, Constructive Learning Environment, Problem Solving and Team Work Skills

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ABSTRACT

Self Directed Learning (SDL) is broadly defined as a process in which a learner takes an initiative (with or without the help of others) to formulate his or her learning goals, to identify resources (both human and material) for learning, to choose and implement appropriate learning strategies and evaluate learning outcomes (Knowles, 1975). The learning environment of 21st century is a combination of various pedagogies and different technologies in order to provide ample of opportunities to promote Self Directed Learning (Fanhoe and Mishra, 2013). SDL and Problem Solving both have common components thus they are associated with each other. Team work Skills is a skill possessed by the learners to work collaboratively in a team where they share knowledge and skills in order to solve any given problem. Problem solving is most effective when it is done in teams (Lin, 2003). As the variables have most of the components common and associated with each other therefore it is essential to examine relationship between all the four variables. The present research has its focus on studying relationship between Self directed learning, Constructive learning environment, Problem solving and Team work skills as per learners' perception. The present study is a correlational study and the sample consists of 58 high school students (30 girls and 28 Boys) of Greater Mumbai and to select it random sampling was done. The tool used to assess the perception of learners towards SDL, Constructive learning environment, Problem solving skills and Team work Skills is a five-point Likert scale which is valid and reliable. The Cronbach alpha reliability for CLE was ranged from 0.79 to 0.98. The Cronbach alpha coefficient for SDL, Problem solving skills and team work was 0.92, 0.86, 0.89 respectively. Descriptive analysis was carried out in order to obtain mean, median, mode and standard deviation. Pearson r was also calculated by using Microsoft Excel. The finding of the research revealed that the mean value of girls was higher for CLE, SDL and Team work compared to boys. But the mean value of boys was slightly higher for problem solving

skills compared to girls. Mean scores for girls were found to be higher for Learning about technology, learning to speak out and learning to communicate, whereas for Learning to learn mean score of boys were found to be higher compared to girls. Standard deviation of girls was found to be higher for CLE compared to boys while for SDL, Problem Solving and Team work skills Standard deviation for boys were higher compared to girls. The findings of the study also revealed that there is substantial correlation between CLE and SDL, Team work and SDL, Problem solving and Team work. Moderate correlation is found between CLE and Problem solving, CLE and Team Work, Problem solving and SDL. As there was significant relationship between all the four variables null hypothesis was rejected. The study signifies that if learners are provided with constructive learning environment, they can improve their problem solving and team work skills as well as for self directed learning.

Keywords: Self Directed Learning, Constructive Learning Environment, Problem Solving, Team Work Skills

Introduction

The concept of Self-Directed Learning is found to be prevalent in the framework of 21st century learning. The 21st century learning framework considers SDL as a critical component of individualized learning experiences. The 21st century learning is characterized by online learning, greater access to technology, personalized learning experiences, easy access to information and resources. SDL differentiates learning, it changes the role of learner and teacher in the classroom and it alters the time and place of learning and basically changes the structure of traditional schooling. Recent developments in educational aspects such as online learning opportunities, shifts in pedagogy, use of computers, laptops, smart phones with internet facilities expects learners to take more initiative in their own learning. 21st century classrooms have completely changed the role of teachers. A teacher's role is to address questions and provides individualized instruction and students manage resources, become more independent and self disciplined. Teachers are thus required to enhance student's abilities for accessing self directed learning (Fanhoe and Mishra, 2013).

Self Directed Learning

The chief proponent of the concept of Self-Directed Learning was Malcolm Knowles. Self Directed Learning (SDL) is broadly defined as a process in which learners takes an initiative (with or without the help of others) to formulate his or her learning goals, to identify resources (i.e both human & material resource) for learning, to select and implement appropriate learning strategies and to evaluate learning outcome (Knowles, 1975). In SDL learners are motivated to assume personal responsibility and they

themselves monitor and manage the learning process in order to attain meaningful learning environment. SDL enables learners to learn actively and collaboratively at their own pace in a constructive environment (Ramsey & Couch, 1994)

