

Volume 9, Issue 2 (XIII)

April – June 2022

ISSN: 2394 – 7780



International Journal of Advance and Innovative Research

Indian Academicians and Researchers Association
www.iaraedu.com

International Journal of Advance and Innovative Research

Volume 9, Issue 2 (XIII): April - June 2022

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Scientific Journal Impact Factor

CERTIFICATE OF INDEXING (SJIF 2018)

This certificate is awarded to

International Journal of Advance & Innovative Research
(ISSN: 2394-7780)

The Journal has been positively evaluated in the SJIF Journals Master List evaluation process
SJIF 2018 = 7.363

SJIF (A division of InnoSpace)



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WATER QUALITY INDEX FOR IMPACT EVALUATION OF COAL-FIRED THERMAL POWER PLANT ON GROUNDWATER QUALITY

Pallavi D. Nasare and M. G. ThakreCentre for Higher Learning and Research, Department of Environmental Science, Sardar Patel College,
Chandrapur, Maharashtra State, India**ABSTRACT**

Most of the coal-fired thermal power plants in India are responsible for pollution of groundwater due to leaching of toxic metals and other pollutants from their fly ash ponds and from fly ash polluted water bodies. Frequent episodes of environmental pollution were reported due to Khaparkheda thermal power station (KTPS) and its fly ash pond located in Nagpur District, Maharashtra, India. Local village people use groundwater for drinking and agricultural use. Therefore, present investigation was undertaken to study the pollution of ground water around KTPS and fly ash pond. Three groundwater sampling stations including two within 1.2 km and one at 3.2 km away from KTPS were selected for sampling of groundwater. Standard methods were used for sampling, preservation and physicochemical analysis of groundwater samples. It was observed that all groundwater samples were not suitable for drinking due to concentrations higher than drinking water standards (IS 10500: 2012) of hardness, total dissolved solids, total alkalinity, COD, BOD and toxic metals like cadmium (Cd) and lead (Pb). The Water Quality Index (WQI) values of all water samples were well above 300 indicating their unsuitability for drinking purpose. The irrigation quality of all groundwater samples was good. The long lasting solution is the strict compliance by KTPS of mandatory 100% utilization of fly ash within 3 to 5 years to manufacture bricks, tiles, cement, concrete etc. and to avoid dumping of fly ash over unscientifically designed fly ash ponds.

Keywords: Flash, Groundwater, Pollution, Thermal power plant, Water quality index

1. INTRODUCTION

Groundwater reservoirs are the storage bank of water which can be used regularly or under the drought conditions for different uses especially for drinking and domestic purpose. Therefore, groundwater is the safe storage of water throughout the world for agricultural, industrial and domestic uses. In India, groundwater satisfies nearly 80 per cent need of the rural domestic water and 50 per cent of the urban water in India [1, 2] and around 60 per cent of irrigated water and rural and urban water supplies to the extent of more than 80 percent.[3].

Excessive groundwater withdrawal for agricultural and industrial uses resulted in lowering of groundwater level year after year, and at some places has become non-available. Moreover, the groundwater is getting polluted due to seepage of industrial wastewater, pesticides and fertilizers from agricultural fields, fly ash ponds, landfill sites etc.

Coal fired thermal power plants (cTPPs) are observed to pollute the groundwater due to unscientific disposal of fly slurry in fly ash pond and fly ash overflow or accidental breakage of fly ash pond bund leading to covering of land with fly ash and pollution of water bodies. Krishnan and Indu (online, reviewed 2021) [4] informed that the pollutants persists in groundwater varying from few days or weeks or more and their impact on public health varies from diarrhea, fluorosis and arsenicosis that can remain lifelong. Shah and Narayan (July 2020) [5] reported the concentrations of metals namely cadmium, copper, manganese, mercury, selenium, lead, chromium and nickel higher than drinking water standard in the groundwater samples around fly ash pond in Ennore, North Chennai. Verma et al. (2016) [6] studied the heavy metals pollution in the groundwater in six villages around the Paricha thermal power plant's fly ash pond, Jhansi and observed higher levels of Pb, Ni, Fe, Cr, and Mn.

Heavy metals leaching from fly ash pond resulted in pollution of surface and groundwater. Leaching was observed to be enhanced under seasonal and diurnal changes in temperature and moisture and fly ash pond posed a threat to water resources in the area [5, 6].

Singh et al. (August 22, 2014) [7] observed the presence of Pb, Fe, Ni, Cr, Cu, and Cd in the bore well water and pond water around two thermal power plants in Delhi. The unscientific disposal of huge quantity of fly ash created problem of the leaching of pollutants like iron, chromium, nickel, lead, and cadmium from fly ash into surface water and groundwater [8].

Khaparkheda and Koradi cTPPs dispose of the fly ash in fly ash ponds near small villages where villagers use groundwater for daily use. Many studies have reported, in groundwater, The presence of pollutants such as As, Mo, V, U, Mg, Ca, NO₃, SO₄, and Total Dissolved Solids (TDS) were reported in groundwater higher than standards of Bureau of Indian Standards [9] and by World Health Organization [10, 11].

The Khaparkheda cTPP is surrounded by the villages and agricultural farms. Village people use groundwater for domestic purpose and for irrigation of crops. Therefore, present investigation was undertaken to study the groundwater quality to comply with the standard of drinking water & irrigation water and to assess public health risk due to presence of pollutants in groundwater.

2. MATERIALS AND METHODS

The KTPP of the Maharashtra State Power Generation Company (MAHAGENCO) is the oldest thermal power plant in Nagpur District established in 1989. KTPP and Koradi thermal power plants are situated on Kanhan River and are 6 km away from each other and 15 km away from the Nagpur City, Maharashtra, India. Both the power plants dispose of large quantity of fly ash in fly ash ponds every year, which are responsible for the surface water and groundwater pollution [11].

The methodology for sample collection and preservation techniques was as per the Standard Methods [12]. Grab samples of groundwater were collected from bore wells in three villages around the KTPP in the month of May 2018. Sampling was carried out weekly and the averages \pm of four observations are presented. The parameters namely temperature, electrical conductivity, pH, colour, odour and taste were recorded at the time of collection. For remaining parameters, water samples were collected, preserved and brought to laboratory for analysis.

Water Quality Index (WQI) was determined following the procedure [13]. The value of WQI is useful in deciding the suitability or non-suitability of water body for drinking purpose. In WQI assessment, the observed most important water pollutants of public health and irrigation water importance i.e. heavy metals (cadmium, copper, lead, arsenic, molybdenum, boron and zinc), total dissolved solids, nitrate were given highest rating of 5, then less important pollutants were given rating 3 to chlorides, sulphate, fluoride, total hardness, pH, and electrical conductivity and least important parameters i.e. Total alkalinity, magnesium, calcium were given rating 2.

3. RESULTS

3.1 STUDY AREA AND CLIMATE

The study area around the Khaparkheda thermal power plant (KTPP) is plain to undulating with Kanhan River and its Tributary Pench River. The altitude of the land varies from 260 m amsl at the bed of Kanhan River to 384 m amsl at hills near Suradevi village. The Koradi thermal power plant is situated by the side of Kanhan River in upstream area and KTPP is situated on downstream area of Kanhan River. Both the power plants are 6 km away from each other and 15 km away from Nagpur city.

The climate of study area is tropical savannah climate with very hot summer and moderate winter. The highest average temperature is 40°C in May and lowest is 27°C in January. The temperature remains high throughout the year. The seasons occur as summer season (March - May), rainy season (June - September), post monsoon (October - November) and winter (December - January). The mean annual rainfall is around 1170 mm.

3.2 Hydrogeology of Study Area

The hydrogeological observations show that the shallower groundwater is present under unconfined pockets of the land and deep groundwater is present under phreatic condition. The Precambrian crystalline rocks are hard and compact and they have secondary porosity like jointing and fracturing [14]. The capacity of these rocks to store, transmit and yield groundwater depends on weathering and intensity of joints and fracturing of the formation [15]. The weathering is up to the depth of 10-15 m below the ground level. The rocks contain minerals such as sodium, potassium, calcium, aluminium, and silicon. Fluoride is also reported from these rocks [16, 17, 18].

3.3 Pollution Sources to Groundwater

The pollution sources in the area are fly ash ponds of both the power plants and their overflow containing fly ash that enters the Kanhan River polluting it. Apart from this, the wastewater disposed of from the Power plants is also the source of pollution.

The KTPP produces 2.5 MMT fly ash per year. Around 25-30% fly ash is used for preparation of products and remaining fly ash in the form of wet slurry is dumped in fly ash pond for storage [19].

3.4 Groundwater sampling stations

The study area and the locations of the KTPP and sampling points of groundwater are given in Table 1 and Fig. 1.

Table 1. Groundwater sampling stations

Code no.	Sampling station	Direction & Distance w.r.t. KTPS
GW1	Bore well at Suradevi Village	3.2 km on South direction
GW2	Bore well at Khaparkheda village	1 km on South direction
GW3	Bore Well at Chicholi village	1.2 km on SWS Direction

3.5 Physicochemical characteristics of groundwater samples

The samples of groundwater were taken from the bore wells present in villages namely Suradevi (GW1), Khaparkheda (GW2) and Chicholi (GW3). Suradevi is present at 3.2 km from KTPP on South, Khaparkheda is 1 km away on south and Chicholi at 1.2 km on SWS direction (Fig. 1). The physicochemical characteristics of groundwater samples along with desirable and permissible levels of drinking water standard [20] are presented in Table 2.

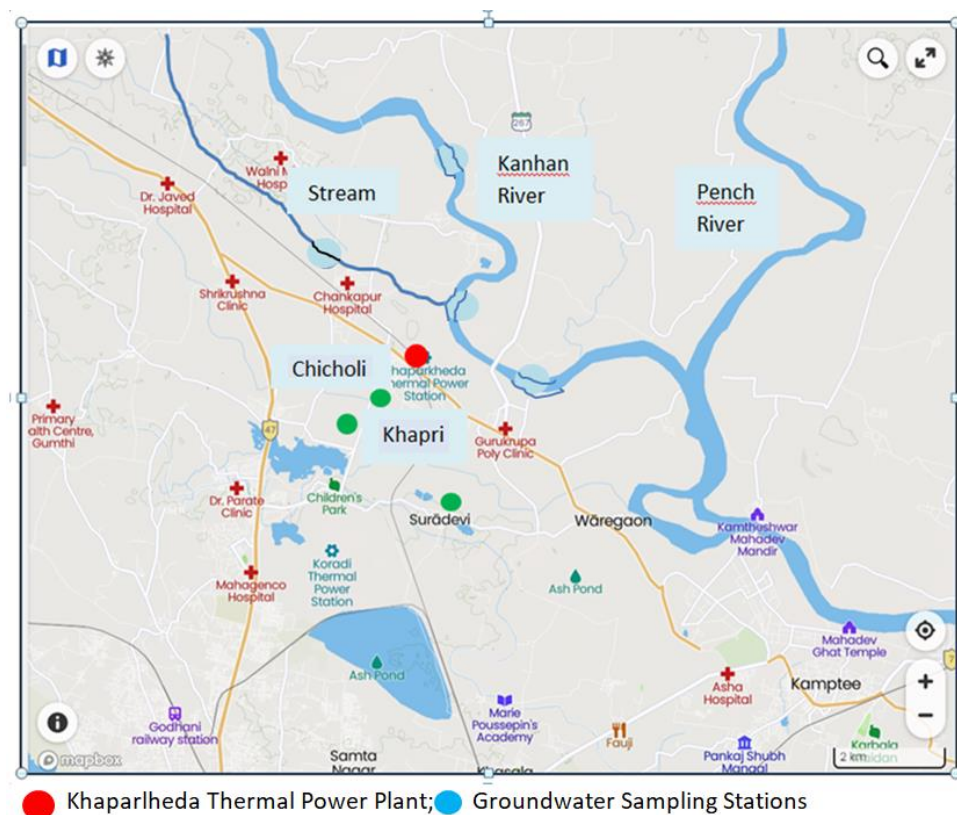


Fig. 1. Study area showing locations of KYP and groundwater sampling stations

Table 2. Physicochemical quality of groundwater samples (May 2018)*

Parameter	As per IS 10500:2012 ¹⁸		GW1 (Suradevi Bore Well)	GW2 (Khaparkheda Bore Well)	GW3 (Chicholi Bore Well)
	Desira-ble	Permi-ssible			
Colour, Hazen	5	25	4	11	7
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity, NTU	1	5	11	16	15
pH	6.5-8.5	--	7.2	7.7	7.4
Electrical conductivity (EC)	--	--	743	1340	1124
Total Dissolved Solids (TDS)	500	2000	684	976	789
Total Hardness (TH) as CaCO ₃	200	600	389	732	456
Total Alkalinity as CaCO ₃	200	600	248	395	280

Parameter	As per IS 10500:2012 ¹⁸		GW1 (Suradevi Bore Well)	GW2 (Khapar- kheda Bore Well)	GW3 (Chicholi Bore Well)
	Desira-ble	Permi-ssible			
(Talk)					
Chlorides as Cl	250	1000	85	94	89
Sulphate as SO ₄	200	400	69	77	72
Calcium as Ca ⁺⁺	75	200	192	296	254
Magnesium as Mg ⁺⁺	30	100	137	169	146
Iron as Fe	0.3	NR	0.35	0.46	0.49
Zinc as Zn	5	15	6	8	6
Fluoride as F	1.0	1.5	1.2	1.1	1.4
Nitrate as NO ₃	45	NR	38	58	49
Phosphate as PO ₄	--	--	0.5	0.9	0.7
Ammonia	--	--	BDL	BDL	BDL
Chemical Oxygen Demand (COD)	--	--	55	64	59
Biochemical Oxygen Demand (BOD), 3 d at 27°C	--	--	19	25	22
Cadmium as Cd	0.003	NR	0.6	0.8	0.7
Copper as Cu	0.05	1.5	0.4	0.8	0.7
Total chromium	0.05	NR	ND	ND	ND
Lead as Pb	0.01	NR	0.005	0.03	0.04
Nickel as Ni	0.02	NR	ND	ND	ND
Arsenic as As	0.01	NR	ND	0.9	ND
Silica as Si	--	--	7.4	7.9	7.9
Molybdenum as Mo	0.07	--	0.05	0.09	0.09
Boron as B	0.5	1.0	0.7	1.3	1.2
Cyanide	--	--	ND	ND	ND
Mercury	--	--	ND	ND	ND

*: average of four observations; NR: no relaxation; ND: not detected; Unit of all parameters is mg/L except Mentioned otherwise.

The colour of the groundwater ranged from 4 to 11 Hazen, being more in in GW2 and GW3 bore wells present near KTHP. The colour and taste were agreeable, however the turbidity ranged from 11 to 16 NTU, higher than the permissible limit of drinking water standard, TDS ranged from 684 to 789 mg/L being higher than desirable limit but below the permissible limit. EC ranged from 743 to 1340 μ S/cm. The TH varied from 389 to 732 mg/L, GW1 and GW3 being below the permissible limit but GW2 was above the permissible limit. Talk values were below the permissible limit being 248 to 395 mg/L. The chlorides and sulphates ranged from 85 to 94 mg/L and 69 to 77 mg/L respectively, both were below the respective permissible levels. The minerals like calcium and magnesium were observed to be higher than permissible levels being 192-296 mg/L and 137-169 mg/L respectively except Ca content in GW1 was below the desirable limit. The trace metals like iron and zinc were also higher than the desirable limits and varied from 0.35 to 0.49 mg/L and 6 to 8 mg/L respectively. The Fluoride concentration varied from 1.1 to 1.4 mg/L and was above the desirable limit. Ammonia was not detected in the groundwater samples. Nitrate content in GW1 groundwater sample was 38 mg/L, being below the desirable limit, however it was above desirable limit in GW2 and GW3 groundwater samples ranging from 40 to 58 mg/L. Phosphate ranged from 0.5 to 0.9 mg/L. the organic pollution indicators COD and BOD ranged from 55 to 64 mg/L and 19 to 25 mg/L respectively. The trace nutrient metals like copper ranged from 0.4 to 0.8 mg/L and was below the permissible limit, and molybdenum was recorded as 0.05 in GW1, being below the desirable limit, however was at 0.09 mg/L concentration in SW2 and SW3 groundwater samples at above the desirable limit. Boron was observed as 0.7 mg/L concentration in GW1 being below permissible limit, however ranged from 1.2 to 1.3 mg/L in GW2 and GW3 samples, being above the permissible limit. Silica was also recorded in all the three groundwater samples at concentration ranging from 7.4 to 7.9 mg/L. The toxic metals like cadmium (0.6-0.8 mg/L), lead (0.005-0.04 mg/L) and Arsenic (only in GW2 at 0.9 mg/L) were observed to be above the desirable limits in groundwater samples. The toxic metals which were not detected were total chromium, mercury, and nickel, Cyanide also was not detected.

4. DISCUSSION

4.1 Physicochemical Characteristics of Groundwater Samples

All the three bore well water samples were observed to be regularly used by the local people for domestic and drinking purpose. The people were not completely satisfied with the quality of groundwater.

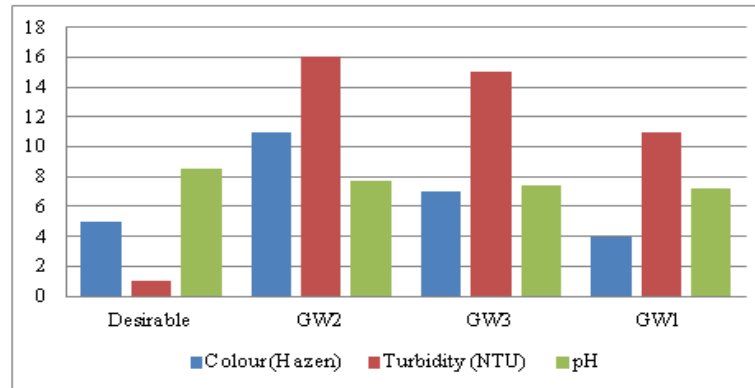
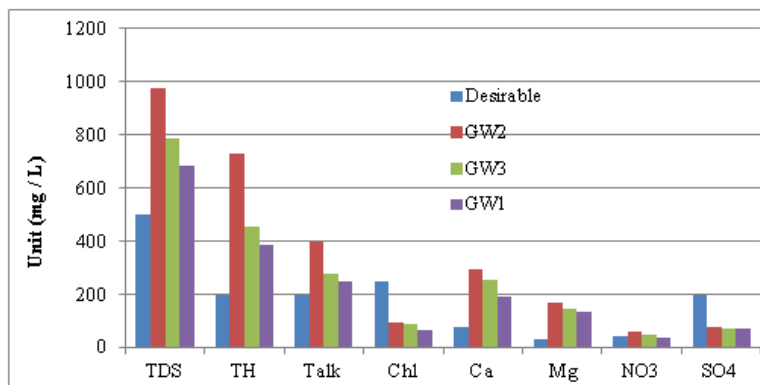


Fig. 2. Comparison of data on colour, turbidity and pH with desirable standard

Comparison of data on colour, turbidity and pH with desirable limit of drinking water standard [20] is shown in Fig. 2. The colour of the water was slightly yellowish in GW2 and GW3 bore well water with colour units of 11 and 7 Hazen respectively above the desirable standard of drinking water. The colour of GW1 water was colourless with 4 Hazen units. The odour and taste of groundwater were agreeable; however the turbidity values were higher than the permissible standard being 11 to 16 NTU in all the three water samples. During the survey, the people also told that when the bore well water samples are kept for some time to settle, the fine particles gather on the surface of water. This shows that the groundwater contain particulate matter which may be due to seepage of fly ash / industrial water or may be due to loose rock formation. The range of pH varied from 7.2 to 7.7 showing slight alkaline water within the drinking water standard of 6.5 – 8.5.

Total dissolved solids (TDS) are the summation of all dissolved minerals which are estimated in physicochemical analysis. TDS is major parameter to determine water quality for drinking. As per the water quality standard [18], the desirable limit of TDS is 500 mg/L TDS ranged from 684 to 976 mg/L and specific conductivity from 743 to 1340 $\mu\text{S}/\text{cm}$, indicating higher concentrations of minerals in drinking water as compared to drinking water standard [20]. The TDS was observed to be relatively higher in bore wells nearer to KTPP such as Khaparkheda bore well water (976 mg/L) and in Chicholi bore well water (789 mg/L) than that in Suravedi bore well water (684 mg/L) (Fig. 3). Generally groundwater possesses higher electrical conductivity [14].

Electrical conductivity (EC) of water depends upon the ability of water to conduct the electric current. This ability depends upon the ionic forms of dissolved salts. If the ionic concentrations are more the EC values observed are more. Similar incidence of groundwater pollution was reported [19] due to open dumping of flyash and flyash pond breakage belonging to Parichha Thermal Power Plant. It was observed that the groundwater quality was deteriorated in relation to turbidity, electrical conductivity (EC) and alkalinity well above the standards at all locations making it unfit for drinking.



(TDS; total dissolved solids; TH: total hardness; Talk: total alkalinity; Chl: chlorides; Ca: calcium; Mg: magnesium; NO3: nitrate; SO4: sulphate)

Fig. 3: Comparison of groundwater quality data with desirable standard for drinking water

The comparison of data on TDS, TH, TALK, CHL, Ca, Mg, NO₃ and SO₄ with desirable limits of drinking water standard [20] is shown in Fig. 3. Total hardness was observed to be higher than the desirable standard at all the stations and ranged from 456 to 732 mg/L in GW2 and GW3 stations and 389 mg/L at GW1 station. Total hardness includes all the salts especially of calcium and magnesium. Therefore, total hardness is the indicator of the nutrient status of water. These observations indicate that the water samples of all the bore wells were having more than optimum concentrations of mineral nutrients. Pande et al. (2020) [22] also recorded higher values of total hardness ranging from 650 mg/l to 1015 mg/l due to higher values of sulphate, calcium and bicarbonate leached from the fly ash during pre-monsoon and post-monsoon season in groundwater around the Koradi thermal power plant area.

Acid neutralising capacity or buffering capacity of water is called as total alkalinity. It is mainly caused by the carbonates and bicarbonates dissolved in water. Total alkalinity of all water samples of the bore wells ranged from 248 to 395 mg/L, all above the stipulate desirable standard of 200 mg/L and relatively higher alkalinity was observed in GW2 and GW3 groundwater samples.

Chlorides and sulphate concentrations were observed to vary from 85-94 and 69-77 mg/L respectively indicating moderate organic pollution in the bore well samples. The analytical results¹¹ suggest that apart from fly ash pollution, discharge of industrial waste from many factories containing higher quantities of gyps and lime for the production of bricks, might have been responsible for higher sulphates in the groundwater of the villages of Kawatha, Khairi and Masada around Koradi and Khaparkhedha thermal power plants.

The nutrient mineral calcium (Ca⁺⁺) was higher than desirable limit of 75 mg/L in all groundwater samples. However, at GW1 sample was within the permissible standard of 200 mg/L but at threshold level (Fig. 3). The iron (0.35-0.49 mg/L) and zinc (6-8 mg/L) were observed to be higher than the desirable standards of 0.3 and 5 mg/L respectively. The another mineral nutrient magnesium (Mg⁺⁺) ranged from 137 to 169 mg/L at all the stations and was above the permissible limit of 30 mg/L. Magnesium is very important for the function of human body. It helps to maintain the blood pressure normal, strong bones and steady heart rhythm. Copper is a trace nutrient but is toxic at higher concentration. It was found at concentrations ranging 0.4-0.8 mg/L being higher than the desirable limit of 0.05 mg/L in GW2 and GW3 stations nearer to KTPS.

Nitrate and phosphates are the nutrient parameters. Nitrate ranged from 49 to 58 mg/L at GW2 and GW3 stations, higher than the desirable limit, thus was sufficiently present. In GW1 groundwater sample the nitrate concentration was 38 mg/L, being below desirable limit but at threshold level. Phosphate values varied from 0.5 to 0.9 mg/L which was well above the level obtained in fresh water. Ammonia was not detected.

Fluoride concentration was under permissible standard of 1.0 mg/L and ranged from 1.1 to 1.4 mg/L. These concentrations were slightly higher than the optimum fluoride concentration for dental health.

The chemical oxygen demand (COD) and the biochemical oxygen demand (BOD) were recorded as 55-64 mg/L and 19-25 mg/L respectively. These concentrations indicated substantial organic pollution in bore well groundwater samples. The BOD:COD ratios ranged from 0.35 to 0.37. These values are within the range 0.2 to 0.4 indicating that the pollutants were slowly biodegradable,

The observed contents of Cd and Pb were 0.6-0.8 and 0.005-0.03 mg/L well above the desirable limit of 0.01 mg/L and may be toxic for public health. The other toxic metals like total chromium, nickel, arsenic, and mercury were not detected in the groundwater samples. Cyanide was not detected. Boron is essential nutrient for plants at 2 mg/L and was present in the range of 0.7 to 1.3 mg/L being deficient for the growth of plants and crops, but was above the permissible limit i.e. 1 mg/L in GW2 and GW3 groundwater samples. Kanchan et al. (2015) [21] reported the higher concentrations of cadmium and lead in groundwater due to fly ash dumping and its breach by Paricha thermal power plant in Jhansi district, U.P. Another report [11] also reported relatively high concentrations of F, Mo, B, and As in groundwater as a result of leaching from fly ash ponds.

4.2 Comparison of groundwater quality with irrigation water standard

The comparison of groundwater samples with irrigation water standard [23, 24] is shown in Table 3. All the groundwater samples were observed to be suitable for irrigation of agricultural farms, except boron being below the desirable standard. It is recommended that the boron deficiency may be mitigated by using boron fertilizers such solubor, boric acid and borax based on requirement of crop. Foliar application is preferred in case of high pH soils. The application of boron after appearance of boron deficiency in crop is not useful. Different varieties differ in their responses to boron deficiency.

Table 3. Comparison of groundwater samples with irrigation water standard*

Parameter	Standard	GW1	GW2	GW3
TDS (mg/l)	2100	684	976	789
Chlorides as chlorine (mg/l)	500	85	94	89
Boron (mg/l)	2	0.7	1.3	1.2
Sulphates (mg/l)	1000	69	77	72
Conductivity at 25°C (µs/cm)	3000	743	1340	1124
pH	6.0 – 8.0	7.2	7.7	7.4

*CPCB (2001), BIS (1986) [23, 24]

4.3 Determination of WQI (Water Quality Index)

The weights and relative weights of water parameters are calculated as per Table 4.

Table 4. The weights and relative weights of water parameters for determination of WQI for groundwater samples

S.N.	Parameter	(BIS, 2012)	Weight (wi)	Relative Weight (Wi)
		Desirable Limit		
1.	pH	8.5	3	0.0423
2.	EC	2000	3	0.0423
3.	TDS	1000	5	0.0685
4.	Total Alkalinity	200	2	0.0281
5.	Total Hardness	300	3	0.0423
6.	Calcium	75	2	0.0281
7.	Magnesium	30	2	0.0281
8.	Chloride	250	3	0.0423
9.	Sulphate	200	3	0.0423
10.	Nitrate	45	5	0.0704
11.	Fluoride	1.0	3	0.0423
12.	Iron	0.3	4	0.0563
13.	Cadmium	0.003	5	0.0685
14.	Copper	0.05	5	0.0704
15.	Lead	0.01	5	0.0704
16.	Arsenic	0.01	5	0.0704
17.	Molybdenum	0.07	5	0.0704
18.	Boron	0.5	5	0.0704
19.	Zinc	5	5	0.0704
			Σwi = 71	ΣWi = 1.024

Quality rating scale (qi) was determined by formula $[qi = (\frac{Ci}{Si}) 100]$, where Ci observed concentration of each parameter, except pH and conductivity, and Si is standard (Table 5).

Table 5. Calculation of quality rating (Qi) of each groundwater quality parameter

S.N.	Parameter	Desirable Limit	Concentration in water sample			Quality Rating (qi)		
			GW1	GW2	GW3	$qi = (\frac{Ci}{Si}) 100$		
1.	pH	8.5	7.2	7.7	7.4	84.71	90.59	87.09
2.	EC	2000	743	1340	1124	37.15	67	56.2
3.	TDS	1000	684	976	789	68.4	97.6	78.9
4.	Total Alkalinity	200	248	395	280	124	197.5	140
5.	Total Hardness	300	389	732	436	129.66	244	145.33
6.	Calcium	75	192	296	254	256	394.66	341.33
7.	Magnesium	30	137	169	146	456.67	553.33	486.67
8.	Chloride	250	85	94	89	34	37.6	35.6
9.	Sulphate	200	69	77	72	34.5	38.5	36
10.	Nitrate	45	38	58	49	84.44	128.89	108.89
11.	Fluoride	1.0	1.2	1.1	1.4	120	110	140

S.N.	Parameter	Desirable Limit	Concentration in water sample			Quality Rating (qi) $qi = (\frac{Ci}{Si}) 100$		
			GW1	GW2	GW3	GW1	GW2	GW3
12.	Iron	0.3	0.35	0.46	0.49	116.67	143.33	163.33
13.	Cadmium	0.003	0.6	0.8	0.7	20000	2.6666.67	23333.33
14.	Copper	0.05	0.4	0.8	0.7	800	1600	1400
15.	Lead	0.01	0.005	0.03	0.04	50	300	400
16.	Arsenic	0.01	0	0.9	0	0	9000	0
17.	Molybdenum	0.07	0.05	0.09	0.09	71.43	128.57	128.57
18.	Boron	0.5	0.7	1.3	1.2	140	260	240
19	Zinc	5	6	8	9	120	160	180

The sub index SI was calculated by formula $[SI = Wi \times qi]$. Water quality Index (WQI) was determined by formula $[WQI = \sum SI]$ (Table 6).

Table 6. Calculation of sub index (SI) of each groundwater quality parameter

Parameter	Wi	Qi			SI = Wiqi		
		GW1	GW2	GW3	GW1	GW2	GW3
pH	0.0423	84.71	90.59	87.09	3.58	2.56	3.68
EC	0.0423	37.15	67	56.2	1.57	2.83	2.38
TDS	0.0704	68.4	97.6	78.9	4.82	6.87	5.56
Total Alkalinity	0.0281	124	197.5	140	3.48	5.55	3.93
Total Hardness	0.0423	129.66	244	145.33	5.49	10.32	6.15
Calcium	0.0281	256	394.66	341.33	7.19	11.09	9.59
Magnesium	0.0281	456.67	553.33	486.67	12.63	15.55	13.68
Chloride	0.0423	34	37.6	35.6	1.44	1.59	1.51
Sulphate	0.0423	34.5	38.5	36	1.46	1.63	1.52
Nitrate	0.0704	84.44	128.89	108.89	5.95	8.86	7.67
Fluoride	0.0411	120	110	140	4.93	4.52	5.75
Iron	0.0563	116.67	143.33	163.33	6.57	8.07	9.20
Cadmium	0.0704	20000	2.6666.67	23333.33	1408	1877.29	1642.64
Copper	0.0704	800	1600	1400	56.32	112.64	1399.93
Lead	0.0704	50	300	400	3.52	21.12	28.16
Arsenic	0.0704	0	9000	0	0	633.6	0
Molybdenum	0.0704	71.43	128.57	128.57	5.03	9.05	9.05
Boron	0.0704	140	260	240	9.86	18.30	18.30
Zinc	0.0423	120	160	180	5.08	6.77	7.61
				WQI	1534.29	2758.21	3176.31

There are five ranges of WQI namely, excellent water ($WQI < 50$), good water ($50 > WQI < 100$), poor water ($100 > WQI < 200$), very poor water ($200 > WQI < 300$) and water unsuitable for drinking ($WQI > 300$).

The estimated water quality index values ranging from 1534.29 to 3176.31 indicated the non-suitability of all groundwater for drinking and domestic use.

The groundwater were found to be unsuitable for drinking due to very hard groundwater and other parameters like total dissolved solids, total alkalinity, COD & BOD above the drinking water desirable standard. Silica was also present ranging from 7.4 to 7.9 mg/L. It does not have harmful effects to humans. Silica comes from weathering fly ash, rock and also from urban discharges. The groundwater samples also showed the presence of toxic metals like lead (Pb) and cadmium (Cd).

Hydrated or complex ions of cadmium are mostly mobile in surface water or groundwater. Chronic exposure of people to cadmium in drinking water above the desirable level of drinking water standard may cause kidney, liver, bone and blood damage [27].

Lead is highly toxic element. It is toxic even in small amount. Exposure to high concentrations of lead may lead to death or damage to the central nervous system, brain, and kidneys [23, 24, 27].

5. CONCLUSION

The groundwater around the KTPP is the source of water for the villages for the domestic and drinking use and for irrigation of farms. However these groundwater samples were observed to be polluted due to fly ash pollution in Kanhan River and farm land from which pollutants might have seeped into the groundwater. The groundwater samples were very hard, with high COD and showed the presence of toxic metals lead (Pb) and cadmium (Cd) having potential toxic impact on public health. Estimated WQI above 300 indicated its unsuitability for drinking purpose. However, the groundwater samples were suitable of agricultural irrigation.

Dumping of fly ash in unscientifically designed fly ash ponds leads to fly ash pollution through seepage, overflow and break-down of fly ash pond. The government should make it mandatory for power plant authorities, to use scientifically designed fly ash pond to avoid seepage, overflow and breach of fly ash ponds. However, this is not permanent solution as enormous amount of fly ash is produced every year and the land will not be sufficient for fly ash ponds in future to accommodate it.

The long lasting solution is the strict compliance of mandatory 100% utilization of fly ash within 3 to 5 years to manufacture bricks / tiles, cement, ready-mix concrete, construction of roads, dams, and embankment and filling of low-lying areas and mines underground voids. Now, government has also introduced fine of Rs. 1000/- per tonne on unutilised ash on non-compliant power plants under the *polluter pays principle*. Now, state government should be strict on vigilance and compliance of these rules.

6. ACKNOWLEDGEMENTS

The authors wish to thank the Principal of Sardar Patel Mahavidyalaya, Chandrapur (M.S.), India for encouraging and providing required facilities to conduct the study. There was no funding or financial support for the research work.

7. CONFLICT OF INTEREST

Authors declare that there is no conflict of interest including any financial, personal or other relationships with other people or organizations

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THE ROLE OF TEACHERS IN ENHANCING COMMUNICATION SKILLS OF THE LEARNERS

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Language is a significant method for communication. It is exceptionally hard to think about people without language. Language sharpens individuals' thoughts and controls their actions. It acts as a carrier of human advancement and culture. English language teaching in India has consistently been a difficult and complex task, for both the teachers as well as the learners. While considering the native language, children learn it effectively because of the ideal learning condition and by the enormous exposure to the language. A language is basically learnt by constant use and not by sustained rules. This stresses the fact that consistent practice is essential to master any language. Learning and teaching a language has always been intertwined with one another as the prime objective is to master the core language skills of the target language. Teaching assumes various parts such as managing, guiding, encouraging, empowering, and retaining effective learning circumstances for the learners. Simultaneously, there are numerous factors faced by the learners that influences the way toward learning a target language, including motivation, attitude, age, intelligence, aptitude, cognitive style, personality, classroom environment, family background, and accessibility of skilled instructors. As a whole, devising an effective technique will allow the educators to choose the suitable method that can be used for classroom practices which will eventually enhance the communication skills of the learners. Thus, the paper exposes the need of teaching English as a second language by projecting the importance of enhancing the communication skills of the learners in the present era.

Keywords: Language, Communication Skills, Classroom Practices, Motivation, Effective Technique.

INTRODUCTION

The practice and process of obtaining a foreign or second language with proper competency is language teaching. It can also be defined as a kind of activity where the teacher facilitates the learner with the effective practice of mastering the target language skills. The language teaching comprises of four chief classifications: proficiencies, communicative skills, multiple literacies and cross-cultural experiences. It also suggests the procedure and routine with regards to obtaining a second or foreign language. It is essentially a part of semantics; it can also be considered an interdisciplinary field. At the basic level, guidance in any language, under any condition, formal or casual; the term is generally practiced among language educators. Further, the training of a mother tongue or national language might be denoted as L1 teaching, in which the L1 implies first language and the training of at least one different dialect is denoted as L2 teaching where L2 implies second language. Cook (2001), claims that "the proof of teaching is in the learning", and "all successful teaching depends upon learning". Moreover, Cook expresses that there is no purpose for giving well-arranged and interesting, language exercises if the learners do not gain from them.

Objectives of Language Learning and Teaching

The vital factor for the instructors and students while teaching and learning a language is to comprehend the objective of teaching and learning the particular language and the way to accomplishing it. The main idea of focussing on the objectives of language teaching is to build up the students' communicative skill. While choosing learning exercises, one has to consistently recollect that the objective is for the learners to have the capacity to communicate effortlessly with other individuals: to comprehend what others wish to impart, as well as to have the capacity to pass on to others or to share. The main objective of language teaching is to prepare the students' capacity to utilize the language intended for proper communication or interaction in real life situations. It sensibly clarifies the importance of four macro skills of language (Listening, Speaking, Reading and Writing) consists of two classes, they are written and oral communication. The skills such as speaking and listening are the most critical types of spoken communication, though writing and reading are the most essential types of written communication.

COMMUNICATION SKILLS

Language is not programmed to man as walking. Unlike walking which is an innate organic capacity of man, language is an obtained social action. The capacity to utilize a language is not acquired. It is found out from others. Learning starts at earliest stages and continues all through life in varying degrees. One can convey one's

observations, thoughts, ideas, emotions and feelings only when they utilize the language, the instrument of thought involves involuntary inclination with them. Subsequently, language is comprised of habits and this requisites constant practice.

Communication of thoughts with one individual onto the next is the fundamental capacity of language. Proper communication includes the correct utilization of language. This implies right articulation and inflection. It is said that the story of language is the story of human advancement. Every language becomes out of the way of life of the network to which it has a place with, it exists in the speakers who exist in particular circumstances and in particular spots. Every language is one of a kind. No two dialects on the earth have a similar arrangement of sounds, syntactic sign, sentence structure or jargon. Every language is the aftereffects of the random order of understanding of its speakers. No language is spoken in a similar way by all individuals. There are provincial varieties in articulation. These provincial assortments of a language are known as the dialects. Individuals working in various backgrounds utilize various types of jargon. The specialized terms utilized in business, logical, military and legitimate writing furnish one with instances of various registers.

Significance of Language and Communication

Every individual is a member who forms a social group and in the whole, one's social and individual activities are to speak with others. For this purpose, one needs to totally rely on the use of language. This is the main objective of language with which one communicates, shares their thoughts and ideas. Communicative competence includes knowing how to utilize the sentence structure and vocabulary of the language to accomplish communicative objectives and knowing how to do this in a socially appropriate way. Without this underlying competence, communication will be filled with blunders and misunderstanding. When the learners are continuously exposed to a specific grammatical structure in the formal guideline, they are more likely to notice the structure and understand the difference between grammatically correct speech and their speech in practice. Thus, the students' perception will help them to use the structured communication naturally in addition to noticing grammatical structures and preventing fossilization.

Communication Skills for Students at School Level

In Indian schools, instructors are still following and implementing traditional strategies which are out dated. The new approaches are not embraced by most of the educators due of lack of time, lack of resources, lack of confidence, lack of knowledge and so on. The major years of English are in the hands of instructors who neither know enough English nor are they acquainted with the most recent advancements in the teaching method of English. This is on the grounds that instructors have not been professionally trained because of diverse reasons. At the same time, schools are not furnished with various innovative teaching aids, for example, models, film strips, gramophone records, recording devices and so forth, which help in language instructing and the instructors likewise are not eager to plan charts, flash cards, and picture models. Almost large classes are a witness to the extension of education however they hamper the learning of English as it is hard to utilize modern strategies for educating in a huge class of learners. The physical conditions under which English is found out in the schools are makes it worse for the effective learning of English as a second language.

At times, classes are overcrowded. The activity books of the learners are regularly not corrected by the educators. Subsequently, students are not properly guided and encouraged to perform better. The Indian education system further permits question paper to be set by individuals who neither teach the learners, nor have any thought of the standard and matter educated to the learners, thus no real effort is made. Another group of Indians feel happy with the basic knowledge of English which is their essential need to speak with others on the earth for purposes of trade, industry and so on. For every one of them, the core purpose of English is to communicate with others in English. In modern India, the primary accentuation of learning English is to be used as a mode of communication as opposed to a vehicle of thought.

Developing Communication Skills

Many methods have been established to increase students' English speaking skills. These methods have to be followed for a better result frequently. Communicative Language Teaching based on real life situations requires these skills. The process of communication helps the students and provides opportunities to communicate and interact with their peers. Communicative activities of methods such as Interviews, Discussion, Role play, Brainstorming and Group Works help students to use the English language effectively. By interviewing people, students get a chance to practice their speaking aptitude not only in the class but also outside. The teachers of English language have to provide platforms for students to expose their speaking skills through performance and presentation. To involve students in activities of speaking, teachers have to aim and practice different ways of students' participation. Importantly, teachers have to reduce their time of speaking and step backward to

observe students' involvement. Students have to be moulded by giving speaking tasks such as debate, speech and discussions.

Many students of English language struggle a lot during the process of communication, because they never polish their language skills for communication and interaction. Teachers have to assess the skills of students by indicating positive remarks and feedback which inspire them to participate in various activities created by teachers. Involving in classroom speaking activities enhance the core language skills of the students. Student's attitudes need to be watched while they are put in groups or pairs and their right tract must be ensured. The students' ability of communication helps them to proceed towards success not only in academic fields but also in every phase of life. Teachers have to consider students while implementing new innovative and creative ideas to develop the speaking skills of students. Teachers have to help the poor speakers to deliver speech so that they can implement new things in their career.

Educators for the most part composed difficult words, phrases and so forth, on blackboard and utilized the equivalent to influence the students to compose, work on speaking and listening aptitude. Educators request that learners read out loud by themselves or in group and to listen cautiously to those words. Short stories, role play sessions and picture cards were utilized for increasing listening and speaking aptitudes among the learners. Writing assignments included joining letters, replicating of words, composing answers to questions and organizations among others. Students utilized the board, where space was accommodated, by every individual pupil to compose. These incorporate true-false questions, filling in the missing letter, circling the right answer and mind mapping work out. Homework was given day by day and return to the students after correction.

Role of English Language Teachers

Strong complaints have been evolved from the parents' community regarding the school educational modules which have turned to be extensive. The hefty load of educational module is not only physical; in addition, it is one of irrelevant causing the lack of understanding of the fundamental ideas and concepts. This has been causing a huge anxiety among the learners and in this manner hindering their typical progression. The school curricula continued to be heavy even after various efforts made to decrease the heap on school students. The heftiness of curriculum issue has its underlying foundations in many related issues. It cannot be resolved just by reducing the size of text books. One of the approaches to resolve the problem would be to take out the out dated and excess contents without influencing the general continuity of ideas. Excessive stress on homework, the memorisation of countless and covering ideas and points in the programme of study need to be excluded.

Teaching has to be an influence to the learners to 'learn how to learn'. To find the effective and viable result for this tremendous issue, an encompassing instead of a fragmented methodology would be the primary requirement. If the curriculum plays a vital role in the education and learning, the emotional contingent of the learners will be important to be considered for the better acquisition. Every student understands capability in learning cannot be the same as they are from different emotional and social background and it is important to teach the students by using the strategy through which everyone can comprehend the knowledge. Thus, it becomes the duty and responsibility of the teachers to incorporate diverse teaching techniques and strategies in language classrooms for effective teaching to take place.

CONCLUSION

Language is established and it has a great association with the society. The best way to educate these skills is to interact in realistic contexts. Through interaction, learners will be able to understand certain advancements and further development of the language. Social interaction is considered to be more and more significant in second language learning. The learner obtains idea from the response and that specific information becomes intake when the learners make use of that information internally. This process continues as discussion or communication and therefore, it enhances second language learning and communication skills of a student. Interaction inspires learners to practice the language in a more practical way. Thus, teachers have to take the responsibility to incorporate communicative activities in language classroom to enhance the communication skills of the learners.

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INNOVATIVE APPROACH TO PATTERN DEVELOPMENT

Srividya P

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ABSTRACT

Fashion designing is of constant innovation and designers need to explore and experiment new technologies and techniques to express their creative ideas which needs more skill and practice TR (Transformational Reconstruction) is one such architectural approach invented by ShingoSato has given a new dimension for exploration and creative techniques, on the other hand Sub-Cut (Subtraction Cutting) by Pro.Julian Roberts have given the concept of zero waste with Arial method of developing patterns where it is based on working around body with the isometric top view.

This paper presentation is completely based and these two techniques sharing my personal experiences learning form the inventors themselves and sharing some ideas of the techniques to help many ambitious and innovative minds.

Keywords: Subtraction-cutting, Transformational Reconstruction, Zero waste Fashion, 3D patternmaking.

Transformational Reconstruction, by Shingo Sato

The value of pattern cutting has been rediscovered. Worldwide, a new trend revives the art of pattern design. Fashion Schools in the United States, Canada, Japan, Australia, Italy, England, India and many other countries have expanded their programme with presentations by visiting professors. The new generation of creative minds favors pattern cutting over the design. The design arises from the process of pattern making. In this article, we report on the latest influences in the area of pattern design.

Shingo Sato, innovative pattern maker and designer is one of the leading figures of a new movement in the fashion industry. Shingo Sato's "Transformational Reconstruction Technique" is a combination of flat patternmaking techniques and three-dimensional draping techniques at the dress form. The pattern maker becomes the designer with intuitive, artistic and innovative methods. The main objective is to dismantle boundaries and rebuild without limitations.

From Tokyo to New York: Japanese pattern artist and fashion design lecturer Shingo Sato holds worldwide pattern making seminars with TR Cutting School, which was founded by himself. The aesthetics of Shingo Sato's extraordinary creations combine couture and architecture.

Concept creation In India

In 2014 the master of pattern-innovation came to India in association with Vidya Fashion Academy, Bengaluru for the first time and declared the campus as TR Cutting School – India under the Direction of the India's first TRSuperMaster VidyaVivek. Ever since 2014 the workshop is organized and intensive sessions are conducted to share this unique technique to the Indian enthusiastic designers and seamstress.

Learn Science to Excel Art- VidyaVivek

This technique enables experts as well as amateurs to perform creative studies and experiments with pattern cutting and design. Shingo Sato combines the complexity of origami, haute couture, flat pattern design, and draping in his designs with unusually elegant seaming that let the materials flow around the body.

Futuristic shapes, optical illusions and mind-bending fabric transitions are his trademark. He shapes his designs with traditional two-dimensional pattern techniques to achieve three-dimensional effects, often cut in waves, Stripes and other geometric patterns of fabric and colour. The finished garment seems a mystery, as no means of assembly are visible. Shaping seam lines such as side seams, armholes and darts are replaced with flowing transitions. Among his most famous designs are the Ribbon skirt, the origami dress and the accordion collar.



Wave Jacket



Shingo Sato starts with the muslin shell of the silhouette and adds fullness, decorative details, geometric constructions and style-lines as he works directly on the dress form. He learned this process in Paris, when he began his design Career at Azzedine Alaia.

Design on the Muslin Shell



Drawing the stylelines in freeform directly on the muslin sloper is a very creative process but also at the same time an elaborate implementation of important patternmaking basics. The wave jacket design shows how the seamlines at the armhole can be broken up and converted, so that at the end of the design process, no real armhole is visible.

First mark critical points on the transition between the bodice and the sleeves. The direction of the sleeve cap line changes at the front and back armhole notch. It is a good idea to draw the wavy stylelines over these points so that later the individual sections of the waves lie flat and can be cut out more accurately.

Separate the Pattern Pieces



Take the muslin shell off the dress form after generously drawing the stylelines on it and cut out the wavy pieces. It is very important to mark matching notches because the seamlines are very confusing. Add more notches in curves or on important transitions as on straight lines.