SDL and Constructive Learning Environment

Constructive Learning Environment (CLE) means Learning Environment based on the principles of constructivism. Constructivism is a learning theory basically found in psychology which explains how to acquire knowledge and how to learn. According to this theory knowledge is constructed by learners, it is not just a piece of information fed by the instructors (Lin, 2003). The present study examines learner's perception on four dimensions of CLE. (i) Learning about technology (ii) Learning to speak (iii) Learning to learn (iv) Learning to communicate. The study also focuses on relationship between SDL and CLE as per the discernment of learners. The 21st Century CLE is the amalgamation of various pedagogies & technologies which provides opportunities for SDL. Technology helps learners to connect with each other, to explore their topic of interest and to participate and engage. It also provides resources both material & human which in terms makes learning inquiry based. In this digital era learners need to be knowledgeable regarding selection of the resources as well as managing and using relevant resources appropriately (Lankshear, 1997). Present digital technologies configures the classrooms in order to provide greater flexibility to learners in selection of the topics as well as selection of approaches i.e individual or collaborative to study that particular topic. All these have significant implications for developing SDL. Learning environment which is designed on the basis of SDL principles allows flexible schedules in order to have longer duration for projects and collaboration. SDL based learning environment provides easy access to technology for problem solving, content designing and professional development of teachers.

SDL and Problem-Solving Skills

In psychology problem solving is the prime focus. While confronting a problem learner should be well versed with the following steps: 1) Learners should be able to identify the issues 2.) Learner should set the learning goal for themselves 3) Learner should proactively identify and select resources which are essential to solve the problem 4) Learner should self evaluate their knowledge and learning strategies 5) and finally Learners should actively take decision by themselves. Problem solving is a process which consists of four basic steps explained as follows: 1.) Defining or identifying the problem 2.) Identifying and developing possible solutions for the problem 3.) Implementing the solution 4.) Evaluating. The process initiates with defining the problem and after defining learners will possibly try to develop solutions by using divergent thinking. Learner tries to identify best solution by applying convergent thinking. This process is particularly applicable while solving problems in teams. Problem based learning like SDL has its base in constructivism therefore both are associated with each other. It is an essential component for both lifelong learners and problem solvers. Both problem-based learning

and SDL has common components such as formulating questions, applying knowledge in order to attain possible solutions (Lin, 2003).

SDL and Team Work Skills

Learning with others is important because it enables a learner to test his or her own understanding. Learning in a collaborative group not only helps learners to test their own understanding but also examine understanding of others. This mechanism is used for enriching, interweaving and expanding understanding of specific issues or phenomena. Successful learning depends on controlling learning tasks and communication capabilities (Garrison, 1997). In co-operative learning peers are resources not competitors because they encourage learners in sharing of ideas with each other. Internet technology helps to built up better and improved collaborative environment in order to pass information and ideas amongst each other irrespective of the distance. While working in collaboration, learners acquire problem solving skills by sharing knowledge. Learning provides motivation and opportunity to the learner in order to identify their strengths as well as their weaknesses (Petraglia, 1998).

Aim of the Study

The broad aim of the research is to study the relationship between learner's perception towards Self Directed Learning, Constructive Learning Environment, Problem Solving and Team Skills.

Objectives of the Study

To achieve the aims, following objectives were formulated:

- (i) To study learner's perception towards Self Directed Learning on the basis of gender (Boys and Girls)
- (ii) To study learner's perception towards Constructive Learning Environment on the basis of gender (Boys and Girls)
- (iii) To study learner's perception towards Problem Solving Skills on the basis of gender (Boys and Girls)
- (iv) To study learner's perception towards Team Work Skills on the basis of gender (Boys and Girls)
- (v) To study multiple correlations between self directed learning, constructive learning environment, problem solving and team work skills.

Hypothesis of the Study

To achieve the objectives of the study following null hypotheses were formulated:

- (i) There is no significant difference in learner's perception towards Self Directed Learning based on gender (Boys and Girls)
- (ii) There is no significant difference in learner's perception towards Constructive Learning Environment based on gender (Boys and Girls)
- (iii) There is no significant difference in learner's perception towards Problem Solving Skills based on gender (Boys and Girls)

- (iv) There is no significant difference in learner’s perception towards Team Work Skills based on gender (Boys and Girls)
- (v) There is no significant relationship between self directed learning, constructive learning environment, problem solving and team work skills.

Method

The present study employs correlational method which investigates correlation between self directed learning, constructive learning environment, problem solving and team work skills. The study also focuses on gender wise differences in the variables.

Participants and Data Collection

The participants for the present study were high school students of Greater Mumbai. The participants were selected using convenient sampling technique. The final data collected for the present study includes 58 high school students i.e 28 boys and 30 girls after separating out blank and incomplete forms.