Cutting the Second Muslin



Press the individual wavy sections and pin the pieces on the new muslin. Cut the pattern pieces with seam allowances for the next fitting. Notch the seam allowances and take off the original pieces.

**Muslin Jacket**

Sew the wavy sections together with matching notches and topstitch the seams to make the seaming more visible. You can also tailor the sample jacket of contrast material to make the design particularly stand out. The wave jacket shows a fall

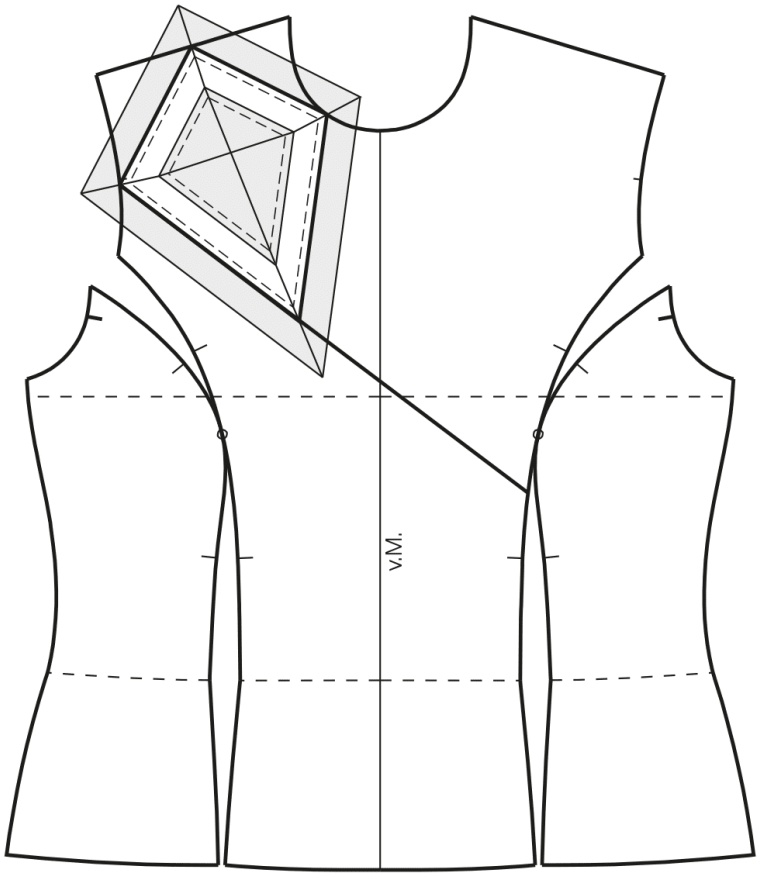


The wave jacket shows a fall of the sleeve which is usually only found in a set-in sleeve. Although no armhole is visible and the boundaries between bodice and sleeves have been obliterated, the fit of the basic block is retained.

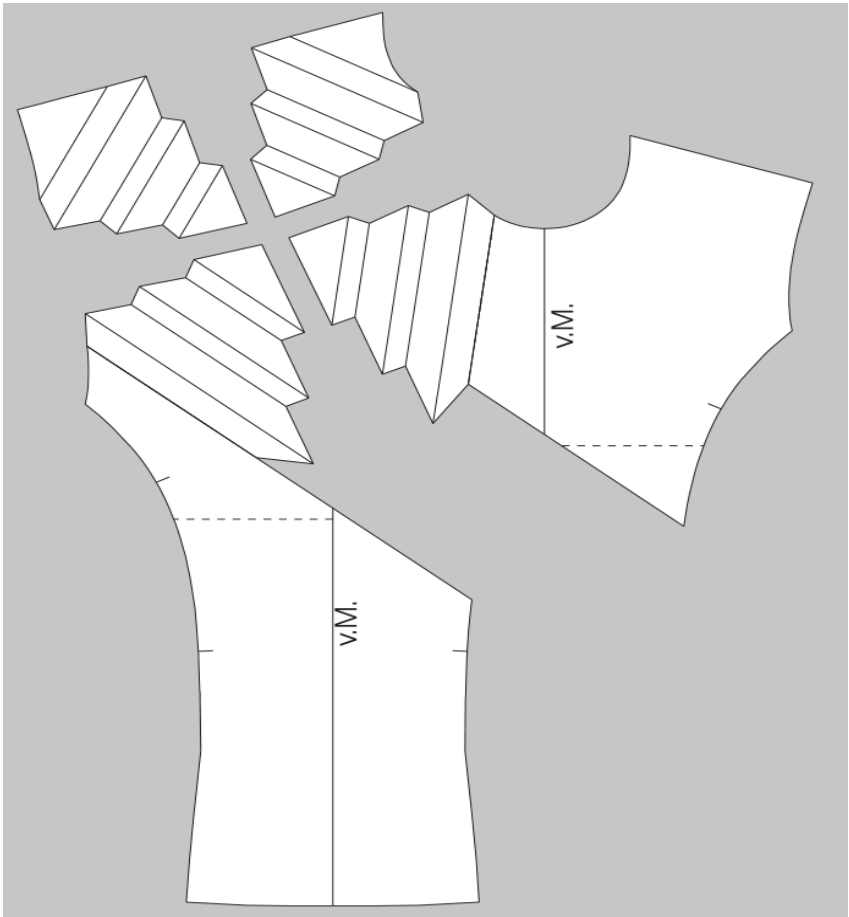
Geometric Constructions Origami Technique

Shingo Sato's draping techniques can be implemented for flat patternmaking and even for computer aided patternmaking. The Origami folding method is an excellent example for creating geometric constructions.

Design



Final Pattern Pieces



**Accordion Collar**

The accordion collar is another example of the Japanese art of Origami, applied to pattern design for clothing. Not only do the many layers of the accordion collar resemble a Victorian collar, but they have another particularly refined effect. The accordion collar itself, as the name implies, can be pulled over the head and worn as a hood.

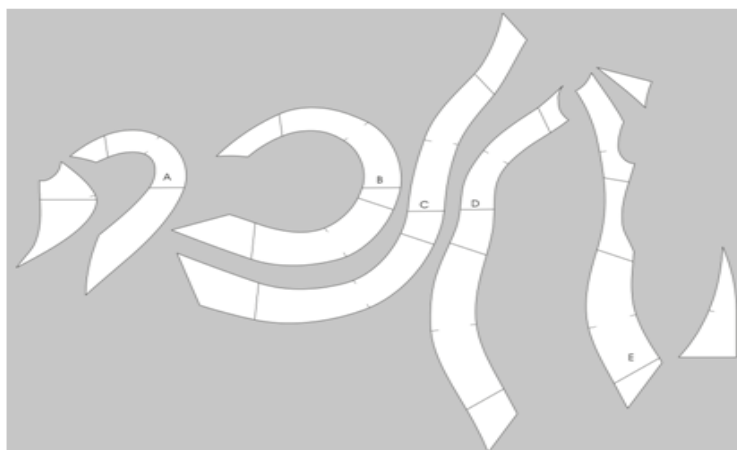
Finished Pattern Pieces

Copy the collar and raise the collar slightly at the centre back. Blend the seamline and trace 8 to 10 copies of the collar pattern depending on material and preference. Slash and spread the collar pattern twice and repeat this for every layer. Spread each layer a bit more for enough roll width at the outside.

Sew the collar pieces together alternately at the outer and the inner edge for the accordion effect. The inside layers can also be cut smaller than the outside layer which affects the depth of the accordion fold. Adjust the depth of the accordion fold depending on material and preference.



Geometric Constructions Balloon Technique



Another three dimensional effect can be achieved with the balloon technique. Here, the silhouette of the design is broken up by additional fullness. The balloon insets seem to grow out of the garment without any visible ruffles at the seams.

Finished Pattern Pieces

Copy all pattern pieces. Prepare each strip as shown and replace the grey areas with the extended pieces of the balloon. Close the side darts and blend all seam-lines. Mark the matching notches.

My Perception

TR-cutting is a process of cutting and draping fabric in 3d on a dress form. TR-Cutting was created by Shingo Sato who created a lot of unique technic that was interesting.

I was excited about this project because I got to learn something new that I never even know how to do it. I got to experiment several technic. -VidyaVivek



Concept creation

Subtraction Cutting by –Prof. Julian Roberts



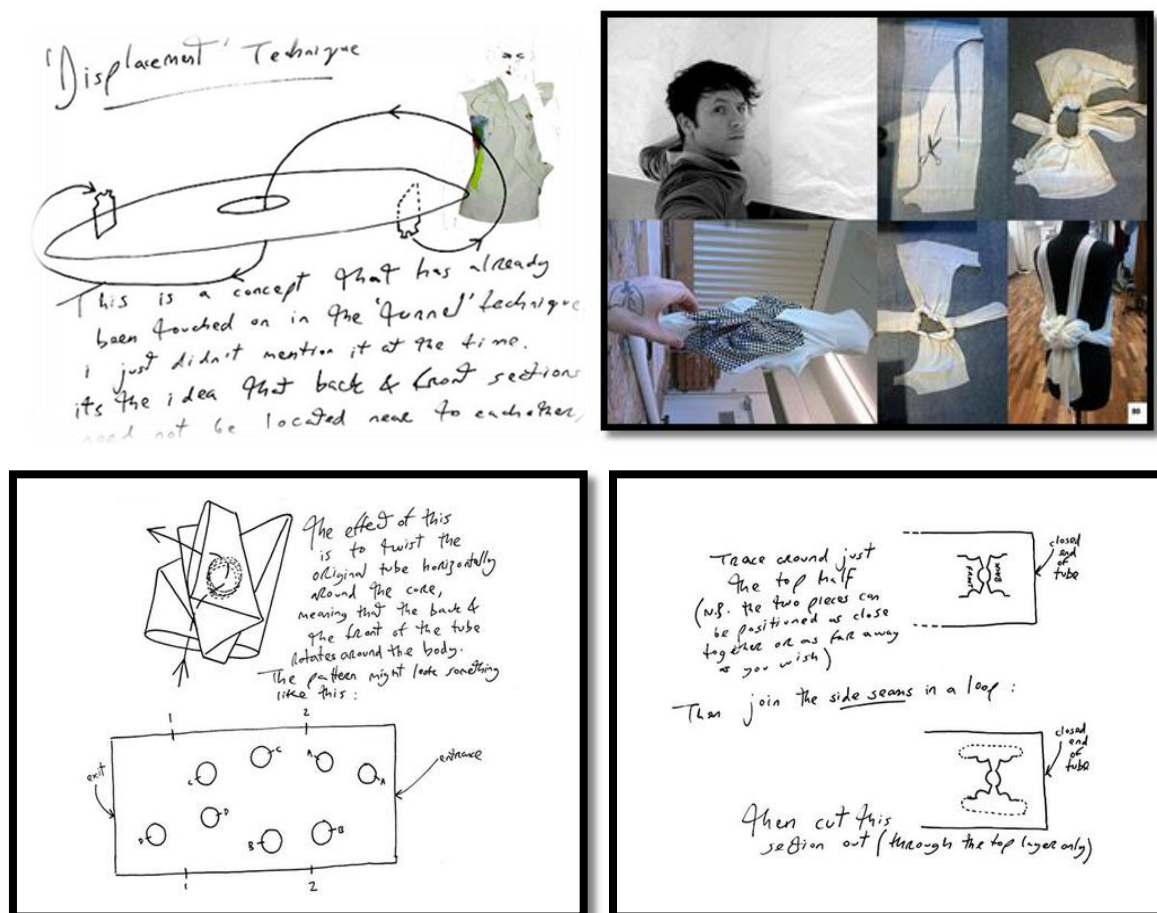
'Subtraction Cutting' is the name given to an experimental method of hollow construction developed by fashion designer and academic Julian Roberts, taught by him at universities worldwide since 1998. These unusual techniques and methodologies have been made freely available online since 2001, and can be used diversely to make mens and womens fashion garments, accessories, and hollow interior/exterior products. Julian has led energetic Subtraction Cutting master-classes in over 36 countries including the United Kingdom, Canada, Mexico, Australia, USA, India, Russia, China, Japan, Brazil, New Zealand, Spain, Portugal, Italy, Austria, Denmark, Sweden, Germany, Holland, Nigeria, Hong Kong, Malaysia, Chile, Colombia, Tasmania, Romania, Peru, Argentina, Poland, Slovenia, Vietnam, Georgia, Lebanon and France.

There are no step by step guides or Lessons, I want to trip you and make your own mistakes. –Julian Roberts

Many garments are created from flat pattern making methods, or from drape methods, but a method of “hollow construction” has been created by fashion designer Julian Roberts». This pattern cutting technique known as “Subtraction Cutting” makes the most of the negative spaces that can be opened up in fabric and falls somewhere between traditional pattern making and drape resulting in experimental garments that break the boundaries of the usual garment shapes.

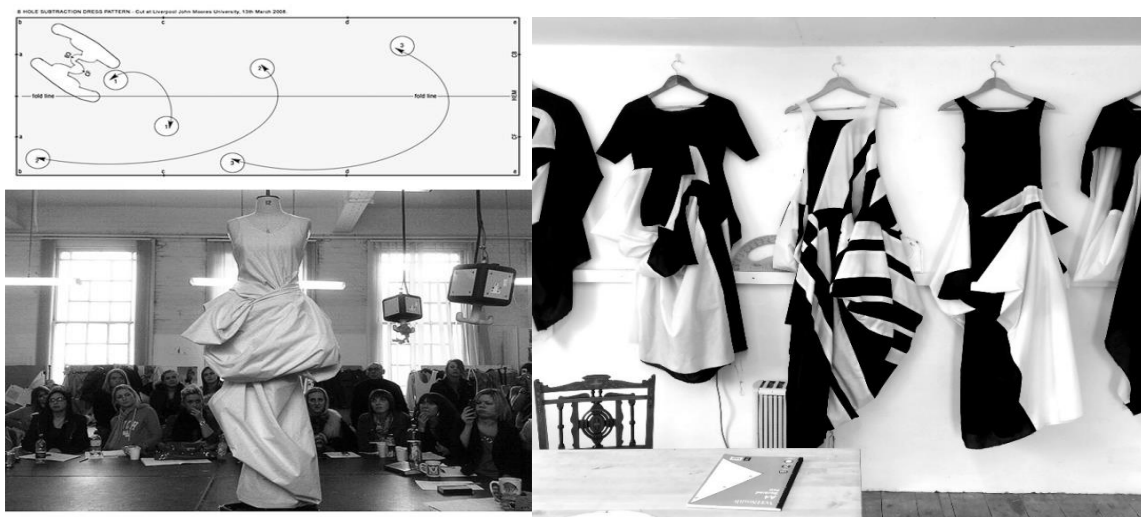
Potential for these processes to be combined with traditional pattern cutting and drape techniques to achieve really beautiful results.

Isometric top view Pattern Concept where fabric cut away circles are usual used for finishing and surface embellishments



“Subtraction cutting is DESIGNING WITH PATTERNS, rather than creating patterns with designs”

The resulting garments make the most of the volume of the fabric and often look incredibly complex. Individual garments are often very reminiscent of the work of Japanese designers such as Rei Kawakubo and Yohji Yamamoto and can also often be worn in more than one way, using the placement of your body and limbs to change the shape of the garment.



There is huge potential for these processes to be combined with traditional pattern cutting and drape techniques to achieve really beautiful results. Below is just a single page taken from the book where you can see the forms of traditional bodice blocks have been used to help to create the holes in the fabric.



Feel free to distribute and share the book with other people that you think will be interested in this technique, as Julian is generously offering it for free, and with no copyright restrictions on reproductions.

Visit Julian's website: <https://www.julianand.com/>

CONCLUSION

Creative pattern making is the technique of developing both flat patterns and draped patterns in a more creative way. Rather than following step by step instructions, a creative pattern cutter will experiment with flat pattern cutting and draping to create a unique and creative pattern.

Having the fundamental of patternmaking is the strong base for any creativity. We can only think of innovation and experimentation when we keep our foundation strong and constant practice is the key for development with exploration on endless possibilities'.

A STUDY ON THE TEACHERS' PERCEPTION TOWARDS HYBRID-FLEXIBLE (HY-FLEX) TEACHING

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ABSTRACT

In this paper, researchers examine the perception of faculty using Hybrid Flexible (Hy-Flex) mode of teaching. *Hy-Flex combines the term 'hybrid' and 'flexible'. Hybrid is an approach which combines both online and face-to-face (F2F) teaching and learning activities. Flexible is where students are given a choice to attend the class F2F or online. The paper discusses the various aspect related to teacher preparedness, interaction with students and evaluation strategies. The researchers have adopted a descriptive method to study the perceptions of teachers towards Hy-Flex mode. The sample consisted of 53 teachers from different sectors of education ranging from primary to post graduate level. The analysis was carried out using questionnaire for teachers. Results show that there is a significant difference in teachers' perception towards Hy-Flex teaching with respect to the years of experience and teaching sector. However, with respect to evaluation strategies there is no significant difference in teachers' perception towards Hy-flex teaching. The data collected was analysed using ANOVA.*

Keywords Hybrid, Flexible, Hy-Flex, F2F, Perception of teachers, Online teaching, Students, Evaluation strategy, Teacher preparedness

INTRODUCTION

The current prevailing unprecedented situation caused due to Coronavirus (COVID-19) has changed how students are educated around the world. The world was forced to stop every activity such as gathering, travelling, events etc. as the threat of the virus was spreading which also impacted the educational sectors across the globe. One of the greatest challenges faced by this sector was the rapid shift of face-to-face (F2F) to online teaching and virtual education overnight. Various institutions were deprived of essential support services and technological advancements to cope up with the changing scenario. Additionally, many faculty lack the ability to teach online and in the classroom. These challenges can affect various aspects of education which may include student-teacher relationship which has been crucial for student's social development and success.

The changed conditions forced by the pandemic made every institution move online to ensure that students can continue their education. The shift from F2F to online has been a challenging changeover and the success depended on the instructors having the knowledge, skills, and competence for online learning. Online teaching and learning have a fair number of advantages such as exposure to educational environments, better learning opportunities and flexibility, and easy accessibility to resource person (Butnaru, G.I et al, 2021). Although online learning is convenient and flexible, it is not easy for all learners to feel comfortable when participating in discussion. As described by Garrison (2017), it can be difficult to maintain a 'presence' online. Furthermore, some students need personal contact with their educators. Though being online is the new reality, this can impact their social skills and mental health of both students and teachers.

Teaching and learning in today's era should be flexible to nurture the learners. The hybrid flexible or Hy-Flex, is one such approach that combines both F2F learning on campus and online sessions simultaneously. Hy implying Hybrid and Flex meaning flexible. Additionally, the students can access the recorded sessions asynchronous as and when needed. Originally envisioned by Brian Beatty and his colleagues at San Francisco State University, the Hyflex model has been used in teaching for over an era and combines face-to-face and online simultaneously (Beatty, 2019).

The objective of this study is to understand the perception of teachers' towards Hy-Flex teaching, preparedness, teachers' perception of student involvement and the effectiveness of evaluation strategies used by teachers in a Hy-Flex teaching environment at education institutions. Additionally, to further understand if this environment better meets the needs of learners in various sectors of education.

OBJECTIVES OF THE STUDY

1. To find out the teachers' perception towards Hy-Flex teaching
2. To find out teachers' perception towards Hy-Flex Teaching with respect to

a. Years of Experience

b. Teaching Sector

3. To find out the level of teachers' preparedness towards Hy-Flex teaching
4. To find out the level of teacher s' preparedness towards Hy-Flex teaching with respect to

a. Years of Experience**b. Teaching Sector**

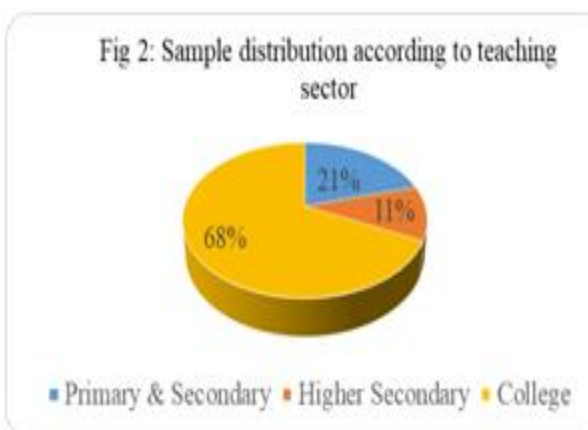
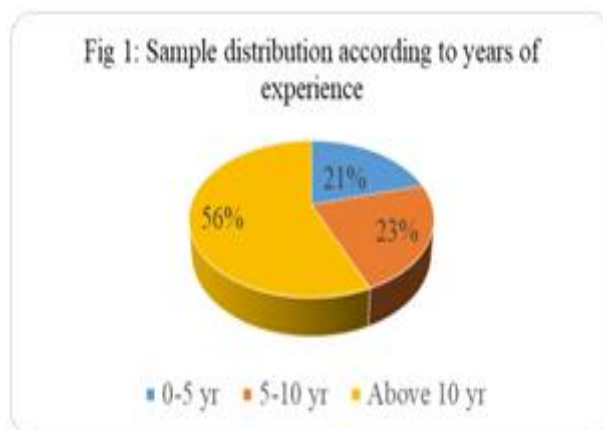
5. To find out the teachers' perception of students' involvement in Hy-Flex teaching
6. To find out the teachers' perception of students' involvement in Hy-Flex teaching with respect to

a. Years of Experience**b. Teaching Sector**

7. To find out the effectiveness of evaluation strategies used by teachers in Hy-Flex teaching
8. To find out the effectiveness of evaluation strategies used by teachers in Hy-Flex teaching with respect to

a. Years of Experience**b. Teaching Sector****METHODOLOGY**

The researchers have adopted a descriptive method to study the perceptions of teachers towards Hy-Flex teaching. The researchers have used a random sampling method. The sample consisted of 53 teachers from different sectors of education ranging from primary to post graduate level. The respondents were from both the Sultanate of Oman and India. A researcher made questionnaire was used in the study. The questionnaire aimed to find out the teacher's perception regarding the Hy-Flex mode of teaching. The questionnaire included statements related to teacher preparedness, interaction with students and evaluation strategies. Both positive and negative statements were used; the scoring was done using a five-point Likert Scale. In addition to this, details of personal information age, years of experience and teaching sector was also collected. The demographic representation is shown in below Fig. 1 & Fig. 2. The data collected was compiled and analysed statistically using ANOVA.

**RESULTS**

The data showed that teachers had varied perceptions about Hy-Flex teaching. As shown below in Fig. 3, 21% showed poor perception whereas 41% of teachers showed average and 38% showed high level of perception towards Hy-flex teaching. With respect to teacher preparedness as in Fig. 4 only 17% of teachers showed poor preparedness whereas 51% teachers showed average preparedness and 32% showed high level of preparedness towards this mode of teaching. As illustrated in Fig. 5 teachers' perception towards student involvement showed 25% of teachers had poor perception, whereas 47% had average and 28% showed high perception about students' involvement in this approach. Teachers' perception on effectiveness of evaluation strategies varied with 33% showing poor perception, 35% showing average and 32% showing high level of effectiveness while using the Hy-Flex mode as given in Fig. 6.

Fig 3: Sample distribution according to teacher's perception towards Hy-Flex teaching



Fig 4: Sample distribution according to teacher preparedness towards Hy-Flex teaching

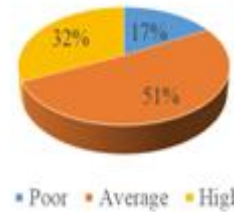


Fig 5: Sample distribution according to teachers' perception of students' involvement in Hy-Flex teaching

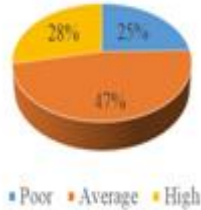


Fig 6: Sample distribution according to effectiveness of evaluation strategies used by teachers in Hy-Flex teaching



The difference in Mean scores of different categories were tested for significance using ANOVA and the results are summarised in Table 1.

Table 1: Results of ANOVA

Sl. No	Objective	F value	p value	S / NS
1	Teachers' perceptions towards Hy-Flex teaching	117.62	0.000	S
2	Teachers' perceptions towards Hy-Flex teaching with respect to years of experience	6.02	0.003	S
3	Teachers' perceptions towards Hy-Flex teaching with respect to teaching sector	3.47	0.04	S
4	Level of teachers' preparedness towards Hy-Flex teaching	173.23	0.000	S
5	Level of teachers' preparedness towards Hy-Flex teaching with respect to years of experience	8.02	0.001	S
6	Level of teachers' preparedness towards Hy-Flex teaching with respect to teaching sector	4.79	0.012	S
7	Teachers' perception of students' involvement in Hy-Flex teaching	144.23	0.000	S
8	Teachers' perception of students' involvement in Hy-Flex teaching with respect to years of experience	6.32	0.004	S
9	Teachers' perception of students' involvement in Hy-Flex teaching with respect to teaching sector	3.24	0.04	S
10	Effectiveness of evaluation strategies used by teachers in Hy-Flex teaching	140.07	0.000	S
11	Effectiveness of evaluation strategies used by teachers in Hy-Flex teaching with respect to years of experience	1.15	0.32	NS
12	Effectiveness of evaluation strategies used by teachers in Hy-Flex teaching with respect to teaching sector	0.25	0.78	NS

F critical = 3.18

$p > 0.01$ – NS, $p < 0.01$ – S

From the above results it was evident that teachers had high level of perception towards Hy-Flex teaching (F value = 117.62**, $p < 0.01$). The high level of perception towards Hy-Flex teaching was exhibited by teachers with respect to years of teaching (F=6.02**, $p < 0.01$) and teaching sector (F=3.47**, $p < 0.01$).

The research also indicated that teacher preparedness towards implementation of Hy-Flex teaching was also high among teachers (F =173.23**, $p < 0.01$). High level of teacher preparedness towards Hy-Flex teaching was

also shown by teachers with respect to years of teaching ($F=8.02^{**}$, $p<0.01$) and teaching sector ($F=4.79^{**}$, $p<0.01$).

Regarding teachers' perception about students' involvement in Hy-Flex teaching was also high among the respondents ($F=144.23^{**}$, $p<0.01$). The same pattern was visible with respect to years of teaching ($F=6.32^{**}$, $p<0.01$) and teaching sector ($F=3.24^{*}$, $p<0.01$).

The results of the research indicated that perception about effectiveness of evaluation strategies were high among the teachers ($F=140.07^{**}$, $p<0.01$), whereas teachers' perception about effectiveness of evaluation strategies did not show a significance difference with respect to years of teaching ($F=1.15$, $p>0.05$) and teaching sector ($F=0.25$, $p>0.05$).

DISCUSSION

The goal of the present study highlights teachers' perceptions towards Hy-Flex teaching. To check the effectiveness a survey was conducted which involved 53 teachers from various sectors and years of experience. The authors focussed on the following points such as teacher preparedness, teachers' perception about student involvement and effectiveness of evaluation strategies.

It was evident that the teachers were well prepared with respect to the choice of learning resources, various learning experiences provided to students both online and F2F mode.

Regarding teachers' perception about student involvement, it can be concluded that students' interaction was smooth and uninterrupted, and they were given equal opportunities for interactions. However, the assessment strategies needed to be improvised for it to be more effective and efficient for both online and F2F learners.

CONCLUSION

As we are aware that the pandemic moved the education sector from a traditional F2F to virtual teaching, a little time was given to the teachers for this transition and those who were willing to acclimatize to the change were able to cope up with the new transformation. Previous experience and knowledge in online teaching can be seen as a positive attitude toward technology and forms a sense of efficiency (Bolliger et al., 2019; Muñoz Carril et al., 2013). Teachers in the current study were familiar with the online teaching which helped them to adapt the Hy-Flex mode without any hitches. Researchers suggest that for better preparedness institutions should encourage professional development relevant to the current changes so that teachers can become competent and develop their skills. Training sessions can be provided to students and teachers to make them familiar about LMS (Learning Management System). Additionally, teachers can be a part of various groups where teachers from different profiles can exchange their ideas. Working in such teams can potentially inspire and coach each other, share strategies and approaches, experiences, and learning (Downing & Dymont, 2013; Naylor & Nyanjom, 2020).

The current learners need a flexible learning environment. Hence this mode of teaching makes the student key decision makers and enables independent learning. Since the students can choose the mode of attendance they are involved in the class without any external push. Furthermore, the students who do not perform well in F2F class may perform better when the classes are online.

The academic performance of the student in the most critical element in education and the system revolves around the student performance (Rono, 2013). Students should be made aware and responsible about the need to participate in the traditional and other evaluation methods. It is important for institutions to rethink the assessment in favour of projects, discussions, polling, video presentation, seminars which are already a part of their learning. This will ensure equal opportunities are given to both F2F and online learners.

LIMITATIONS AND FUTURE RESEARCH

The study/research area was only limited to the Sultanate of Oman and India. It would be beneficial to have additional studies in this area that would investigate students' perception and students' performance using the model. Also, a future study can be done on the effectiveness of this approach on students with special needs.

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DEATH INSTINCT PORTRAYED IN MATT HAIG'S NOVEL THE MIDNIGHT LIBRARY**Shakil Shaikh**

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ABSTRACT

The novel, The Midnight Library published in 2020 by Matt Haig is one of the great novels of 21st century which deals with various themes like fantasy, quantum life, death instinct and feminist aspects. This article focuses on the theme of death instinct portrayed in this novel. For analysing this theme, the researcher applied the theory of Death Instinct by Sigmund Freud and the theories of death drive by Osho Rajnish and Lao Tze. While exposing the theme of death instinct, analytical and explanatory methods have been applied. The main objective of this research paper is to show how death instinct plays major role in the lives of human beings, particularly in the life of Nora Seed, a protagonist of the novel. Sigmund Freud's theory of Death Instinct from psychoanalysis and Osho Rajneesh and Lao Tze's theories of Death Drive from the philosophy of spiritualism became fundamental theories to reach to the depth of the protagonist's mind where the protagonist Nora Seed always thinks to commit suicide. As the Death Instinct is dominant in her, this article focuses on the reasons and her ways to face the dominance of Death Instinct and at last how she overcomes to the death instinct with the help of 'life instinct' and 'life force'.

Keywords: Death Instinct, life instinct, Sigmund Freud, Osho Rajnish, Lao Tze etc.

DEATH INSTINCT PORTRAYED IN MATT HAIG'S NOVEL THE MIDNIGHT LIBRARY

The novel, *The Midnight Library* by Matt Haig exposes the journey of the protagonist, Nora Seed from the strong influence of death instinct to creation of life force. At the beginning of the novel, it is exposed that Nora Seed is eager to disappear from the platform of the world because she is not happy in her current life. When she visits to the midnight library, she comes to know the infinite possibilities of life and then, tries to check which of the lives can be suitable for her so that she may prevent herself from committing suicide. The novel is nothing but the mental journey of the protagonist; sometimes it leads to the fantasy, sometimes it leads to the destruction, sometime it leads to the hope of life and sometime it leads to the quantum philosophy. In this way, the novel is full of suspense, fantasy and hopes of future possibilities. While discussing the death instinct, the researcher attempted to apply two theories by two different branches of knowledge; particularly one is from psycho analysis by Sigmund Freud and other is from spiritual world by Osho and Lao Tze. Before going to initiate the discussion how the Death Instinct plays important role in the life of Nora Seed, it would be better to focus on the theories of Death Instinct by Sigmund Freud, and Death Drive by Osho and Lao Tze.

There are hundreds of the writers in the world who talked about death; they imagined about the picture of the death but there are only few critics and thinkers who talked about death in detail. There are very few thinkers like Osho Rajnish, Sigmund Freud and Lao Tze who talked about death and its value in the lives of human beings. At the beginning, it would be better to focus on the theory of Sigmund Freud about the Death Instinct. Sigmund Freud was one of the great thinkers of 20th century who exposed the journey of human beings which is made with Life Instinct and Death Instinct. He tried to bring lot of changes in the psychoanalytical field. According to him, there is similarity between Ego and Death Instinct and at the same time, Superego and Life Instinct. In his book, *Beyond the Pleasure Principle* published in 1920, Freud concluded that all instincts fall into one of two major classes: life drives or death drives. When there is an imbalance between these two instincts, the dominance of life instinct leads to find out the mysterious secrets of life while the dominance of death instinct leads to embrace death. Such man of imbalance either runs after in finding the secrets of life or tries to commit suicide. He says: 'The very emphasis of the commandment: Thou shalt not kill, makes it certain that we are descended from an endlessly long chain of generations of murderers, whose love of murder was in their blood as it is perhaps also in ours.' (Freud, 145)

Sigmund Freud tries to put up some scientific theories about the imbalance of life instinct and death instinct. Generally, it happens in the lives of every human being when he or she crosses sixteen. The child begins his journey of life it is in mother's womb. It enjoys all aspects of life before crossing sixteen. There is no death instinct at all till sixteen. Though the seed of death instinct comes with the life, it just lies silently in child's subconscious mind. As soon as it crosses sixteen, many physical and mental changes start to take place in it. When any boy or girl begins to experience some abnormal physical and mental changes in them, the seed of death instinct splits and sprouts. The growth particularly in genitals pours water to death instinct after the age of sixteen. Physical and mental desires become stronger than previous. The storm of seeing mysterious dreams and following passion and lust begins in the same age. When he or she is unable to fulfil any kind of inner desires,

the plant of dejection or depression begins to grow slowly. Such person runs after the pleasure of the life but he can't fulfil due to social pattern.

Freud further says that when human beings turn sixteen, life instinct and death instinct begin to grow up simultaneously. If somebody is inherited with the strong life instinct, he may or she may try to find out the life in anything; on the other hand, if somebody inherits death instinct, he or she may find out the death in anything. If there is a balance of life and death Instinct in human beings, they can lead life as common human beings. If their thoughts of death are more prominent, according to Freud, they cannot lead life happily. When death instincts are dominant, they drag to the human beings to the valley of the depression and due to the depression man likes to embrace to the death. Generally man is made for happiness but happiness is rare moment in his life. He doesn't expect the sorrow but sorrow always follows him. According to Freud, if human beings expect sorrows, they might be followed by the happiness and the life's strength will be more dominant.

Death plays most important role in the lives of all human beings. If the Death Instinct is strong, man begins his journey to commit suicide. Generally the death Instinct is very strong between sixteen and forty five. After 45, the influence of Death Instinct decreases and again the Life Instinct turns to be stronger than the death instinct. That is why, in one of the surveys, it is found that the people after 45 do not prefer to die without any cause or they do not commit suicide. The people committing suicide are only between 16 and 45 because death Instinct is at higher level in this age. Freud thinks if anybody wants to get relieved from the Death Instant, he should understand the process of the death and try to embrace to the journey of life.

The other tinkers and philosophers also tried to talk about the difference between life and death. Among them, the contribution of Lao Tze is most remarkable. He was an ancient Chinese philosopher and the reputed author of the Tao Te Ching. Even he was the founder of philosophical Taoism, and a deity in religious Taoism and traditional Chinese religions. He is considered as a semi-legendary figure. He is usually considered as a 6th century BC philosopher and spiritualist. He is portrayed as a central figure in Chinese culture. He is claimed by the emperors of the Tang dynasty, even the modern people of the Li surname suppose him as a founder of their lineage. His work has been embraced by anti-authoritarian movements sometimes by Chinese Legalism. Lao Tze's emphasis was on the celebration of life. He attempted to celebrate the importance of life and concentrated on the journey to the death. He says: 'When you realize where you come from, you naturally become tolerant, amused, kindhearted as a grandmother, and dignified as a king. Immersed in wonder, you can deal with whatever life brings you, and when death comes, you are ready.' (Lao Tze, 122)

According to Lao Tze, human beings try to disconnect the link between life and death, and then travel to the fulfillment of the desires which leads them to the valley of the death. He suggests some spiritual ways to look at the seriousness of the life. He finds that life is like a ship in the mid ocean and its wants to reach to its shore. To complete this campaign, he should attempt to find out the proper direction.

If the captain of the ship tries to handle the direction properly, then there is a possibility of reaching the ship to the shore. But if the captain is engaged in some nonsense works, there is little possibility of the ship to reach to the shore. Even there is a big possibility of drowning the ship. Lao Tze says that the drive of life is nothing but the way of captain's thinking about the life. He should think properly about his the life and try to lead the ship to the proper direction, then and then, there is a possibility of reaching ship to the shore. There is less important to the Death Drive in the philosophy of Lao Tze because he only talks about the imminent values of life. He talks about some rituals to be done after the death because he thought that some spirits and monsters lie in the body and when body decays or starts to decay, it means the spirit or the monster left the body. After leaving the body by spirits, nothing remains, only the corpse remains, which is going to turn either into the ash or soil in a short time. The thoughts about life and death by Lao Tze are enough important to discuss the Death Drive of Nora Seed in the novel, *The Midnight Library*. The ideas and thoughts shared by Lao Tze in his writing connect to the mind of Nora Seed, the way of her life is nothing but the search of the life which will be the complete life. Lao Tze suggests the way to make life's completion by being conscious in the presence.

The third thinker and spiritualist the researcher applied for this research paper is Osho Rajneesh who attempted to make a clear picture between the life and death. He was an Indian mystic, and founder of the Rajneesh movement. During his lifetime, he was considered as a leader of controversial religious views and even he was known as a mystic Guru. He didn't prefer institutional religions. His concentration on free thought, meditation, mindfulness, love, celebration, courage, and creativity opened the new doors of religious interpretations. It seems that he viewed as being concealed by devotion to static belief systems, religious dogmas and traditions, and socialization. He advocated a more open attitude to human sexuality which caused controversy in India during the late 1960s. He was very positive about the instincts of life. He always tried to concentrate on the

distance between life and death. He thought that life is like a river of flowing water; one cannot catch it into the pinch, it should be a continue process. It should not stop anywhere. It should go on. If anybody tries to stop the flowing water, it means, he is trying to stop the flow of the life.

Both Osho Rajneesh and Lao Tze were talking about the flow of the life which at last meet to the death of ocean and that death is not a death at all; it is the entry into the new life. Osho thinks about life which in nothing but a ceremony. He suggests that human beings should catch up the every moment of the life. He shares one incident in his life, the incident of the death of his father. When his father was suffering from the cancer, he tried to take him to the doctor and at last when he came to know that it is impossible to keep his father into the same flow of the life, he brought him back and allowed him to die. He wanted his father to look at the death consciously which was coming slowly. He suggested a beautiful way of meditation to catch the beauty of the life. Almost 2,000 years ago, the Indian philosophy and spiritualism tried to expose the secrets of the lives hidden in the natural death. Rajnish also attempted to expose the same secrets of the life. Osho's thought on death is really remarkable: 'Death is not the end, but the beginning of a new life. Yes, it is an end of something that is already dead. It is also a crescendo of what we call life, although very few know what life is. They live, but they live in such ignorance that they never encounter their own life. And it is impossible for these people to know their own death, because death is the ultimate experience of this life, and the beginning experience of another. Death is the door between two lives; one is left behind, one is waiting ahead.' (Osho, 327)

Sigmund Freud, Osho Rajneesh and Lao Tze concentrate on the Life Instinct which leads human beings to live the life the odour of newly blossomed flower. They promote to search the beauty in the life and to voyage to the sublimity of the life. But it is a man who always tries to make the imbalance between the Life Instinct and Death Instinct. When there is a big distance between the life drive and a death drive then man prefers to commit suicide. Osho pointed out in his one of the books named, *The Art of Dying* in which he focused on how human beings try to catch the things around them and promote to increase the influence of death drives. He suggested some beautiful ways to keep human beings away from all such types of things which may promote to the Death Drive. The contribution of these three masters in the ground of life and death is really remarkable in balancing life and death instincts. Though their ways are different from each other, they focus on Life and Death Instincts equally.

Osho's book, *The Art of Dying* is milestone in the field of spirituality. He focuses on how death is important in the life and how we should welcome to the death. But he comments on the people who try to embrace death immaturely. He attacks on those people who lose the beauty of life and try to finish their life in hesitation. Those people who don't understand the enlightenment, purity and beauty of the life, they are unable to enjoy the death which is the entrance of the new life. If your life is beautiful and at the same time your mind is beautiful at the time of the death, you can enter the beautiful life. Osho asks everybody to keep themselves away from the fear of death as it prevents from entering the new and enlightened life. In the same sense, Haig points out: 'Fear was when you wandered into a cellar and worried that the door would close shut. Despair was when the door closed and locked behind you.' (Haig, 125) His contribution in designing ways of life and death is most remarkable as he talks a lot about the enlightened ways of life and spiritual ways of the death. He concentrates on present life and welcomes to the death because he wants to be the part of the permanent life. In this way, Osho and Lao Tze talk about the permanent life by welcoming death but both of them opposed to the premature death. It means they neither neglect the treasure of life nor the beauty of death.

The novelist, Matt Haig in his Novel, *The Midnight Library* creates such a character, Nora Seed who always thinks to die. The reader finds the complexity in the character at one end and the strong influence of Death Instinct on the other. The character of Nora Seed seems that she is following the Death Instinct seriously. When novel develops, we come to know that there is a mystery in her nature to look at the life and her intimacy about the life makes her to destroy her present life. As she is not happy in her current life, she tries to commit suicide but her meetings with infinite possibilities of life controls on death instinct and at last life Instinct becomes dominant hence she at the end of the novel, succeeds to prevent herself from death.

While focusing on the novel, *The Midnight Library* through the dominating Death Drive, it would be better to compare the protagonist of the novel, Nora Seed with other well known protagonists of classical works, particularly Shakespeare's Ophelia in the play *Hamlet* and Sophocles' Antigone in *Antigone*. These heroines embrace to the death as they fail to balance the life and death Instinct in their individual and social life. The character of Antigone is a symbol of the tension between individual action and fate. She loves her brother, Eteocles a lot, and wants to bury his corpse with all rituals. But the king, Creon was not ready to offer the rituals because he had committed a crime against the kingdom. Here it seems the strong feelings of Antigone for her brother to offer the death rituals. She knows that if Creon comes to know who committed crime of performing

the rituals, he or she may get the punishment of death. As the Death Instinct became strong in her, she doesn't get afraid to die. She thinks that there is no life to live without her brother and even she thinks that he should enter to the new life and it is possible only after offering his corpse the proper death ritual. It was said if anybody is offered the final rituals according to the suggestion of religion, he or she may go to heaven. For the same thing, she tried to go against her uncle, Creon the present king of Thebes and offered the ritual which led her to the sentence of death.

In Shakespeare's *Hamlet* the character of Ophelia also suffers from the powerful death Instinct. When she comes to know that her lover Hamlet doesn't love her, she doesn't find any other way of life; so she prefers to die by drowning herself. When she observed Hamlet was not interested in her and even she found that he is more close to his mother than her, she is unable to break the bond between a mother and son. At last, the death Instinct became more powerful and led her to the death. The death of Antigone and Ophelia are the symbols of the strong Death Instincts which developed slowly in their subconscious mind. In the novel, *The Midnight Library* such instinct of death was developing in Nora Seed but when she found the infinite possibilities of the life, the instinct of life began to grow along with the death instinct.

As a protagonist of the novel, Nora Seed feels sorry about herself because she is not confirm about the success of current life because she finds that her present life is nothing but the chain of the failures and depression. She finds that nothing happens which she expects and whatever she expects is not visited to her. She tries to face various personal and social issues in her current boring life. She has a lot of issues to be pessimistic as her brother doesn't love her, her parents are far away from her, neither can she love her mother or father because she is engaged in her private issues. Though she feels affinity about them, she cannot do anything for them. When she comes to know that her father divorced her mother, she gets afraid if the same happens with her in her current life. So she tries to be conscious from any relationship. She doesn't want to develop any relationship with any person though she prefers some man around her. She thinks:

And that sadness is intrinsically part of the fabric of happiness. You can't have one without the other. Of course, they come in different degrees and quantities. But there is no life where you can be in a state of sheer happiness forever. And imagining there is just breeds more unhappiness in the life you're in. (Haig, 216)

Unfortunately none of them come in her company and neither of them is ready to accept her as a wife. When she decides to commit suicide, she visits to the midnight library, where she finds the books of regrets and when she regrets on her current life, she becomes free from the burden of death instinct. It means botheration of Death Instinct is released due to the regression. She finds the best way to expose the sorrow and get relief from it. Though her current life is not so much smeared with such problems which may lead her to the failure, her thoughts lay in the subconscious mind lead her to make the thoughts of committing suicide stronger. As the novel opens, the readers find Nora trying committee suicide. But as the novel develops, and Nora comes in the contact of the books in the midnight library, she slowly and steadily develops the life force and then she gets out from the clutch of the death instinct.

Nora comes across with lot of possible lives and checks which life can be suitable for her. She wants to enter the life where she can be happy. She travels from the current life to such life which may give her more pleasure and satisfaction. She finds in one of the possible lives that she became the speaker and singer; hundreds of the people have gathered to listen to her and she has ability to attract the minds of the people. It was such a lovely moment for her for which she was waiting for a long time but when she thinks about this life, she passes through some inner complexity and tension because she had a shy nature in the current life. She doesn't prefer this life; then she likes to be glaciologist. She visits to one of the islands where she meets with snow bear and a shocking incident takes place with her where there was the possibility of the death because there was possibility of death as the snow bear may kill her for its food. One more life which she liked most, in which Dan was her husband; she had a daughter and she was living very happy life with Dan. She says:

If you aim to be something you are not, you will always fail. Aim to be you. Aim to look and act and think like you. Aim to be the truest version of you. Embrace that you-ness. Endorse it. Love it. Work hard at it. And don't give a second thought when people mock it or ridicule it. Most gossip is envy in disguise. (Haig,133)

Actually the character Dan is from her real life and she expects to get married. When she goes into the possibilities of infinite lives, she meets all those characters in different lives from the current life. So she dreams to have this life as a current life and she doesn't want to get out from this life. Unfortunately, she was thrown back into her current life by her small mistake. She couldn't stay longer in the life where she was happy. It means the power of death Instinct dragged her back from that happy life to the current life. She becomes very

regretful to the present life. The dream of being happy woman in particular life destroyed due to the powerful death instinct.

With the opening of the novel, Nora comes to know from Dan that her cat named Socrates died due to the dash of a car. She feels very sorry on about the death of her favourite cat but the same cat she found in her many of the possible lives. In her one of the lives, she comes across with a dog which was her favourite dog. In one of her possible lives, she has different favourite animals but the shock which is she experienced in her current life due to the death of her cat became more mournful. She compares herself with cat and thinks that whatever is favourite of her, all the things are being snatched from her. She tries to find out the causes of happening with her but she is unable. Here we can just connect the mental situation which was discussed by Freud that whatever she expects the same thing happens. Osho and Lao Tzey also attempted to focus on the condition of human mind. When somebody expects something and wants not to lose it, it means at the bottom of subconscious mind, he wants to lose it and it happens. Here the theories by Freud, Osho and Lao Tze are more applicable to the condition of Nora's mind because whatever Nora thinks which should not happen with her, it happens with her. Here it is clearly notified that she wants happen all these things with her and she wants to be free from all type of materialist world so that happiness may come to her. Even she wants to make her free in her present life by committing suicide. Here the death instinct plays a positive role by which she can be freed from the current life which she feels very negligible and tiresome. She even doesn't prefer the death of the cat, it means in her many lives she had lost all these things and this life will not be just the exceptional case because she has to lose all these things anyhow and if she knows that she has to lose all these things how can she show her right on the things which are decided by the destiny. So the role of destiny is remarkable because the things either in the possible lives or in current life will happen definitely. They have been supposed or decided by the destiny. Destiny and death instinct are two wheels of a chariot. They go side by side; destiny cooperates the death instinct and death instinct cooperates the destiny and with their dominance in the human life, man remains a puppet in the hand of mysterious power.