Instrument

The instrument used for data collection consists of a self-report questionnaire of 77 items in all which was divided into four sections. (1) perception of constructive learning environment; (2) self directed learning readiness; (3) problem solving skills; (4) team work skills. The Cronbach alpha reliability for the first section ranged from 0.79 to 0.98, for second, third and fourth sections were 0.84, 0.86 and 0.89 respectively (Lin, 2003)

Data Analysis and Hypothesis Testing

Testing of Hypothesis 1: The null hypothesis states that there is no significant difference in learner’s perception towards Self Directed Learning based on gender (Boys and Girls). The technique used to test this hypothesis is t-test. As the obtained t-value 2.29 is more than table value 2.00 therefore it is significant at 0.05 and hence the null hypothesis is rejected. The following table shows a relevant statistic of learner’s perception towards Self Directed Learning (SDL) based on gender (Boys and Girls).

Table 1.1 Relevant statistics of learner’s perception towards Self Directed Learning (SDL) based on gender (Boys and Girls)

Variable	Group	Sample Size	Mean	S.D	Table value		‘t’ value	l.o.s
SDL	Girls	30	80.56	9.83	0.05	0.01	2.29	Significant at 0.05
	Boys	28	72.75	15.34	2.00	2.66		

Table 2: Descriptive Analysis of learner’s perception towards Constructive Learning Environment based on gender (Boys and Girls)

Sub Variables of CLE	Mean		S.D	
	Girls	Boys	Girls	Boys
Learning about technology	22.13	21.21	3.42	4.18
Learning to speak out	22.1	21.46	3.69	4.00

Learning to learn	19.23	20.46	5.90	4.27
Learning to communicate	23.33	20.46	4.45	6.47

Table 2 shows the comparison of the mean of the sub variables of constructive learning environment. Mean Scores for girls were higher for learning about technology, learning to speak out and Learning to communicate whereas boys scored for learning to learn. Though there was not a very vast difference in the mean scores of the sub variables therefore overall scores for constructive learning environment was subjected to t-test as explained below in table 2.1.

Testing of Hypothesis 2: The null hypothesis states that there is no significant difference in learner’s perception towards Constructive Learning Environment based on gender (Boys and Girls). The technique used to test this hypothesis is t-test. As the obtained t-value 1.01 is less than table value 2.00 at 0.05 and 2.66 at 0.01 therefore it is not significant and hence the null hypothesis is accepted. The following table shows a relevant statistic of learner’s perception towards Constructive Learning Environment based on gender (Boys and Girls)

Table 2.1 Relevant statistics of learner’s perception towards Constructive Learning Environment based on gender (Boys and Girls)

Variable	Group	Sample Size	Mean	S.D	Table value		‘t’ value	l.o.s
CLE	Girls	30	86.8	12.05	0.05	0.01	1.01	Not Significant
	Boys	28	83.60	11.98	2.00	2.66		

Testing of Hypothesis 3: The null hypothesis states that there is no significant difference in learner’s perception towards Problem Solving Skills based on gender (Boys and Girls). The technique used to test this hypothesis is t-test. As the obtained t-value 0.40 is less than table value 2.00 at 0.05 and 2.66 at 0.01 therefore it is not significant and hence the null hypothesis is accepted. The following table shows a relevant statistic of learner’s perception towards Problem Solving Skills based on gender (Boys and Girls).

Table 3.1 Relevant statistics of learner’s perception towards Problem Solving Skills based on gender (Boys and Girls).

Variable	Group	Sample Size	Mean	S.D	Table value		‘t’ value	l.o.s
Problem Solving Skills	Girls	30	69.7	9.18	0.05	0.01	0.40	Not Significant
	Boys	28	70.85	12.09	2.00	2.66		

Testing of Hypothesis 4: The null hypothesis states that there is no significant difference in learner’s perception towards Team Work Skills based on gender (Boys and Girls). The technique used to test this hypothesis is t-test. As the obtained t-value 1.10 is less than

table value 2.00 at 0.05 and 2.66 at 0.01 therefore it is not significant and hence the null hypothesis is accepted. The following table shows a relevant statistic of learner's perception towards Team Work Skills based on gender (Boys and Girls).

Table 4.1 Relevant statistics of learner's perception towards Team Work Skills based on gender (Boys and Girls).

Variable	Group	Sample Size	Mean	S.D	Table value		't' value	I.o.s
Team Work Skills	Girls	30	50.06	7.78	0.05	0.01	1.10	Not Significant
	Boys	28	47.84	9.47	2.00	2.66		

Testing of Hypothesis 5: The null hypothesis states that there is no significant relationship between self directed learning, constructive learning environment, problem solving and team work skills. For testing this hypothesis Pearson's coefficient of correlation has been computed. As the obtained value of r is more than the tabulated value $r = 0.250$ at 0.05 and $r = 0.325$ at 0.01 hence the null hypothesis is rejected.