The role of parents is most important in the lives of children. Nora missed the company of her parents because when she was just 13 years old, she lost the love of mother as her father divorced her mother and since then she began to live with her father. Her brother was living with her mother; so she missed to observe the unity of the family in her entire life. She became nervous to see the life of her father and mother. There was nobody in their life to support them. Father was expecting to support him from some other women whom he was in their love and mother was alone, neither expecting anything or any more from anybody. Such type of life she had experienced when she was a child in her current life. So the childhood things which she experienced became more dominant in her present life and those things caused to split the speed of death instinct as soon as she became sixteen years old. She decided to wind up her life because she thought that there is nothing remained in this life. If she wants to leave the same life, she needs something magical, possible and surprising things to take place but nothing happens. This circumstance leads her to be more conscious about the death. In the company of Mrs Elms, she goes through the books of regret. She says: 'Librarians have knowledge. They guide you to the right books. The right words. They find the best places. Like soul-enhanced search engines.' (Haig, 215) She finished all the books of regret and then she picks up one beautiful book which is a book of her expected life, where she was not only happy but all things were properly exposed. Her parents were together; her brother was in the good company of her and everything was nice in her life. She wanted the same life to be continued but as in her current life, the death instinct was more prominent, she was thrown out from the company of the lovely parents and her only brother. There are many causes which take place in her current life for making the death instinct stronger and only few things like the company of Mrs Elms and the books in the midnight library create the life force. The duel between the life force and death instinct leads her to be the silent observer and at last she comes to know that she can win the life by overcoming all the sorrows and complexities of the life.

The title of the novel is a symbolic one. The midnight library represents the meaning of the life that life is nothing but filled with darkness of the midnight and in that midnight only the books available in the form of experience available at the subconscious mind can be the guides in an untrodden ways of life. The symbolic meaning of the library and the books in the library expose that man doesn't need anything; he just needs to get into the library of his subconscious mind where he will find thousands of the books which are in the form of the infinite possible lives. Human beings have to select any one of the lives and lead the life. It is a man who is responsible for his current life because he gets the chance to select the life through the books in the midnight library. The following quote discloses Nora's inner mind.

Of course, we can't visit every place or meet every person or do every job, yet most of what we'd feel in any life is still available. We don't have to play every game to know what winning feels like. We don't have to hear

every piece of music in the world to understand music. We don't have to have tried every variety of grape from every vineyard to know the pleasure of wine. Love and laughter and fear and pain are universal currencies. We just have to close our eyes and savour the taste of the drink in front of us and listen to the song as it plays. We are as completely and utterly alive as we are in any other life and have access to the same emotional spectrum. (Haig, 95)

It's really awesome but the man due to his greedy nature and uncontrolled mind embraces to the dejection and depression, and invites an anxiety. The depression, anxiety and dissatisfaction of the life are the elements which cause to increase the tree of death instinct. The spiritualists like Osho and Lao Tze expose a remedy on it by providing the best solution of meditation. Nora is far away from the idea of meditation because in the entire novel, the writer didn't mention the word meditation but the symbolical meaning of the title of the novel exposes that the midnight is a proper time to read the books which are hidden in the subconscious mind, which can be the bearers of the torch to vanish the darkness of the life. The writer indirectly suggests the readers to spend their time of midnight in the meditation so that they can definitely find out the secrets of the life.

CONCLUSION

The novel focuses on various issues of the life through the library of midnight. The word library is used as a symbol; it is really approaching word which creates the dignity in human beings. Nora succeeded to overcome on death instinct only due to the books which were in her subconscious mind. The midnight library symbolises the darkness of the subconscious mind where man can find anything; either good or bad. With the application of the theories by Freud, Lao Tze and Osho we have come to the conclusion that death instinct is common thing in not only in the life of the fictitious character Nora but in the lives everyone of us and we can overcome that instinct by creating the life force particularly in women and the life instinct particularly in men. The concepts 'life force' and 'life instinct' are different; life force leads the women to live the life forcefully and life instinct promotes the life to lead with pleasure and satisfaction. Life instinct causes to sublime and enlighten the life. In this way, the novel, *The Midnight Library* deals with the death instinct a prominent issue in the human life and writer succeeds to give a solution to overcome on death instinct. and The researcher attempted to prove the writer's aspect by applying the scientific theory of Sigmund Freud and the spiritual theories of Osho and Lao Tze.

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WOMANISM IN THE NOVELS OF ALICE WALKER: A PERSPECTIVE

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ABSTRACT

Every literature is the outcome of the human expressions, passions, experiences, attitudes, psychology, identity and social concern of the particular country. It is Afro-American Literature wherein black writers are seen indulging in a continuous search for identity and freedom. They have expressed their anger and hatreds against slavery and racism in the shape of Afro-American literature. Alice Walker is the most outstanding figures in Afro-American literature whose contribution as a black writer is unique for she considers sexism the main cause for black's oppression. The present research attempts to investigate that the reflection of the torture and exploitation of black women by white and black men is a source of the birth of the concept of womanism in the novels of Alice Walker. To study her concept of womanism from her literary and theoretical writings which are the two sides of the same coin is the sole aim of the research. This environment of traditional torture and humiliation of black women is the outcome of racism and sexism in many African countries. Walker, through her concept of womanism, has tried to encourage the women of her race and the women of other societies where these practices of torture are common.

Keywords: Womanism, Alice Walker, Novels, Perspective.

INTRODUCTION

Afro-American Literature wherein black writers are seen indulging in a continuous search for identity and freedom.

Afro-American literature was born in the songs and narratives of African slaves brought to the American soil on the Atlantic seaboard in 1619 to work on the plantation of their American masters. (Sinha 1)

Though the black people contributed in the building of the whole America, they were denied human rights and rejected the citizenship of the nation. They were nobody in their own country. Against this humiliation, some of them raised their voices through the medium of literature. They have expressed their anger and hatreds against slavery and racism in the shape of Afro-American literature.

Philip Whitley was the first writer to voice the agony of the black people. Then there is a long list of Afro-American writers including the black women novelist. Among the leading figures of black women novelists of the 20th century is Alice Walker.

According to David Bradley of the New York Times, Walker coined the term womanist in order to describe the issues of Black women in her novels. She calls herself womanist rather than feminist. In fact, she has woven various themes giving preference to the problems of black women in Southern. She explains her concern for black women to an interviewer: "For me, black women are the most fascinating creations in the world". (Walker 251) Perhaps, she may have coined the term womanism in such circumstances in order to make efforts to bring about a change in the treatment given to black women by black men and whites in the society.

Alice Walker is the most outstanding figures in Afro-American literature whose contribution as a novelist, short story writer and a poet cannot be overlooked. Her contribution as a black writer is unique for she considers sexism the main cause for black's oppression. On her parts, she wrote seven novels in which she expressed the anguish of the thousands of tortured souls. The Third Life of Grange Copeland (1970), Meridian (1976), The Color Purple (1982), The Temple of My Familiar (1989), Possessing the Secret of Joy (1992), By the Light of My Father's Smile (1998) and Now Is the Time to Open Your Heart (2004) are her leading novels. Most of her novels reflect racial, sexual and political issues regarding the anguish of black woman for survival. She has become the voice of all humiliated black women in the society.

REVIEW OF LITERATURE

Womanist writings sprang from black women's experience of racism, sexism and exploitation during American slavery. Many theologians have accepted this view to some extent. However, many social, political and religious theologians contributed in the development of the concept of Womanism. Womanist Theology and Ethics, *Encounter* 59.1-2 (1998), Rufus Burrow, Jr., studies the works of the leaders of womanism like Alice Walker, Karen Baker – Fletcher, Emilie M. Townes, Cheryl J. Sanders, and many more. Sanders points out that there is a vogue of spirituality in almost all womanist writings. He writes- "arguably it is the spiritual appeal of the

womanist concept that has caused so many black women thinkers to anchor their scholarly identity within the womanist nomenclature" (Sanders, 1994). Katie Cannon was strongly influenced by Zora Neale Hurston (1903 - 1960). Hurston learnt from her parents to be self-sufficient, self-determined and individual.

In *Womanist Theology: Black Women's Voices, Christianity and Crisis*, March 2, 1987, Delores S. Williams explored his views by analyzing the work on Alice Walker's concept of womanism. According to him, the womanist allows women to claim their roots in black history, religion and culture. In *Darker Shades of Purple: Womanism in Religion and Society*, New York University Press, 2006, Stacey M. Floyd – Thomas emphasized the inter-generational nature of womanism by categorizing three generations of womanist scholars in religion. Thus, she placed Alice Walker in the last generation. Layli Phillips Routledge in his *The Womanist Readers: The First Quarter Century of Womanist Thought*, Paperback, 2006, explores womanism's in-depth history and contemporary applications by analyzing authors and disciplines that utilize this theoretical approach, including, literature, history, theater and film studies, psychology, and urban studies.

However, in the development and growth of African American Literature, Alice Walker seems to be a leading figure to highlight the concept of womanism with keen and concrete observation of black women's experiences related to racism, sexism, and exploitation. Indeed, she is the first to inculcate the concept of womanism deep in the minds of womanist writers. Walker's *In Search of our Mother's Gardens: Womanist Prose* has proved to be a guiding source for womanist writers of the diaspora.

The paper chapter attempts to know Walker's social, political, economic and psychological backgrounds in order to see the facts that she has described through her novels. It is equally important to study her creative span as a novelist in order to analyze if the concept of womanism is standing on her true experience of life or not. In fact, as an Afro-American novelist, she has experienced the racism and sexism in the African society. It is her blackness which inspires her to express and explore her sorrows, consequently through her concept of womanism.

Concept of Womanism – A Brief Survey

The term, Womanism, was first coined by Alice Walker while contributing an introduction to a book in 1979. She gave perfect color and voice to the concept of womanism in her essay *In Search of our Mother's Gardens: Womanist Prose* (1983). Meanwhile, in the late 1980s, there was an ideology *Africana Womanism* which was coined by Clenora Hudson – Weems. He argued "Africana Womanism is grounded in African culture that contributes to Afrocentricism/Afrocentric discourse, focusing on the experiences, struggles, needs, and desires of Africana women of the African diasporas. It is not a type of feminism, or Alice Walker's womanism" (Hudson – Weems 1998). Hudson – Weems writes –

Why the term *Africana Womanism*? Upon concluding that the term 'Black Womanism' was not quite the terminology to include the total meaning desired for this concept, I decided that 'Africana Womanism', a natural evolution in naming, was the ideal terminology for two basic reasons. The first part of the coinage, *Africana*, identifies the ethnicity of the woman being considered, and this reference to her ethnicity, establishing her cultural identity, relates directly to her ancestry and land base-Africa. The second part of the term *womanism*, recalls Sojourner Truth's powerful impromptu speech 'Ain't I a Woman?' (Hudson – Weems 1998)

In the early nineteenth century, there was no any consistent concept like Womanism. But few articles can be found here and there on the issues of black women's agony by writers like Jacquelyn Grant. Then there was a gradual beginning of emergence and development of black womanist theology and ethics. Anna Julia Cooper (1858 - 1963) voiced womanist ideas in the latter part of the nineteenth century. She argues that no black women, white men or women can decide for Black women. She holds the view of 'undisputed dignity' of Black womanhood (Cooper 1892).

The late 1970s and 1980s witnessed the movement of feminism which was meant for white women only. They excluded black women's experiences of race and class. Excluded from and alienated by feminist theorizing and thinking, black women insisted to bring into focus the issues of difference, particularly in relation to race and class. The existing feminism was not able to entirely focus the experience of black women. It was obvious then to find out a terminology which could voice the black women experiences. As a result of it, Walker got the opportunity to coin the term Womanism. In this respect, Karen Baker –Fletcher remarked that in the term womanist Walker saw a way "to define the diverse ways in which black women have bonded, sexual or not" (Fletcher 1994). Latter on Walker's term womanism was used by Katie G. Cannon for the theological project of Black women. She wrote –

Black feminist consciousness may be more accurately identified as Black womanist consciousness, to use Alice Walker's concept and definition. (Cannon 1995)

However, Jacquelyn Grant, Katie Cannon, Delores Williams, and many more have stressed forward the dignity of black women through the concept of womanism. As Rufus Burrow, Jr. puts it –

They affirm Black women's experiences, struggles, and victories. In addition to affirming and celebrating difference, womanists have been consistent in putting forth positive images of African American women. (Burrow, Jr. 1998)

In fact, the term Womanism has been used by different theologians and ethicists finding its root in the terminology applied by Alice Walker. She may be called the first womanist in true sense for coining and shaping the term womanism in its true spirit. The chapter attempts to focus the concept of Womanis in general from the point of view of both as a theory and practice.

Influence of Feminist Movement on Alice Walker: A Critical Analysis of Major Works of Alice Walker

Alice Walker's novel *Meridian* (1976) deals with the Civil Rights movements and voices against the racism that prevailed through the 1960s. Meridian Hill is a central black character tries to bring about changes in institutionalized racism. Truman, her husband, initially tries to help her in activist movement, but later, he leaves her for the sake of a white-fellow activist, Lynne. In the end, she realizes the purposelessness of dying or killing. She came to know that the solution to the problem could be found by getting blacks registered to vote and improving the lives of oppressed. Besides, she also plays a major role in her individual life. When her child suffered from colic, and not allowed her to sleep a wink, Meridian felt motherhood as a kind of slavery.

It took everything she had to tend to the child, and she had to do it, her body prompted not by her own desires, but by her son's cries. So this, she mumbled, lurching toward his crib in the middle of the night, is what slavery is like. (Walker *Meridian* 63)

However, the feeling of womanism is frequently reflected through the black characters in Walker's novels.

Alice Walker's third novel *The Color Purple* (1982) is highly acclaimed, though written in a form of an epistolary novel. Besides, Walker is the first black woman writer to win Pulitzer Prize for *The Color Purple* in 1983. Celie, the central figure, narrates the story of her life through her letters to God and her sister Nettie. The epistolary form helps Walker to employ the womanist perspective. The novel depicts the torture of black Celie by her cruel father and inhuman husband. The novel develops with the theme of racism, sexism and political issues. The black men seem to be created with the purpose of dominating black women. As black women are surrounded by torture, they think that their next generation is destined to be the victim of slavery in the white society. Celie, Nettie, Sofia, and Shug are black women characters victimized by slavery. As a result, the woman-woman relationships imply womanism. Celie and Sofia build friendly relations because both are treated poorly by men. Celie and Nettie are sisters. Celie has hope and faith from Nettie to live life.

Walker's another novel *Possessing the Secrets of Joy* (1992) deals with traditional cruelty which is the custom of female circumcision. The novel develops with the story of Tashi, a tribal woman who becomes the victim of circumcision. Female circumcision is a cruel practice of mutilation which is common in African countries. Dura, Tashi's sister, dies in circumcision with the permission of her mother is a heart-breaking incident in the novel. This incident shadows the darkness of society.

A glimpse into the fictions of Alice Walker reflects the shades of womanism. She has chosen black women as central characters in almost all her novels. The themes of racism and sexism in her novels may reflect that black woman herself is responsible for her all over torture because of her irresponsible, unwilling, immature, and ingrown up behavior. Until and unless she believes herself closely, how can others believe her? In fact, Alice Walker seems to be succeeding in handling the concept of womanism, though her readers are very much interracial. However, she gives the fact of humiliation of women from all sides in almost all the societies. Indeed, Walker's novels may prove as a guideline to preserve the rights of women in general.

Concept of Womanism in the Novels of Alice Walker

In a study of black women's history, feminism seems to be a later stage in their lives. Being both black and woman, black women faced double marginalization. In this respect, Showalter says, for both Afro-Americans and feminists, the black woman is "the other woman, the silenced partner" (Showalter 214). In fact, it needs a feminist revolt in order to bring the status of black woman to that of black men and white women. On the other hand, most of the black women do not understand by the concept feminism. They only think that feminism means equal rights given to the women with white men. But from a deeper perspective, feminism is a revolt to

end all sexism and sexist oppression. Again a question rises, what is sexism? To know sexism needs more feminist's understanding.

We are in need of more feminist scholarship which addresses a wide variety of issues in Black life (mothering, Black masculinity, the relationship between gender and homicide, poverty, the crisis of Black womanhood, connections between health and our conceptions of the body, sexuality, media, etc.) - work that could have transformative impact on our future. (hooks 56) hooks means to say that such a feminist revolt may reduce the depth of division among blacks. Therefore, black feminism stands to white feminism to some extent. Considering not parallel to mainstream feminism, she has opted for different black feminism, which she calls Womanism. Indeed, her concept of womanism appears as a part of black feminism.

Alice Walker has defined her concept of womanism in her essay, *In Search of Our Mothers' Gardens* (1983). Basically, the term womanism comes from the word "womanish" (opp. of girlish, i.e. frivolous, irresponsible, not serious) A womanist, Walker writes, is *Responsible, In Charge* and *Serious*. Further, for her womanism means a woman who loves other woman. She clears it in an interview: A woman who loves other woman...Appreciates and prefers women's culture, women's emotional flexibility... and women's strength...Loves the spirit...Loves herself. Regardless. (Walker 11-12)

However, through her definition of womanism, Alice Walker suggests some essential qualifications of a black woman. The origin of the term womanism is derived from a folk expression 'womanish' which means acting like a responsible and mature woman. A woman should be bold and courageous so that she could face any calamity with the power. She should possess willful behavior so that she will act with full determination. Woman should love other woman but with full devotion of a female's soul. Walker prefers heterosexual relationship between women, which is the striking distinction between womanism and black feminism. She should accept and love motherhood as a natural instinct. Thus, in her definition of womanism, Alice Walker has reflected several different things that are impossible to sum up.

Alice Walker's first novel *The Third Life of Grange Copeland* (1970) describes Grange, the black hero, always fails to pay his debts, escape the place leaving his family due the oppression of the whites. Brownfield, his son takes up his place and equally becomes the victim of the same kind of torture faced by his father. In his third life, Grange possesses goodness and tries to make up for his ill-treatment of son and wife. The novel gives the picture of ill-treatment given to black women by black men through the various situations. At an early age of ten, Brownfield witnesses the ill-treatment given to his mother by his father. His mother always has shown obeying his father's order blindly. He thinks - "He thought his mother was like their dog in some ways, she didn't have a thing to say that did not in some way show her submission to his father". (Walker *The Third Life* 6) Thus, his mother becomes toy in the hands of his father. Brownfield is not less backward in torturing his wife Mem. He insults her for being black and even beats her until she looks ugly. This is the most arresting type of torture that Walker has practiced in the novel. She has shown that the black women have to hide her power and beauty in order to avoid her torture by black men.

In the beginning of *The Color Purple*, Celie is separated from her sister Nettie because of the brutal treatment by the hands of her Pa and Mr. _____. On the other hand, this separation helps her to expand her domestic world to a global sphere. The bond between women becomes stronger when Celie began to write letters to her sister Nettie instead of God. In addition to her sisterhood with Nettie, Celie's association with Sofia makes her aware of patriarchy. Her relationship with Nettie, Shug as sister, friend and lover, makes her to understand and appreciate the female body. Shug plays the role of mediator between Celie and Nettie as well as between Celie and Mr. _____. At the end of the novel, all women and men are reunited as a family and men have learned to understand and respect the strength of women. Celie is withdrawn from the school and felt lonely. This loneliness generates her further trust in God. She tries to express her loneliness: "I'm big. I can't move fast enough" (Walker *The Color Purple* 1982). It is the faith in God which gives her enough strength to protect her sister Nettie. She says: "I'll take care of you. With God help" (Walker *The Color Purple* 1982).

However, the women in the novel reform the essential bases of the relationships. They seem to be extending the bonds of female friendship. Celie slowly grows toward the awareness of self. Her bonding with Shug makes her realize that she can stand on her own. It is obvious from the scene when Celie is waiting for Shug, she says to herself: "If she come, I be happy. If she don't, I be content. And then I figure this the lesson I was supposed to learn" (Walker *The Color Purple* 290). Walker gives strength to Celie with a strong bond of love for others, a genuine desire to survive. In her one letter to God, Celie refers the objects of universe as God. She says: "Dear God, Dear stars, dear trees, dear sky, dear peoples, Dear Everything. Dear God" (Walker *The Color Purple* 292). This highlights Celie's inner desire and realization of life in true sense which is expected by Walker's

womanism. Perhaps, Celie learns the truth of her personal life and begins to understand the real aim of life. She has searched for God and ultimately found God in everything, including herself.

The quilting episode in the novel brings mutual understanding between two women—Celie and Sofia. Both patch up their differences by making a quilt. Basically, quilting was a home business of a group of women of earning in seventies. It is an act of tearing and reconstructing. The reconstruction is done through the process of sewing. The tore clothes pieces are used to make a quilt. In other words, sewing is an act of union, of connecting pieces to make a useful whole. Quilting stands as a symbol of security and togetherness. Therefore, Celie rightly says: “I see myself sitting there quilting between Shug Avery and Mr. ____ us three together.... For the first time in my life. I feel just right” (Walker *The Color Purple* 60). This results in a stronger relationship between them. Now Celie does not feel guilty that a bond of friendship is formed. She hardly feels alone and thus she becomes more secure at home. Besides, quilting moves Celie away from humiliation of patriarchy into the self-empowered individual earning her own living. This brings a type of new hope and security to Celie in the building of her own individuality. It opens a fresh horizon of true freedom for a black woman.

The relationship between women in the novel grows gradually due the realization and understanding of self out of patriarchy. This broad approach of women towards other women is the key point of Walker’s womanism. Indeed, womanism peeps through the bonds between women in the novel.

Alice Walker’s later novel *The Temple of My Familiar* (1989) is written from a womanist point of view. The central figure, Miss Lessie, reminds her past lives through which the novelist brings forth the cruel treatment given to the black women since ancient times. In one of her lives, she was suspected of having sexual contacts before marriage and forced into prostitution as a punishment. Later, Lessie dies of infection at an early age of eighteen. She remembers the past times before Islam in which motherhoods were worshiped. But this practice died out of a long time slave trade in Africa. This really gives us a picture of ancient times where females were treated as inferior to males.

CONCLUSION

Alice Walker’s novels describe racial, sexual and political issues, particularly in relation to black women’s struggle for survival. It is with this purpose that she might have coined the concept of womanism slightly different from feminism. She, through her concept of womanism, has recommended some changes in the behaviors and attitudes of black women.

However, Alice Walker’s novels *The Color Purple* and *The Temple of My Familiar* give a realistic approach to her observations from the black lives. She has succeeded in presenting the pathos and ethos of Black women’s struggle through her characters. Her characters seem to be the embodiment of real life. It seems that her black women characters suffer due to their irresponsible, immature and unwilling nature. This is what she wants to present through her concept of womanism. Alice born in Georgia to a terrible farmer whose work of sharecropping and dairy farming was in its supreme progress. In fact, she could express the grief of thousand and thousand black women in Africa from awareness of being a black. However, her idea of womanism focuses all time universality. “The women and men of different colors coexist like flowers in a garden yet retain their cultural distinctiveness and integrity” (Collins 11). Perhaps, she emphasized the idea of a global society where all its members will be encouraged to survive.

IMPLICATIONS

The fiction of Alice Walker, however, is a genuine reflection of black men, women and children’s sufferings, humiliations, hatred, exploitation and slavery which spring out of racial discrimination in Southern America. In most of her novels, Alice Walker twisted main theme of race with the issues of black women which found its ultimate root in the awareness of being black. In this respect, Gwendolyn Brooks pointed out that the racial element in a black writer’s work is the source of inspiration. It is remarkable that the blackness, which was treated as a blot, today becomes power of expression in the novels of Walker and others. In fact, the brief survey of her fiction gives a glimpse of her concept of womanism.

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**AWARENESS LEVEL & FACTORS INFLUENCING OTA IN CHENGALPATTU DISTRICT –
CROSS SECTIONAL STUDY**

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ABSTRACT

This study was conducted to identify the online hotel booking awareness level, factors influencing to book hotel accommodation through OTA in Chengalpattu. The research is descriptive in nature. Convenient sampling technique was used, structured questionnaire distributed to 164 respondents out of that 149 received, Descriptive analysis, percentage analysis, Frequency tables and EFA for analysis. Determined four Factors like Insightful, Website features, Perceived Interactive and Convenient. The result concluded that the users of OTA in Chengalpattu district is 52% are female respondent, 31- 40 age group of respondent book hotel accommodation through OTA, 76.50% of the respondents book hotel for personal purpose, 40.90% of the respondent use credit/debit card to make payment, discount coupons provided by OTA are the major factor influence to book hotel accommodation through OTA.

Keyword: Online Travel Agency, Hotel Booking, awareness level.

INTRODUCTION

Indian's Online Travel Industry has been hit hard by the COVID. However long-term growth fundamentals are intact. Indian travel firms have reportedly seen a 25% to 30% increase in booking Hotel accommodation domestic tourism during special occasions 2021. In August 2020, MakeMy Trip launched my partner platform to assist travel agent in offering enhanced travel booking experience to travelers. In June 2021, OYO along with online travel agencies (Yatra, AirBnB, and EaseMyTrip have launched an association to look into the issues faced by small hotel owners – *Source Mordor Intelligence*.

Online travel agency (OTA) has contributed offer not only useful and up-to-date information but also price transparency to travellers (Toh et al., 2011). While consumers have limited information about lodging house in specific destinations, they would be able to easily search for relevant information about available hotels and seek out other alternatives using online travel sources (Peterson and Merino, 2003).

OBJECTIVES

To determine the awareness level and Factors influencing to book hotel accommodation through Online Travel Agencies in Chengalpattu District.

REVIEW OF LITERATURE**Informative/Insightful**

Lo, Cheung, and Law (2002) as well as Beritelli, Bieger, and Laesser (2004) argue that trustworthiness can be resulting from – among other factors - the degree of individualized commitment of an information source. The information provided either by travel agencies or by friends and relatives, who might not be neutral as well but may be considered committal in the sense that false or misleading information might bear consequences on an interpersonal level. (Vasudavan and Standing 1999) which claims that it is the consultants who, from a customer's perspective, represent the agency and personalize the service to such a point that it is likely to become committal and thus trustworthy. The researchers in hospitality have endeavored to identify factors affecting the online hotel decisions main perspectives including types and contents of information on the websites (Dolnicar and Otter, 2003)

Website Features

Customers expect quality service of websites when making online purchases (Law and Cheung, 2006). This proposes that keeping up with quality sites is pivotal to holding customers and their returns to, which will ultimately protect customer dependability with housing sites. Attributable to the emotional development in the quantity of Internet customers, various examinations have talked about site administration quality. In particular, many examinations have not just inspected practical perspectives including data quality, convenience and openness (Baloglu and Pekcan, 2006; Herrero and San Martin, 2012) but have also attempted to assess relationships between website service quality, personalized experiences (Chiou et al., 2010; Hu, 2009), and the reputation of websites (Casalo et al., 2008; Kim and Lee, 2004). Website service has become an important issue for hotel management to attract online customers these days (Jeong et al., 2003).

Perceived Interactive

An empirical phenomenon that occurs when a user interacts with a website or other computer-mediated communication entities. Perceived interactivity is the degree to which the user perceives that the communication is two-way, controllable, and responsive to their actions” (Mollen and Wilson (2010)). Accordingly, there are three major dimensions of perceived interactivity, 1) two-way message, 2) responsiveness, and 3) user control. Responsiveness refers to the extent to which a website’s competence to responds to users’ information needs when it performs the two-way communication with the user. The emphasis for responsiveness is on the feedback from the website rather than from the website user (Dholakia, Zhao, Dholakia, & Fortin, 2001). It calculate how fast the website response to its user, provide real-time feedback, and process messages as well as online transactions (Kim, 2011).

Convenient

It has asserted that the Internet is a useful tool for consumers and suppliers for purchasing products and communicating information in the tourism industry. Due to the several advantages offered to the customers, such as convenience, access to a good comparison of the prices (Syed, A.A.; Suroso, J 2018), and the provision of latest and accurate information (Lee, Z.H.; Cheng, K. 2009) the number of online bookings has grown dramatically during recent decades. This new model of sales is focused on reaching many customers, at any day and time, without geographical limits (Da Silva, G.L.; Filho, L.M.; Júnior, S.M 2019).

METHODOLOGY

The research is primarily descriptive in nature, as part from descriptive statistics of cross sectional method. The study is based on both primary and secondary data, uses convenience sampling technique to collect data from the respondents. Primary data collected from the respondent through questionnaire method, Secondary sources relating to the study were collected from Published e-journals, research articles to study existing literature. 164 Structured Questionnaire distributed to the respondent of Chengalpattu district to identify the awareness level and factors influencing Online line Travel Agency. Statistical techniques had been applied depending on the nature of data collected from the respondent, percentage analysis, descriptive statistics, Kaiser-mayer-Olkin (KMO) and Bartlett’s Test used to identify the sample adequacy and significant level to test the confirmatory factor analysis with principle component analysis. The primary data collected in a period of 4 months from September 2021 to December 2021 for the purpose of analysis and evaluation.

Table 1: Block Wise Sample Collected

S.NO.	Block Wise Sample Collected	Total Sample	Percentage
1	Medavakkam	87	53%
2	Sembakkam	48	29%
3	Urapakkam	29	17%
	Total	164	100%

Analysis and Results

Table 2: demonstrates the Demographic factors of the respondents.

Demographic Profile		Frequency	Percentage
Gender	Male	72	48%
	Female	77	52%
Age	20 to 30 years	39	26.20%
	31 to 40 years	84	56.40%
	41-50 years	26	17.40%
	Above 50 years	0	0.00%
Marital status	Married	101	67.80%
	Unmarried	48	32.20%
Educational Qualification	Up to school level	33	22.10%
	Graduate/Diploma	10	6.70%
	Post graduate	64	43.00%
	Professional	42	28.20%
Monthly Income (is Rs.)	Up to Rs.20, 000	38	25.50%
	Rs.20, 001 to Rs.40, 000	54	36.20%
	Rs.40, 001 to Rs.60, 000	5	3.40%
	Above Rs.60, 000	52	34.90%

Table 3: Hotel accommodation booking experience

Hotel Booking Experience		Frequency	Percentage
Purpose of booking online hotel	Official	35	23.5
	Personal	114	76.5
Mode of payment			
	NET Banking	24	16.1
	Credit Card/Debit card	61	40.9
	Direct Payment	45	30.2
	Other mode of payment	19	12.8
Influence			
	Family members	25	16.8
	Friends	68	45.6
	Online advertisement	30	20.1
	TV/Paper Advertisement	26	17.4
How do you Prefer to book Hotel Accommodation			
	Hotel Official Website	53	35.6
	Online Travel Agency (eg: Booking.com, Expedia.com)	47	31.5
	Traditional Travel Agency	11	7.4
	By calling the hotel directly	38	25.5

Source: Survey by author

Factor Analysis

There are 20 variables included in this study out of that 3 variables rejected in factor loading as it loaded less than 0.5. Principal component factoring method with variance (varimax) rotation was used for factor extraction. The Kaiser-Mayer-Olkin (KMO) and Bartlett's Test has been applied to test the sample adequacy.

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.761
Bartlett's Test of Sphericity	Approx. Chi-Square		210.803
	Df		6
	Sig.		.000

Table 5: Rotated Component Matrix^a

Items	Factor 1	Factor 2	Factor 3	Factor 4
The information provided by the website is clear	.860	-	-	-
I can speak with a representative of the website in case I have problem with my booking	.828	-	-	-
The information is accurate	.817	-	-	-
The information is concise	.777	-	-	-
The information is up- to- date	.558	-	-	-
Check in Check out time	-	.846	-	-
The information provided by website is useful	-	.839	-	-
The information is complete	-	.748	-	-
Conditions (eg; Cancellation policy, cancellation deadline easy modification of reservation)	-	.744	-	-
I get precisely what I booked via the website	-	-	.836	-
I feel safe in my transactions with the website in terms of security and privacy protection	-	-	.822	-
The website understands my specific needs (eg; provides a refund, easy cancellation)	-	-	.672	-
Reviews (eg; available online reviews on the website)	-	-	.529	-
Price of room (eg; lower price, discount)	-	-	.522	-

Payment (eg; Convenient method of payment)	-	-	-	.859
Pictures of rooms (eg; rooms, reception, bathroom, garden pictures)	-	-	-	.720
Familiarity with the website	-	-	-	.676

Source: Primary Data

The above table no.5 reveals the combination of variables grouped under each factor. Variables like the information provided by the website is clear, I can speak with a representative of the website in case I have problem with my booking, The information is accurate, The information is concise, The information is up-to-date are grouped with a single factor called Informative (Factor 1) as the variables have the factor loading of 0.860, 0.828, 0.817, 0.777, and 0.558. (Factor 2) consist of Four variables: The information provided by website is useful, The information is complete, Conditions (eg; Cancellation policy, cancellation deadline easy modification of reservation), is consistent with factor loading of 0.846, 0.839, 0.748, and 0.744 are combined under the second factor and named as website features.

(Factor 3) consist of Five variables I get precisely what I booked via the website, I feel safe in my transactions with the website in terms of security and privacy protection, The website understands my specific needs (eg; provides a refund, easy cancellation), Reviews (eg; available online reviews on the website), Price of room (eg; lower price, discount) with factor loading 0.836, 0.822, 0.672, 0.529, and 0.522, respectively and named as Perceived Interactive, (factor 4) loaded with Three variables like Price of room (eg; lower price, discount), Pictures of rooms (eg; rooms, reception, bathroom, garden pictures), Familiarity with the website with factor loading 0.859, 0.72, and 0.676, respectively are combined and named as Convenient.

Table 6: Reliability test after Factors Analysis

Factors	Cronbach's Alpha	No of Items loaded (After EFA)
1	.915	5
2	.855	4
3	.814	5
4	.719	3
Total		17

Table 7: Consolidated Factor Output

Factor No	Variables	Factor Name
F1	The information provided by the website is clear I can speak with a representative of the website in case I have problem with my booking The information is accurate The information is concise The information is up-to-date	Informative
F2	Check in Check out time The information provided by website is useful The information is complete Conditions (eg; Cancellation policy, cancellation deadline easy modification of reservation)	Website Features
F3	I get precisely what I booked via the website I feel safe in my transactions with the website in terms of security and privacy protection The website understands my specific needs (eg; provides a refund, easy cancellation) Reviews (eg; available online reviews on the website) Price of room (eg; lower price, discount)	Perceived Interactivity
F4	Payment (eg; Convenient method of payment) Pictures of rooms (eg; rooms, reception, bathroom, garden pictures) Familiarity with the website	Convenient

The Eigen value actually reflects the number of extracted factors whose sum should be equal to the number of items which are subjected to factor analysis. The Eigen value table has been divided into three sub-sections, that is, initial Eigen values, Extracted sum of squared loadings, and rotation of sums of squared loadings. For analysis and interpretation purpose, we are only concerned with the extracted sums of squared loadings. The

first factor accounts for 41.129% of the variance; the second, 56.433% of the variance; the third, 70.087% of the variance; The total variation accounted for by these four factor is 77.790%.

FINDINGS, SUGGESTION & CONCLUSION

OTAs play a critical role in distribution of travel products by building an effective link between service providers and consumers (Pan et al., 2011). It enables travellers to search information, share their experiences, and purchase travel products via the uniformed platform. OTAs facilitate for them the ability to reach potential customers around the globe at an unprecedented scale. As a result, Online Travel agency has becomes one of the most dominant mediators in the tourism market. (Chiang and Jang, 2006).

The result of the study reveal that, the awareness level of the respondents towards Online Travel Agency in chengulpettu district is 90% on which females are more aware than male respondent. They book hotels for personal purpose. The result Identify four factors with 17 variables. In order to classify the buying orientation statements, cut off of 0.50 was applied on the factor loading. In the processes a few statements with less factor loads were dropped from the interpretation (Malhotra & Birks, 2007). The key factors are Informative, Website features, Perceived Interactive and Convenient. It has been suggested that Online Travel Agencies can use positive role of e-WOM as a tool for promoting their products, and also can provide special discounts coupons to attract the regular customers. OTA promotes their product more using social media and can concentrate to attract male respondent.

LIMITATIONS OF THE STUDY & SCOPE FOR FURTHER RESEARCH

In the present study, the data were collected from Chengalpattu district only, and therefore, the results cannot be generalized for the entire State. There are time and cost constraints that are attached while making a survey using a questionnaire. The findings of the study are based on the expressed opinions of the respondents and reliability of their responses are subject to the respondent's bias. Though every attempt was made to take a representative sample, but the survey may not be symbolic of the views for the rest of the target population.

In this study tested only the awareness level and factors influence OTA with 164 samples, further studies could include a large number of samples from other district of Tamil Nadu and also this study uses Exploratory Factor Analysis to determine the factors using SPSS 23, Further studies can do with validating the factors with Confirmatory Factor Analysis. Further, To promote the product of OTA marketing strategy could be implemented to attract Sub-urban & Rural people and concentrate on the positive role played by online consumer reviews.

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EMPIRICAL STUDY ON THE TOURISM INDUSTRY IN STATE OF WEST BENGAL DURING ONGOING PANDEMIC

¹Shantanu P. Chakraborty and ²Manjishtha Sur Roy Chowdhury¹Research Scholar, IISWBM²Assistant Professor, J.D.Birla Institute, Department of Management**ABSTRACT**

There has been a significant impact of corona which has created panic and has led to the disruption in global economy across the globe. This pandemic have paralyzed many economy across globe and is spreading like a fire across the globe. The global pandemic have impacted various financial markets and have let the policy maker to change their policy under paradigm shift. There are various scenario in this paper that is demonstrated. The scenario is so critical that it depends large amount of investment in health care facilities specially in developing country. Tourism sector is one of the worst effected in this scenario. The study examines the impact of covid-19 on the tourism sector and about its impact on economy as a whole and the measure taken by state government and central government in this regard. Secondary data collected from various sources and are analysed in this regard, mainly online focus group interview conducted with tour operators and Hoteliers. The research was mainly based Primary data analysis is conducted with sample size of 500 respondents online. The target respondents are Hotelier and Tour operators. It was found the impact of lockdown on the business as far as hotelier and tour operator are concerned, assistance provided to tour operators and Hotelier, followed by the incentive provided by the government, followed by safety measure followed by hotelier and tour operators, future expectation of tour operator and the impact of pandemic on the tourism business. It was found from the study that there is an impact of lockdown on tourism business, safety measure are adopted by the hotelier and tour operators such as wearing mask, using sanitizer and thermal scanning. There has been a significant drop in domestic and foreign tourist arrival in west Bengal due to this ongoing pandemic.

Keywords: pandemics, infectious diseases, risk, macroeconomics, Hotelier, Tour operators

INTRODUCTION

Covid-19 pandemic was crises that the entire globe is witnessing. To control the spread of this pandemic several initiative and steps were taken both by local government and other machineries. It impacted lives of several people suffering from this pandemic. It was not a normal crises hence several steps were taken to prevent the spread of this disease.

The main objective of the study is to understand and analyse the impact of Covid -19 on the tourism sector as whole. In this regard both primary and secondary data needs to be collected and is required to be analysed accordingly.

The global economy trade and commerce have come to standstill due to covid19 pandemic. The world economic forum has been successfully able to conduct a simulation by virtue of which they conducted various simulation to address this panic response and buying behaviour to this global pandemic. This simulation exercise reflected the poor preparation and response to global pandemic across the system

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1.1 OBJECTIVES

With the following objectives, the study has been conducted:

- To understand and analyse the impact of covid-19 on the tourism sector as a whole
- To identify the most important factor in tourism in pre and during covid situation in tourism
- To find out the impact of those factors in tourism sector(pre and during covid)
- To investigate the impact of lockdown imposed due to ongoing pandemic on the tourism industry and the economy

REVIEW OF LITREATURE

Indebted, the present study is being done with the help of a number of books, and journals, periodicals and several reports. The contribution of the related publications and e-resources are worth-mentioning. D. Pearce (1989) in his book "Tourist Development" clearly emphasizes on tourism development and tourist development. In this book, the elements, agents, processes and typologies of tourist development are finely described. The concept of demand and development, tourist resources and its impact analysis are also the subject matter of this book. Lastly planning strategies of tourism for development is clearly discussed in this book. David T. Herbert (1995) authored a book entitled "Heritage, Tourism and Society" where he showed heritage as a literary place and products of tourism. The attraction of heritage, its planning, development, management and marketing are the issues evaluated in this book. Another important book of D. Pearce, entitled "Tourism Today: A Geographical analysis" was published in 1987. This book focuses on the spatial structures of tourism from local level to national level. He also identified six broad areas where geographers have already contributed. Mentioning: Several journal articles, reports etc. are also very much helpful for this research work. Some of these are mentioned here:

- i. Spatial pattern of Supply
- ii. Spatial pattern of Demand
- iii. Analysis of Tourist Movement and Flows
- iv. The Geography of Resorts
- v. The impacts of Tourism
- vi. Models of Tourist Space

Main Goals of FCCI Survey Report 2020:

- The pandemic caused by the covid-19 has brought the world to an unprecedented social and economic crisis. The Governmental process of lockdown has suspended all economic activities for a 4-month period has had a devastating impact on the lives of millions.
- The Travel and Tourism sector globally grew at a rate of 3.5 per cent, and contributed USD 8.9 trillion to world GDP.
- In 2019, The Travel, Tourism and Hospitality sector has created 330 million jobs alone across the world, which comes to one in every 10 jobs that were created.
- The Travel and Tourism industry of India grew at a rate of 4.9 per cent year on year basis and contributed USD 194 billion to the Indian economy in 2019.
- The tourism industry of India employs 8.75 core people, which is 12.75 per cent of the total employed population in 2018-19.
- The boost in spends on domestic tourism from USD 131 billion in 2012 to approximately USD 200 billion in 2018, was expected to double to approximately, USD 406 billion by 2028.
- The tourism sector require access to credit, of which, most vulnerable are the own account enterprises (OAEs). For improving the flow of credit to this sector, tourism must be included under priority sector lending (PSL). Additionally, under the category of MSME for PSL, a separate sublimit for OAEs must be created to make sure that credit flows to the littlest of small businesses.
- There is a need of fundamental changes in the way the industry works in various aspects of service. For this to happen, certain conditions must be met.
- The rates of infection should still decrease in synchronicity with the unlocking measures. Faster rates of tracing and testing and isolating cases must be undertaken as a protocol.
- Continuous government support for the sector in the form of removal of travel advisories and bans on non-essential international travel, which prevent insurance protection cover for travellers should be brought in.
- The Indian central government should consider revisiting norms under tourism infrastructure development schemes, so that states may utilize funds under such schemes to develop health and safety infrastructure to ensure minimum chances of transmission of communicable diseases in future. For example, funds under PRASHAD or MICE could even be used for developing health and safety measures at religious destinations.

- For the Indian tourism industry, this is often an outstanding time to develop a typical safety and sanitation standard for hosting and serving its customers. The industry must also utilize this chance to adopt ecological waste disposal practices and adopt environment friendly day to day practices.
- It is being estimated by various Travel bodies, the industry could see a turnaround in six months to one-year period given some fundamental support from the government.
- The Government should consider supporting the hotel and restaurant industry by subsidizing their fixed costs. Additionally, applications and renewal of licensing fees should be absolved for at least a year and kept at minimum for the next two years for all such businesses.
- The transfer of license should be made seamless so on bring simple doing business within the industry. State governments should consider waiving certain critical charges like land tax and interstate transport taxes for a hard and fast period of your time. Electricity and water charges for homestay owners should be billed at residential rates instead of commercial rates.

RESEARCH METHODOLOGY

A descriptive research has been conducted with the help of both primary as well as secondary data. Secondary data is collected from various reports published by organization and company such as FICCI, Ministry of Tourism Government of India, Ministry of Tourism Govt of West Bengal and AC Nielson

On the other hand, primary data is collected by online personal interview and close ended questionnaire developed specially for this purpose. The research methodology focused on focus group interview in form of open ended and closed ended questionnaires with tour operators and Hotelier working in state of west Bengal. The main agenda was to determine the type of assistance provided to them by the owner and by the govt during the ongoing pandemic. The analysis thus, provides a frame work for assessing the policy interventions and financial support that the industry needs. By choosing Tour operators and Hoteliers, for the focus group interview the survey kept in mind the back ward and forward linkages they bridge and hence could arrive at a complete picture of the sector. Focus group interview was conducted on whatsapp's App, Skype and on call due to ongoing pandemic

Total Sample Size Covered

Target Respondents	Total Sample Size Covered
Hoteliers	400
Tour Operators	100
Total	500

ANALYSIS AND MAJOR FINDINGS OF THE STUDY

Impact on Business due to the lockdown and pandemic – Out of 20 hoteliers, 58.41 per cent of the hoteliers from Digha (which serves as a hub for destinations like Shankarpur, Tajpur, New Digha, mentioned that the entire property/ hotel was shut down with zero operations. This also meant 48 per cent were open partially as being used by government Covid warriors' residential purposes and quarantine purposes during the lockdown. A very small number

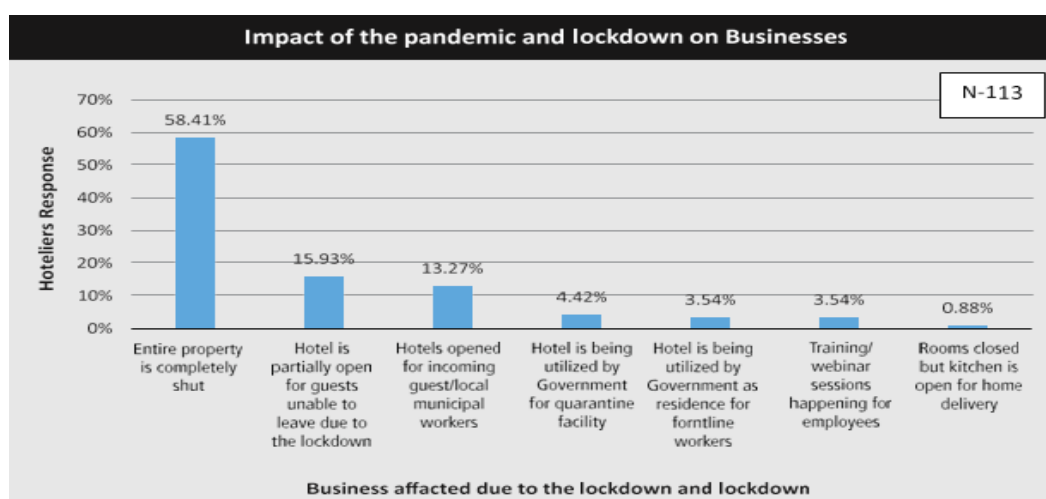


Figure 1

Source: - FICCI and AC Nielson Report during Pandemic

Assistance provided to employees during the lockdown due to pandemic – around 52.21 per cent of the hoteliers stated that they assisted their employees in the way of job security. The rest 48 per cent provided curtailed pay; subsistence help; in dire cases, retrenchment while keeping basic staff on payroll. Most of them have given assurances to the staff about returning to their jobs as and when the unlock down happens. Those with lesser burden are keeping the staff with provision for subsistence.