Table 5 Significance of 'r' for self directed learning, constructive learning environment, problem solving and team work skills

Correlated variables	df	Obtained 'r'	Tabulated 'r' at		I.o.s
			0.05	0.01	
CLE and SDL	60	0.687	0.250	0.325	Significant
CLE and Problem Solving		0.544	0.250	0.325	Significant
CLE and Team Work		0.596	0.250	0.325	Significant
Problem Solving and SDL		0.588	0.250	0.325	Significant
Team Work and SDL		0.747	0.250	0.325	Significant
Problem Solving and Team Work		0.607	0.250	0.325	Significant

Findings of the Study

The finding of the study reveals that there is a significant difference in learner's perception towards Self Directed Learning on the basis of gender and greater mean scores ($Mean = 80.56$) of girls proves that girls were more self-directed learners compared to boys ($Mean = 72.75$) but the study shows no significant difference towards Constructive

Learning Environment, Problem solving and Team Work Skills on the basis of gender. On the basis of descriptive analysis of sub variables of CLE, the mean score of girls were more for sub variable like learning about technology (*Mean = 22.13*), learning to speak out (*Mean = 22.1*) and learning to communicate (*Mean = 23.33*) while mean score of boys were more on learning to learn (*Mean = 20.46*). The study shows significant relationship between all the four variables at 0.05 and 0.01. Substantial correlation was found for CLE and SDL ($r = 0.687$), Team work and SDL ($r = 0.747$) and problem-solving skills and Team work skills ($r = 0.607$). There was moderate correlation between CLE and Problem solving ($r = 0.544$), CLE and Team Work ($r = 0.596$), Problem solving and SDL ($r = 0.588$).

Discussion

The findings of the study align with study of Lin, S H. (2003) where it was found that Constructive Learning Environment was significantly correlated with self-directed learning, problem-solving skills, and teamwork skills. The results of the study are consistent with study of Lin, S H. (2003) in which the mean scores of learning to communicate was found to be higher compared to means of other sub-variables like leaning about technology, learning to speak out or learning to learn. According to previous study done by Lin, S H. (2003) learners presenting constructivism in their learning environment were more self-directed learners and have better team work and problem-solving skills compared to the learners who were not applying constructivism in their learning environment. The present study also has strong conceptual connections with the model proposed by Hmelo and Lin (2000). Their study indicated that many features of problem-based learning support the development of SDL. The research also shows consistency with the study done by Fanhoe and Mishra (2013) in which the purposely designed 21st century learning environment showed a higher perception of self directedness compared to the traditional ones. The previous study also suggests that the design of the learning environment allows the learners to engage in topics of interest and collaboratively solve the problems encountered by them. The findings emphasize on the open-ended technology rich environment to develop self regulated learners (Fanhoe and Mishra, 2013).

Conclusion

From the above discussion it is cleared that all the variables are correlated to each other. Thus, promoting effectiveness in one variable can bring effectiveness in other variables too and vice versa. Learning Environment which has a basis in constructivism facilitates self directed learning and ultimately improves the quality of teaching as well as the quality of learning. Learners can become more self-directed in their learning with additional support and motivation by their teachers. The role of teachers in 21st century is not to spoon feed the learners but to interact with the learners, to engage the learners with tasks or activities, to collaborate them with peers, adapt new technologies which can

make teaching effective and for this the teachers need to design constructive learning environment carefully and strategically. Self directed learning environment allows flexibility in learning and is very useful for long term application. Self directed learners are more independent and self reliant and can construct their own learning without relying on teachers or any one else. In self directed learning the teachers should design a learning environment where learners can communicate with their peers, where they can work in groups or teams. Collaborative team work helps to enhance their problem-solving skills. Learners are actively engaged in solving real problem or issues, for that they present and try to defend their ideas, exchange diverse beliefs, question and brainstorm and generate new ideas and solutions for the problem. In present era of multimedia and digitalization, learning environment should incorporate technology used for learning. For eg use of websites, internet and social media like facebook, blogs, webinars etc in providing learning resources and materials which can be incorporated into a lesson in order to make learning authentic and applicable in real time situation. Thus, improvement in learning environment improves and enhances problem solving and team work skills and makes learner more and more self directed. A well planned and properly implemented learning environment allows more flexibility in learning and also increases self directedness in learners and thus improves their future learning and their future lives.

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