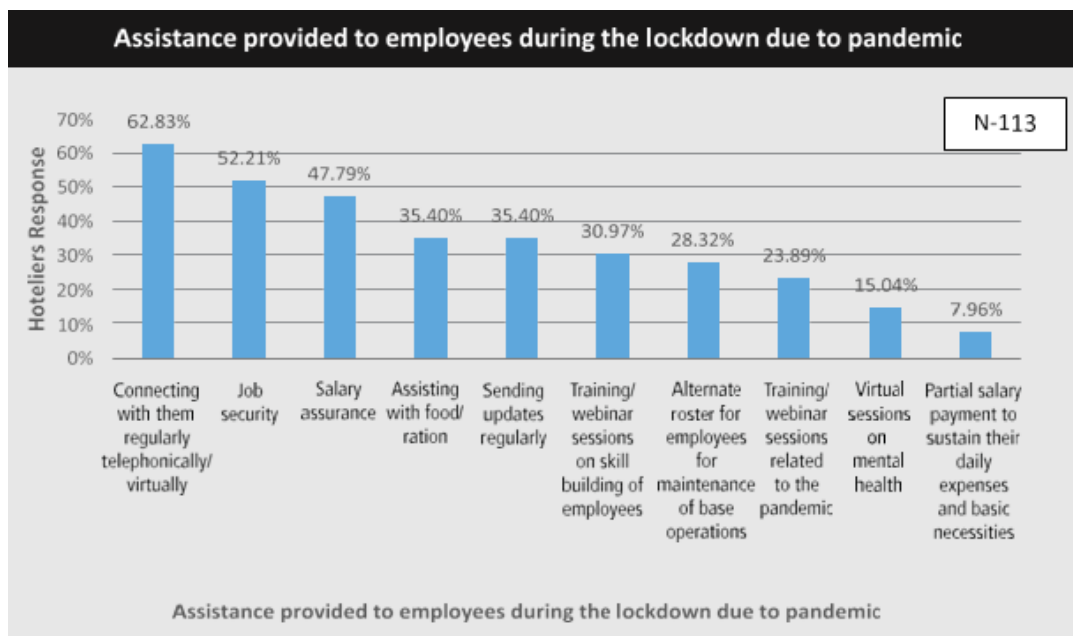


Figure 2, Source:-FICCI & Survey by AC Nielson during Pandemic

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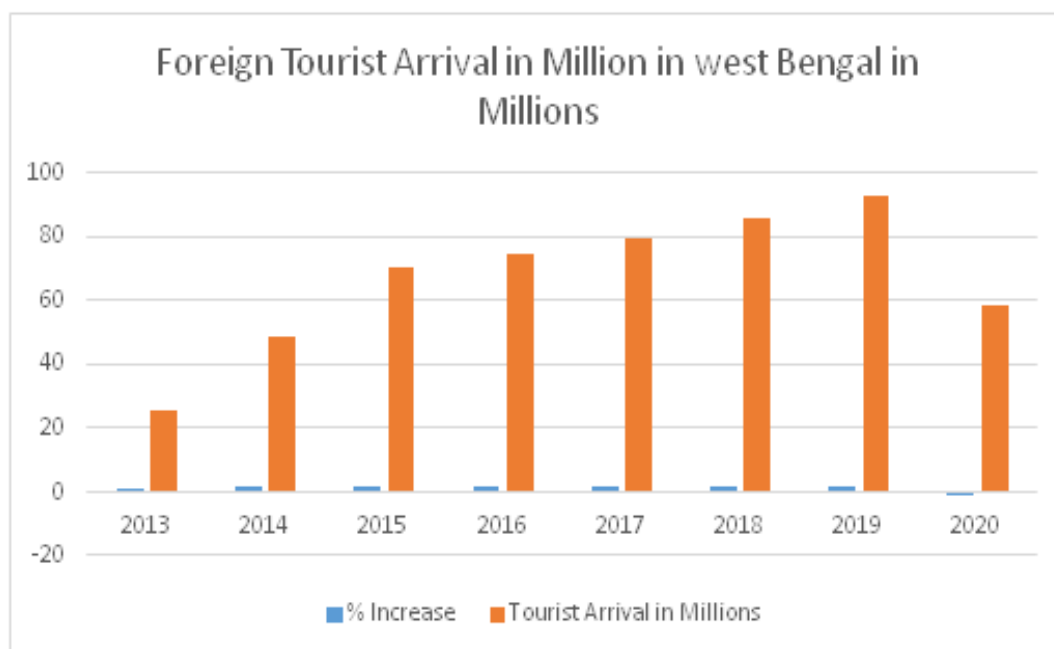


Figure 3 Source: - Ministry of Tourism Government of West Bengal

As per the figure 14 there has been a sharp decrease in the number of foreign tourist arrival during the pandemic in the state of west Bengal. As per the figure it shows a sharp decrease in the number of tourist arrival in the state of west Bengal especially during this state of pandemic

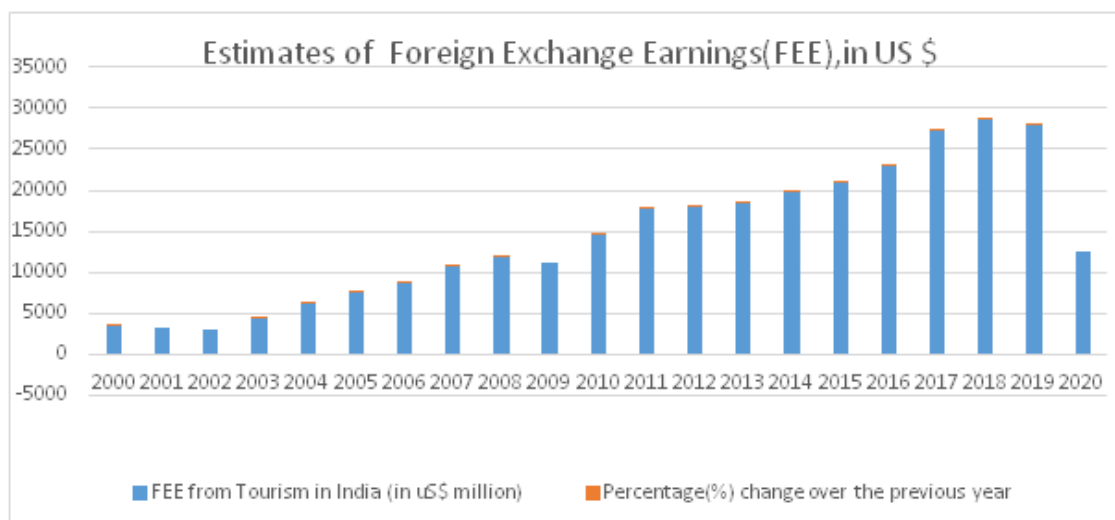


Figure 4:- Estimates of Foreign Exchange Earning between 2000 to 2020,
Source: - Ministry of Tourism Government of India



Figure 5:- Number of Foreign Tourist visit in all state and Union Territory in India
Source: - Ministry of Tourism Government of India

RESULTS AND FINDINGS

- There is an impact of lockdown on business as most of the hotel are partially shut for the customer as hotel used for quarantine and for the front line workers
- Assistance is provided to the hotel staff during the lock down such as provided with food and job assurance ,salary and getting connected to them virtually
- Safety measures are followed by the hotelier such as wearing mask, thermal scanning and social distancing, using arogya setu app and cashless transaction
- Hoteliers are hopeful that domestic tourism will increase and inbound foreign tourist will hit all time, but majority of them are not sure what will happen in near future
- There has been significant decrease in the arrival of foreign tourist in state of west Bengal.
- There has been decrease in the foreign exchange earnings during covid period
- There has been a significant decrease in the arrival of foreign tourist during pandemic.
- There has been significant drop in domestic as well as foreign tourist in west Bengal as compared to that in the year 2019 versus year 2020.
- The largest number of tour operators registered are inbound tour operators respectively.
- Statistically it is proved that there is a significant impact of covid-19 on Foreign Tourist Arrival, Domestic tourist arrival and on the Foreign exchange earnings.

CONCLUSION

Covid-19 Pandemic has affected all the sectors of Indian economy and Tourism and hospitality industry is worst affected as per the study tourism industry is driven by the psychology of people because for them the security and safety aspect is the most important aspect of all. It is very difficult for the travel and tourism industry in the state of west Bengal to attract tourists during this pandemic and lockdown. Unlike other sectors, the tourism sector will have a longer time to get back to normal and to recover. Number of initiatives have been taken by the central government and state government to provide working capital and moratorium on loans to run during this pandemic.

The major part that will impact the tourism and hospitality sector is the way in which the spread of the virus is contained people are vaccinated and number of initiate to be taken by state government and central government to ensure that. As far as seen, the future of tourism will depend on lifting the airline travel restriction. Proper way of handling and restricting the spread of virus, domestic tourism will be favoured than international tourism, Nature trips wildlife will be more preferred over monuments and history

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A STUDY OF ANALYSIS OF ONLINE COMPUTER LIBRARY CENTRE (OCLC) AWARDS AND HONOURS

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ABSTRACT

This chapter deals with Contribution of OCLC (Online Computer Library Center) in Library and Information Science Research. It covers Introduction to OCLC (OCLC Services, OCLC Awards viz. The Frederick G. Kilgour Award, LITA/OCLC Minority Scholarship in Library and Information Technology, OCLC/ALISE Library and Information Science Research Grants Awards, OCLC Visiting Scholar Awards Visiting scholars, OCLC Events, OCLC Meetings, Podcast, Distinguished Seminars by Speakers, OCLC Webinars, Technical Advances for Innovation in Cultural Heritage Institutions (TAI CHI) Webinar Series, and Conclusion.

Keyword: Online Computer Library Centre (OCLC), Awards, ALISE

INTRODUCTION

Online Computer Library Centre (OCLC) was founded in 1967. It is a nonprofit, membership, computer library service and research organization dedicated to the public purposes of furthering access to the world's information and reducing library costs. More than 72,000 libraries in 170 countries have used OCLC services to locate, acquire, catalog, lend, preserve and manage library materials. Researchers, students, faculty, scholars, professional librarians and other information seekers use OCLC services to obtain bibliographic, abstract and full-text information when and where they need it. OCLC and its member libraries cooperatively produce and maintain WorldCat the OCLC Online Union Catalog.

The Research and Development Group was formed in 1974 under the leadership of James E. Rush. The OCLC Research Department was formally established within OCLC as a distinct administrative unit on July 1, 1977, and expanded over the next several years by manager W. David Penniman Neal Kaske (1981-1983), who championed the name change to the Office of Research and led the staff toward a deeper understanding of online catalogs while also securing project funding from the Council on Library Resources and the National Science Foundation. From 1984 to 1986 Michael J. McGill served as Acting Director and put in place many of the outreach efforts that served to more widely share the work of the division with colleagues elsewhere. Martin Dillon followed as Director from 1986 to 1994; during his tenure the Office of Research shifted its research focus more directly onto the issues facing the OCLC membership. Research Scientists Edward T. O'Neill and Thomas B. Hickey were co-acting directors from July 1993 to May 1994. In 1994, Terry Noreault (Terry Noreault promoted to Vice President, 1999) was named Director, and in 1999 was named Vice President, Office of Research and Special Projects, dedicating the division "to research that both explores the place of the library in the changing technology environment and develops tools that enhance the productivity of libraries and their users." Thom Hickey, Chief Scientist, was acting Director from 2000 until Lorcan Dempsey (Lorcan Dempsey to head office, 2001) took up the reins of leadership in 2001. When RLG, Inc. (formerly the Research Library Group) and OCLC became a single agency in July 2006 (RLG membership approves move, 2006), RLG's programmatic activities, programs-related personnel, and partner relationships with 150+ leading research-oriented libraries, archives, and museums became part of an expanded division at OCLC initially called OCLC Programs and Research, but now renamed OCLC Research.

RELATED LITERATURE

Frederiksen, L suggested that one important way that the American Library Association acknowledged the activities of its members is through the Virginia Boucher-OCLC Distinguished Interlibrary Loan (ILL) Librarian Award. Named for Virginia Boucher, a former ILL librarian whose contributions and leadership enhanced the field of interlibrary loan, the OCLC-funded prize has been awarded annually since 2000. It was the aim of this article to look back at Virginia Boucher's work and the honor given in her name before briefly reviewing the careers and achievements of past award recipients. (Frederiksen, 2013)

Helfer, D pointed that OCLC had few strong competitors in their space in the library marketplace and has wisely decided to partner with them. OCLC's advantage lied in its overwhelming size and penetration in the library marketplace. The company's only real competitors in the U.S. had been the Research Libraries Group (RLG) and the Washington Library Network (WLN). OCLC and WLN merged on January 1, 1999. (Helfer, OCLC's March into the 21st Century, 2002)

Ashmore & Grogg pointed that the initial professional reviews for Google Scholar were not great. Some reviewers cited its lack of powerful advanced search features important to serious researchers (Mick O'Leary, "Google Scholar: What's in It for You?" Information Today, July/August 2005), while others cited Google Scholar's inability to penetrate the "invisible Web" of commercial publishing products (Martin Myhill, "The Advisor Reviews. (Ashmore & Grogg, 2006)

Rogers & Norman, stated that OCLC, which recently purchased netLibrary, was branching out further: the cataloging giant had formed an alliance with ISI Research Soft, publishers of leading bibliographic-writing software products such as ProCite,... (Rogers & Norman, OCLC Purchase Net Library, 2001)

OBJECTIVES OF STUDY

The aim of the project was to study the contribution of OCLC in LIS Research during 2000-2013 and the study has been carried out with following objectives:

- To study various research schemes sponsored by OCLC and trace the beneficiaries.
- To trace the most favoured research areas by OCLC Scientists.
- To study various research awards of OCLC..
- To study the OCLC initiatives of organizing Workshops, Seminars and Conferences, respective themes covered and participation.
- To study the contribution of OCLC in encouraging LIS research in developing countries with special reference to India.

METHODOLOGY

The present study has been carried out by using Descriptive and Case Study method. The data has been collected by the official website of the OCLC (<http://www.oclc.org>) posted on the internet The beneficiaries of various research grant schemes and research awards have been traced from the official reports of OCLC

ANALYSIS AND INTERPRETATION

Analysis of OCLC Awards and Honours

Some of the awards, scholarship and Research Grants awarded by OCLC are as following

1. The Frederick G. Kilgour Award

OCLC Online Computer Library Center, Incorporated and the Library and Information Technology Association (LITA), a division of the American Library Association, sponsored this annual award to highlight research relevant to the development of information technologies, especially work that shows promise of having a positive and substantive impact on any aspect of the publication, storage, retrieval, and dissemination of information, or the processes by which information and data are manipulated and managed.

First awarded in 1998, the Frederick G. Kilgour Award generally is made on an annual basis. It consists of \$2,000 in cash and an expense-paid trip to the ALA conference (airfare and two nights' lodging). Greater weight is given to completed research over work in progress, and an emphasis is placed on the clarity with which results are demonstrated or presented. The award is presented at the LITA President's program at the ALA Annual Conference.

Table No 1 shows the names of the recipient of Frederick G Kilgour Award from 1998 to 2020 and the names of the university they are affiliated to. There are twenty three recipients so far.

Table- 1 OCLC the Frederick G. Kilgour Award Year from 1998 to 2020

Sr. No	Year	Name of Recipients	Name of the University
1	1998	Karen Markey Drabenstott	University of Michigan, Ann Arbor, Michigan
2	1999	Dean K. Jue	Florida State University, Tallahassee, Florida
3	2000	Gary Marchionini	University of North Carolina, Chapel Hill, North Carolina
4	2001	Marcia Bates	University of California, Los Angeles, California
5	2002	Carol C. Kuhlthau	Rutgers University, New Brunswick, New Jersey
6	2003	Herbert Van de Sompel	Research Library, Los Alamos National Laboratory
7	2004	Carl Lagoze	Cornell University
8	2005	William E. Moen	University of North Texas

9	2006	Ching-chih Chen	Simmons College
10	2007	Richard Pearce-Moses	Arizona State Library
11	2008	Jane Greenberg	University of North Carolina-Chapel Hill
12	2009	William H. Mischo	University of Illinois, Urbana-Champaign
13	2010	Dr. John Willinsky	Stanford University
14	2011	Dr. Daniel J. Cohen	George Mason University
15	2012	G Sayeed Choudhury	Johns Hopkins University
16	2013	Barbara Tillett	Library of Congress
17	2014	Michael Buckland	University of California, Berkeley
18	2015	Ed Summers	University of Maryland
19	2016	Dr. June Abbas	University of Oklahoma
20	2017	Timothy Cole	University of Illinois Urbana-Champaign
21	2018	Richard P. Smiraglia	University of Wisconsin-Milwaukee
22	2019	Charles McClure	Florida State University
23	2020	Dr. Jian Qin	Syracuse University

2. LITA/OCLC Minority Scholarships in Library and Information Technology

The LITA/OCLC Minority Scholarship, established in 1991, is awarded jointly annually by OCLC, Inc and the Library and Information Technology Association, a division of the American Library Association, in the amount of \$3,000.0

The scholarship is designed to encourage the entry of qualified persons into the library and automation field who plan to follow a career in that field; who demonstrate potential in and have a strong commitment to the use of automated systems in libraries; and who are qualified members of a principal minority group (American Indian or Alaskan native, Asian or Pacific Islander, African-American, or Hispanic). The recipient must be a U.S. or Canadian citizen. This scholarship is for study in an ALA Accredited Master of Library Science (MLS) program. Candidates must illustrate their qualifications for this scholarship with a statement indicating the nature of library experience, by letters of reference, and by the personal statement of the applicant's view of what he or she can bring to the profession, emphasizing experiences that indicate a potential for leadership and commitment to library automation. Candidates must not have earned more than 12 hours towards a Master of Library Science degree from an ALA Accredited MLS program. Economic need is considered when all other criteria are equal. The winner is announced and introduced, if present, at the LITA President's Program held during the Annual Conference of the American Library Association. The OCLC/LSSI Scholarship Committee reviews applications and selects the scholarship winner.

The following have received the LITA/OCLC Scholarship in Library and Information Technology to date:

Table- 2 LITA/OCLC Minority Scholarship in LIS Technology

Sr. No	Year	Name of Recipients	Name of the University
1	1991	Alvaro V. Simon	Pratt Institute, Brooklyn, NY
2	1992	Deborah Torres	University of Michigan, Ann Arbor, MI
3	1993	Shirley A. Fonseca	San Jose State University, San Jose, CA
4	1994	Joy Barron	North Carolina Central University, Durham, NC
5	1995	Jungia Park Yoon	Catholic University of Washington, Washington, DC,
6	1996	Yin-Fen Pao,	Wayne State University, Detroit, MI
7	1997	Julia Leggett	The Catholic University, Washington, DC

3. OCLC/ALISE Library and Information Science Research Grants Awards

Recognizing the importance of research to the advancement of librarianship and information science, OCLC Research and ALISE, the Association for Library and Information Science Education, annually collaborated to offer the Library and Information Science Research Grant Program. The overall goal is to promote independent research, particularly work helping to integrate new technologies that offer innovative approaches, and research that contributes to a better understanding of the information environment and user expectations and behaviors.

Grant awards range up to \$15,000 and support one-year research projects. Research related, but not limited, to the following areas is encouraged:

Impact of digital technology on libraries, museums, and archives Social media, learning, and information-seeking behavior New developments in knowledge organization (metadata, social tagging, linked data, etc.)

ALISE (Association for Library and Information Science Education) is a non-profit organization that serves as the intellectual home of university faculty in graduate programs in library and information science in North America. Its mission is to promote excellence in research, teaching, and service and to provide an understanding of the values and ethos of library and information science. ALISE serves 500 individual members and more than 60 institutional members, primarily in the United States and Canada.

Table- 3 OCLC/ALISE Library & Information Science Research Grants Awards Research grants awarded 1985 to present

2018	The Critical Catalog: Understanding Metadata for Access to and Promotion of Diverse Library Resources	LISRGP	Rachel Clarke Syracuse University
2018	Understanding the Information Seeking Behavior and Digital Skills of Refugee Migrants during the Job Seeking Process	LISRGP	Violeta Trkulja Juliane Stiller Humboldt-Universität zu Berlin
2018	Characterizing the Adoption of ORCID iDs in Academic Communities	LISRGP	Alexander Voss Anna Clements University of St Andrews
2017	Challenges of Costing Research Data Management: Two Cases	LISRGP	Lorraine L. Richards Bornn Drexel University
2017	Financial Information Literacy Toolkit to Educate boRrowers (FILTER): A Channel for Public Libraries to Partner with Governments for Financial Inclusion in the Developing World	LISRGP	Devendra Potnis The University of Tennessee
2017	Investigating Engagement of Public, Academic, and Medical Libraries with Community-based Health and Wellness Activities in Diverse Urban Communities	LISRGP	Charles Senteio Rutgers University Nancy Kranich Rutgers University
2016	Fostering Library-Wikipedia Integration: Automatic Mapping of FAST Subject Headings to Wikipedia Article	LISRGP	Abdulhussain Mahdi University of Limerick Arash Joorabchi University of Limerick
2016	Latino Information Use as Moderated through Social Media and Mobile Technologies	LISRGP	Denice Adkins University of Missouri Heather Moulaison Sandy University of Missouri
2016	Universal Accessibility of Digital Libraries: Design of Help Mechanisms for Blind Users	LISRGP	Iris Xie University of Wisconsin-Milwaukee Rakesh Babu University of Wisconsin-Milwaukee
2016	Social Aspects of Participation in Online Research Identity Management Systems	LISRGP	Besiki Stvilia Florida State University Dong Joon Lee Texas A&M University Shuheng Wu Queens College, CUNY
2016	Collaborative Sense making in Online Knowledge Groups	LISRGP	Pengyi Zhang Peking University
2015	The "Place" of the Librarian in Deskless Library: Do Roaming Reference Spatial Models Create a More User-Centered Library?	LISRGP	Matthew Griffis University of Southern Mississippi
2015	Appeal Factors: Enabling Cross-media Advisory Services	LISRGP	Jin Ha Lee University of Washington

2015	Easy as Pi: Developing Computational Thinking in the Public Library	LISRGP	Eric Meyers University of British Columbia
2014	A New Role for Libraries: Promoting Teens' Safety and Security in the Digital Age	LISRGP	Denise Agosto, Drexel University June Abbas, University of Oklahoma
2014	Teen Health Information Behavior and Social Q&A: A Study to Investigate Teens' Assessments of the Accuracy, Credibility, and Reliability of Health Information about Eating Disorders in Yahoo! Answers	LISRGP	Leanne Bowler, University of Pittsburgh Daqing He, University of Pittsburgh Jung Sun Oh, University of Pittsburgh
2014	Children's Experiences of and Perspectives on E-book Reading	LISRGP	Lynne (E.F.) McKechnie University of Western Ontario
2013	Can Machine Translation Facilitate Outreach to Newcomers? A Pilot Study Investigating the Needs of Spanish-Speaking Users of the Ottawa Public Library	LISRGP	Lynne Bowker University of Ottawa
	Social Media as Information Sources: Use and Evaluation of Information from Social Media	LISRGP	Kyung-Sun Kim University of Wisconsin-Madison,; Sei-Ching Joana Sin Nanyang Technological University
	Understanding Health Information Behaviors in Social Q&A: Text Mining of Health Questions and Answers in Yahoo! Answers	LISRGP	Sanghee Oh Florida State University
2012	A New Unsupervised Approach to Automatic Topical Indexing of Scientific Documents According to Library Controlled Vocabularies	LISRGP	Abdulhussain Mahdi, University of Limerick,; Arash Joorabchi, University of Limerick
	Reference Competencies from the Practitioner's Perspective: An International Comparison	LISRGP	Laura Saunders, Simmons College, Mary Wilkins Jordan Simmons College
	The Biblioblogosphere: A Comparison of Communication and Preservation Perceptions and Practices between Blogging LIS Scholar-Practitioners and LIS Scholar-Researchers	LISRGP	Carolyn Hank, McGill University,; Cassidy Sugimoto, Indiana University
2011	FOAF in the Archive: Linking Networks of Information with Networks of People Project presentation at ALISE2012 Annual Conference (pdf: 5.9MB/31pp.)	LISRGP	Cristina Pattuelli, Pratt Institute
	Modalities, Motivations, and Materials – Investigating Traditional and Social Online Q&A Services	LISRGP	Chirag Shah, Rutgers University
	Text Classification of Digital Reference Interviews: an Investigation of Information Seeking Behavior in the Social Web Environment Project presentation at ALISE 2012 Annual Conference	LISRGP	Bei Yu, Syracuse University
2010	The Public Library Catalogue as a Social Space: Usability Studies of User Interaction with Social Discovery Systems	LISRGP	Louise Spiteri, Dalhousie University
	Project presentation at ALISE 2011 Annual Conference		Laurel Tarulli, Halifax Public Libraries
	Impact of Open Source Library Automation System on Public Library Users	LISRGP	Hsin-liang Chen, Indiana University
	Project presentation at ALISE 2011 Annual Conference		Barbara Albee, Indiana University

	Assessing the Reuse Value of Socially Created Metadata for Image Indexing	LISRGP	Besiki Stvilia, Florida State University
	Project presentation at ALISE 2011 Annual Conference		Corinne Jörgensen, Florida State University
2009	Folktales and Facets	LISRGP	Kathryn La Barre, University of Illinois
	Project presentation at ALISE 2010 Annual Conference		Carol Tilley, University of Illinois
	Addressing the Metadata Bottleneck by Developing and Evaluating an Online Tool to Support Non-specialists to Evaluate Dublin Core Metadata Records)	LISRGP	Michael Khoo, Drexel University
	Project presentation at ALISE 2010 Annual Conference)		
	Investigating Gaze Behavior in Faceted Search Interfaces for Library Catalogs	LISRGP	Bill Kules, The Catholic University of America
	Project presentation at ALISE 2010 Annual Conference		
2008	Analyzing Image Searching on the Web: How Do Undergraduates Search and Use Visual Information	LISRGP	Youngok Choi, Cathiloic University
	Project presentation at ALISE 2009 Annual Conference		
	Developing and Evaluating a Query Recommendation Feature to Assist Users with Online Information Seeking and Retrieval	LISRGP	Diane Kelly, University of North Carolina at Chapel Hill
	Project presentation at ALISE 2009 Annual Conference		
	User Based Question Answering: An Exploratory Study of Community Generated Information Exchange in Yahoo!Answers	LISRGP	Rong Tang, Simmons College
	Project presentation at ALISE 2009 Annual Conference		Sheila Denn, Simmon College
2007	Self-views of Information-Seeking Skills: Undergraduates' Understanding of What It Means to be Information Literate	LISRGP	Melissa Gross, Florida State University
	Project presentation at ALISE 2008 Annual Conference		Don Latham, florida State University
	Investigating the User Needs and Preferences for a Specialized Environmental Library	LISRGP	M. Asim Qayyum, University of Puerto Rico Rio Piedras
	Project presentation at ALISE 2008 Annual Conference		Carlos Suarez Balseiro, University of Puerto Rico Rio Piedras Tania Garcia-Ramos, University of Puerto Rico Rio Piedras
2006	Citation Analysis of Library and Information Science Faculty Publications: ISI Databases and Beyond	LISRGP	Lokman Meho, Indiana University
	Project presentation at ALISE 2007 Annual Conference		Kiduk Yang, Indiana University
	Assessment of Library Support Services for Distance Learners: A Case Study of the University of Nairobi, Kenya	LISRGP	Joyce Kanini Mbvesa, University of Nairobi
	The Return on Investment of Collaborative Virtual Reference Service	LISRGP	Jeffrey Pomerantz, University of North Carolina at Chapel Hill

	The Use of Collaborative Tagging in Public Library Catalogs Related article: Spiteri, Louise F. 2007. "The Structure and Form of Folksonomy Tags: The Road to the Public Library Catalog." Information Technology and Libraries, 26,3(September): 13-25.	LISRGP	Louise Spiteri, Dalhousie University
2005	A Survey of the Extent and Utilization of Cataloging Tools and Resources within Technical Services in the North Texas Public Libraries	LISRGP	Shawne Miksa, University of North Texas
	The Mining of Cataloging Knowledge from Bibliographic Data for Automatic Subject Cataloging (.pdf: 1.61MB/103 pp.)	LISRGP	Jun Wang, Peking University
	Related Article: Wang, Jun and Meng-Chen Lee. 2007. "Reconstructing DDC for Interactive Classification.		Hong Xu, University of Pittsburgh
	A Dual Approach to Web Query Mining: Towards Conceptual Representations of Information Needs	LISRGP	Peiling Wang, University of Tennessee at Knoxville
2004	Developing a Thesaurus for Indexing Images across Diverse Domains	LISRGP	Corinne Jorgensen, Florida State University
	Consumer Health Information Services in American Public Libraries: An Assessment of Current Status and Educational Needs	LISRGP	Feili Tu, University of South Carolina
	Academic Reference Librarians and Extending Access to Primary Sources	LISRGP	Elizabeth Yakel, University of Michigan
2003	Image Intermediation: Visual Resource Reference Services for Digital Libraries	LISRGP	Abby A. Goodrum, Syracuse University
	Vocabulary Alignment via Basic Level Concepts	LISRGP	Rebecca Green, University of Maryland
	The Thank You Study: User Satisfaction with Digital Reference Service .	LISRGP	Joseph Janes, The University of Washington
2002	Optimizing Metadata Creation: A Model for Integrating Human and Automatic Processes	LISRGP	Jane Greenberg, The University of North Carolina at Chapel Hill
	Operationalizing Barriers in Dissemination of African Research and Scholarship	LISRGP	Lorna Peterson, University at Buffalo , SUNY
	Reification of Information Seeking Habits	LISRGP	Wonsik Shim, Florida State University
2001	Global Collective Resources: WorldCAT as the Foundation for International Library Cooperation	LISRGP	Anna Perrault, University of South Florida
	Ease of Use versus User Control: Desired Interface Model and Functionalities for Web-based Online Databases	LISRGP	Hong Xie, University of Wisconsin-Milwaukee
	Identification of Resource Types of Web Accessible Information	LISRGP	Hong Xu, University of Pittsburgh Arlene Taylor, University of Pittsburgh
1999	Clustering Fiction Works to Improve Online Catalog Displays	LISRGP	Allyson Carlyle, University of Washington
	An LCSH-Based Controlled Vocabulary for the Dublin Core Metadata Record: A Feasibility Study	LISRGP	Lois Mai Chan, University of Kentucky
	An English-Russian Dictionary of LIS Terminology: The First Such Web Based Resource	LISRGP	John Richardson, University of California, Los Angeles

	Tracking the Viability of an Evaluation Tool for Public Library Adult Fiction: The Five-Year Mark	LISRGP	James Sweetland, University of Wisconsin-Milwaukee
1998	The Applicability of Selected Classification Systems to Image Attributes Named by Naive Users	LISRGP	Corinne Jorgensen, University of Buffalo-State University of New York
	Genre as Interface Metaphor: Exploiting Form and Function in Digital Environments	LISRGP	Elaine Toms, Dallhousie University
	Object Description on the Internet: A Study of Current Standards and Proposed Metadata Cores in a Digitized Historical Fashion Collection	LISRGP	Marcia Lei Zeng, Kent State University
1997	Examining the Attributes of Information Resources on the World Wide Web and Testing for Their Usefulness as Metadata	LISRGP	Francis Miksa, University of Texas at Austin
	Computational Representation of Web Objects in an Interdisciplinary Digital Library: A Survey and Experiment in Polymer Science	LISRGP	Jian Qin, University of Southern Mississippi
1996	Library Research Seminar	Misc.	Arthur Young and Jane Robbins
	Workshop for Metadata for Networked Images/Imagebases	Misc.	Paul Evan Peters
	A Descriptive Study of the Usability of Geospatial Metadata	LISRGP	Myke Gluck, Florida State University
	A Demonstration System for the Explicit Control of Bibliographic Works and Relationships	LISRGP	Gregory H. Leazer, University of California , Los Angeles
	Quality Criteria for Evaluating Information Resources and Services Available from Federal Websites Based on User Feedback	LISRGP	Charles R. McClure, Syracuse University
1995	A Computer-Generated Subject Validation File Based on Frequency of Occurrence of Assigned Library of Congress Subject Headings, Phase II Error Correction and Analysis	Misc.	Lois Mai Chan, University of Kentucky
	A Relational Thesaurus: Modeling Semantic Relationships Using Frames	LISRGP	Rebecca Green, University of Maryland
	The Impact of Electronic Journals on Scholarly Indiana University Communication: A Citation Study	LISRGP	Stephen P. Harter
	Graphical Table of Contents for Electronic Documents	LISRGP	Xia Lin, University of Kentucky
	Analyzing the Viability of Using Peer Group Holdings as an Evaluation Tool for Public Library Adult Fiction	LISRGP	James Sweetland & Judith Senkevitch, University of Wisconsin Milwaukee
1994	Feasibility of a Machine-Generated Subject Validation File Based on Frequency of Occurrence of Assigned Library of Congress Subject Headings	Misc.	Lois Mai Chan, University of Kentucky
	Hypertext Bibliographic Retrieval: A Comparison of Linkage Environments	LISRGP	Alexandra Dimitroff & Dietmar Wolfram, University of Wisconsin
	End-user Understanding of Subject Headings	LISRGP	Karen M. Drabenstott & Amy J. Warner, University of Michigan
	Developing Control Mechanisms for Intellectual Access for Discipline-based Virtual Libraries--A Study of the Process	LISRGP	Lei Zeng, Kent State University
1993	An Empirical Test of Gopher Search Using Three Organization Schemes	LISRGP	Carolyn O. Frost, University of Michigan

	A Study on Network Publication	Misc.	F. W. Lancaster, University of Illinois
	Toward the Bibliographic Control of Works: Derivative Bibliographic Relationships in the Online Union Catalog	LISRGP	Richard P. Smiraglia, Long Island University
	Information Visualization	Misc.	Ben Shneiderman, Consortium Research University of Maryland at College Park.
	Evaluating Public Library Fiction Collections: Is There a Core List of Classics	LISRGP	James H. Sweetland & Judith J. Senkevitch, University of Wisconsin
1992	Enhancing a New Design for Subject Access to Online Catalogs	LISRGP	Karen M. Drabenstott, University of Michigan
	References to Information in Scientific Articles	Misc.	Frederick Kilgour, University of North Carolina
	Electronic Texts and Traditional Indexes: A Study of Applicability and Performance	LISRGP	Elizabeth D. Liddy, Syracuse University
	Measuring Diversity in Collections in OCLC Public Libraries	LISRGP	Judith Serebnick, Indiana University
	Implementation and Performance Evaluation of an Image Decompression Algorithm	Misc.	Clement T. Yu, The University of Illinois at Chicago
1991	A Descriptive Study of the Functional Components of Browsing	LISRGP	Barbara Kwasnik, Syracuse University
	The Art of Back-of-the-Book Indexes (grant extension - add. funding)	Misc.	Elizabeth D. Liddy, Syracuse University
	The Future Role of Public Libraries in the Use of Non-Bibliographic, Internet/ NREN Information Services	LISRGP	Charles McClure, Syracuse University
	A Study of the Quality of Chinese Records in the OCLC Database and a Proposal for a Rule-Based Validation System	LISRGP	Edie Rasmussen, University of Pittsburgh
1990	Optimal Selection of Records for CD-ROM	Misc.	Abraham Bookstein, University of Chicago
	Determining the Content of Machine-Readable Subdivision Records	LISRGP	Karen Markey Drabenstott, The University of Michigan
	The Art of Back-of-the-Book Indexes	Misc.	Elizabeth D. Liddy, Syracuse University
	Interface Design for Subject Searching on an Online Catalog	LISRGP	Padmini Srinivasan, The University of Iowa
	A Study of Scholars' Access to the Documents They Cite	LISRGP	Keith Swigger, Texas Womens University
	Automatic Hierarchical Organization of Phrases Using Machine-Readable Dictionary Information	LISRGP	Amy J. Warner, The University of Michigan
	Data Compression	Misc.	Clement Yu, The University of Illinois at Chicago
1989	Design Principles for Third Generation Online Public Access Catalogs	Misc.	Nicholas Belkin, Rutgers,
	The Current State of Resource-sharing/ Collaboration/ Cooperation Within the Library Community	Misc.	Richard M. Dougherty, The University of Michigan
	Investigation of a Rule-Based System for the Use of DDC as a Subject Approach to Search On-Line Catalogs	Misc.	Elizabeth E. Duncan, University of Pittsburgh
	Advanced Retrieval Methods for Online Catalogs	Misc.	Edward A. Fox, Virginia Polytechnic Institute and State University

	The General Structure of a Knowledge Base for Anglo-American Cataloging Rules	LISRGP	Ling Hwey Jeng, University of Maryland
	Identifying Barriers to Effective Subject Access in Library Catalogs	LISRGP	F. W. Lancaster, University of Illinois
	The Federal Roles in Support of Public Library Services	Misc.	R. Kathleen Molz, Columbia University
	An Investigation into the Structure of LCC and LCSH to Support the Development of a Classification Knowledge Base	LISRGP	Dagobert Soergel, University of Maryland
	Toward Integration of Online Resources: Development of Procedures for Linking Database References to Records in Online Catalogs	LISRGP	Linda Smith, University of Illinois, Urbana -Champaign
	The Language Distribution of Serial Records in the OCLC Online Union Catalog	LISRGP	Gretchen Whitney, The University of Arizona
	Compression of Data for Retrieval	Misc.	Clement Yu, The University of Illinois at Chicago
1988	Research of Knowledge-based Descriptive Cataloging of Cartographic Publications: An Experimental Advice-giving System	LISRGP	Harold Borko, University of California, Los Angeles
	An Automatic Method of Enhancing Topical Searching for Online Catalogs Based on Classification Clustering	LISRGP	Ray R. Larson, University of California
	The Use of Journals by Scholars: Implications for Designing an Interface to the Electronic Journal	Misc.	Jan Kennedy Olsen, Cornell University
	Automatic Syntax Based Phrase Construction for Content Analysis (grant extension - add. funding)	Misc.	Gerard Salton, Cornell University
	The Relationship between Library Holdings of Small Indiana University Publishers' Books and Selection Sources, Particularly Reviews	LISRGP	Judith Serebnick, Indiana University
	An Analysis and Profile of the Library of Congress Classification	Misc.	Nancy J. Williamson, University of Toronto
	Adaptive Term Weighting Retrieval	Misc.	Clement Yu, The University of Illinois at Chicago
1987	Convertibility of OCLC Online Union Catalog Subject Headings to Non-English Language Subject Headings	LISRGP	Emilia Bernal-Rosa, University of Puerto Rico
	An Investigation of the Application of the Revised MARC Format for Three-dimensional Objects to Museum Collections	LISRGP	Esther G. Bierbaum, The University of Iowa City
	Analytical Study on Perceptions of Bibliographic Data on a Title Page	LISRGP	Billie Grace Herring, The University of Texas at Austin
	Subject Representations in OCLC Monographic Records	LISRGP	Pamela Reekes McKirdy, Simmons College, Boston
	Conversion of Data from Louisiana State University and ACRL	Misc.	Robert E. Molyneux, Louisiana State University, Baton Rouge
	A Guide to the Machine Readable Version of the ACRL Statistics	Misc.	Robert E. Molyneux
			Louisiana State University
			Baton Rouge
	Automatic Syntax Based Phrase Construction for Content Analysis	Misc.	Gerard Salton, Cornell University
	Name-Authority Project	Misc.	Jerry D. Saye, The University of North Carolina at Chapel Hill
	The Measurement of Scatter in the Superintendent of Documents Classification	LISRGP	Lee Shiflett, Louisiana State University
	Extent of Variations in Personal and Corporate Names Found in the OCLC Bibliographic File	LISRGP	Arlene G. Taylor, Columbia University

	Brief Checklists for Setting and Verifying Collection Levels	LISRGP	Howard D. White, Drexel University
	Term Weighting in Document Retrieval	Misc.	Clement Yu, The University of Illinois at Chicago
1986	Variations in Subject Cataloging on Non-LC Cataloging Records in the OCLC Database	LISRGP	Lois Mai Chan, University of Kentucky
	Assessing Access to Alternative Press Publication: Women's Press Titles in the OCLC Database	LISRGP	Suzanne Hildenbrand, State University of New York at Buffalo
	Tables of Contents in OPACs	LISRGP	Mark T. Kinnucan, University of Western Ontario
	Dynamics of the OCLC Online Union Catalog	LISRGP	Debora Shaw University of Illinois at Urbana-Champaign
	Studies in Automatic Cataloging	LISRGP	Elaine Svenonius, University of California , Los Angeles
	Holdings as a Measure of Journal Value	LISRGP	Danny P. Wallace, Louisiana State University
1985	An Expert System Approach to Syntactic Parsing and Information Retrieval	Misc.	Douglas Metzler, University of Pittsburgh

OCLC / ALISE Library and Information Science Research Grant Program (LISRGP):

This research grant program was started in the year 1985. During the period 1985 to 2020, it has been given to a total of 141 Research Projects. Two types of grants are reported viz, LISRGP Grant and Miscellaneous grant. It is also observed that miscellaneous grant is also given for conducting seminars and workshops. This grant was not given in the year 2000.

Table- 4 Type of Grants

Sr. No	Type of Grant	No of Research Projects	Percent
1	LISRGP	113	80.14
2	Miscellaneous	28	19.85
	Total	141	100

Table 5 Authorship Patterns of the Research Projects Selected under OCLC / ALISE LISRGP

Sr. No	Authorship Pattern	No of Research Projects	Percent
1	Single Author	110	79.13
2	Two Authors	25	17.98
3	Three Authors	4	2.87
	Total	139	100

Figure- 1 Pie diagram showing Authorship Pattern

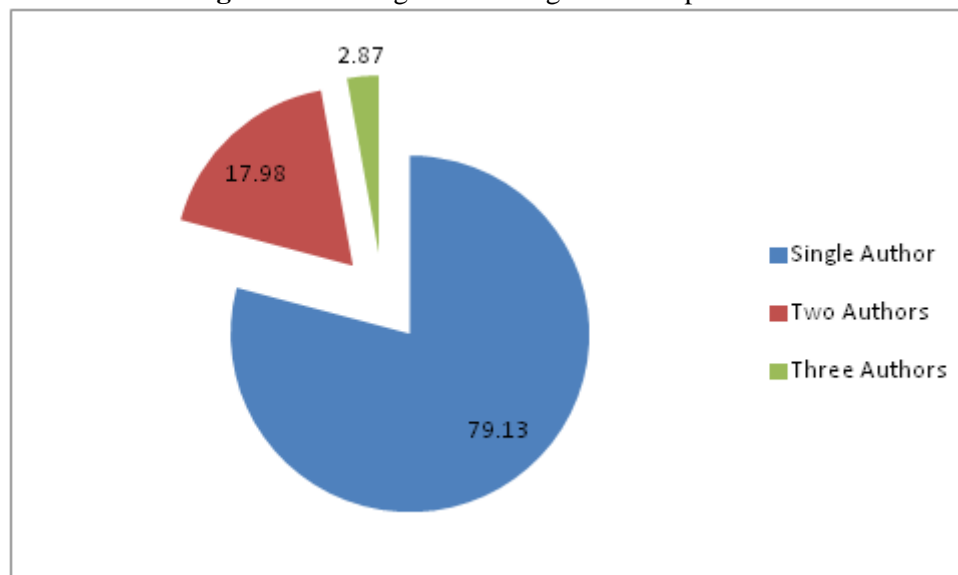


Table- 6: Ranking of Universities

Sr. No	University	No of times received grant
1	Syracuse University	09
2	Florida State University	07
3	University of Wisconsin	08
4	The University of Illinois at Chicago	05
5	University of Illinois	05
6	University of Kentucky	05
7	University of Pittsburgh	05
8	Indiana University	04
9	Louisiana State University	04
10	University of California Los Angeles	04
11	University of Maryland	04
12	Cornell University	03
13	Dalhousie University	03
14	Drexel University	05
15	Simmons College, Boston	03
16	The University of Michigan	03
17	University of Michigan	03
18	University of North Carolina	03
19	Columbia University	02
20	Kent State University	02
21	Rutgers University	04
22	The University of Iowa	02
23	The University of North Carolina at Chapel Hill	02
24	University of Puerto Rico - Rio Piedras	02
25	Catholic University of America	01
26	Consortium Research University of Maryland at College Park	01
27	Long Island University	01
28	McGill University	01
29	Peking University	02
30	Pratt Institute	01
31	State University of New York at Buffalo	01
32	The Catholic University of	01
33	The University of Arizona	01
33	The University of Texas at Austin	02
34	The University of Washington	01
35	University at Buffalo, SUNY	01
36	University of Buffalo-State University of New York	01
37	University of California, Berkeley	01
38	University of Chicago	01
39	University of Limerick	03
40	University of Nairobi	01
41	University of North Texas	01
42	University of Ottawa	01
43	University of South Carolina	01
44	University of South Florida	01
45	University of Southern Mississippi	02
46	University of Tennessee at Knoxville	01
47	University of Texas at Austin	01
48	University of Toronto	01
49	University of Washington	02
50	University of Western Ontario	01
51	Virginia Polytechnic Institute and State University	01

52	Humboldt-Universität zu Berlin	01
53	University of St Andrews	01
54	The University of Tennessee	01
55	University of Missouri	02
56	Queens College, CUNY	01
57	University of British Columbia	01

Collaborations

Dalhousie University	Halifax Public Libraries
McGill University	Indiana University Bloomington
University of Wisconsin-Madison	Nanyang Technological University
Drexel University	University of Oklahoma

5 OCLC Visiting Scholar Awards

The OCLC visiting scholar post allows experienced scientists, educators, and administrators with demonstrated research capabilities to pursue projects on site at OCLC. Visiting scholars conduct research in areas of mutual interest to themselves and OCLC so that both benefit from a close working relationship.

Qualifications

The visiting scholar must have a Ph.D. degree or equivalent training and substantial experience in directing and conducting research in one or more fields of interest to OCLC including:

- Library science
- Information science
- Computer science
- Applied mathematics
- Statistics
- Psychology
- Human factors

Appointees are expected to conduct research that focuses on problems of significance to the library and information science community; the research need not be specific to OCLC's development and production activities. OCLC expects that research results will be published in the open literature and that, during their stay, visiting scholars will give at least one presentation at OCLC on their work-in-progress.

Environment

Resources available to the visiting scholar include access to WorldCat (the OCLC Online Union Catalog) and other online information providers as well as other data related to the OCLC database and communications network. In addition, a rich computing environment is available for research purposes, and OCLC staffs are available for consultation.

Table- 7 OCLC Visiting Scholar Awards Year wise Distribution

Sr. No	Year	Name	Designation	University/ Institute
1	1978-1979	Edward T. O'Neill	Associate Professor	School of Information and Library Studies, State University of New York at Buffalo
2	1979-1980	William E. McGrath	Dean of Library Services,	University of Lowell, Lowell, Massachusetts
3	1980-1981	Pauline A. Cochrane	Professor	School of Information Studies, Syracuse University
4	1981-1982	Donald J. Sager	Administrative Librarian	Elmhurst Public Library, Elmhurst, Illinois
5	1982-1983	Nancy B. Olson	Associate Professor	Audiovisual Cataloger, Mankato State University, Mankato, Minnesota
6	1983-1984	Mary Jo Lynch	Director	Office for Research and Statistics, American Library Association, Chicago,

Illinois				
7	1984	Allan Pratt	Professor	Graduate Library School, College of Education, University of Arizona
8	1985	Terry Noreault	Assistant Professor	Information Science, University of Pittsburgh
9	1985-1986	Martin Dillon	Professor	Library Science, University of North Carolina, Chapel Hill
10	1986-1987	Francis L. Miksa	Professor	Library and Information Science, University of Texas at Austin
11	1987-1988	Paul B. Kantor	President,	Tantalus, Inc., Cleveland, Ohio
12	1987-1988	Abraham Bookstein	Professor	Center for Information Studies, University of Chicago
13	1988-1989	Roland Hjerpe	Group Leader	LIBLAB Library and Information Science Research Laboratory, Department of Computer and Information Science, and University Library, Linkoping University, Linkoping, Sweden
14	1991-1992	Karen M. Drabenstott	Associate Professor	School of Library and Information Studies, The University of Michigan
15	1992-1993	Dik L. Lee	Associate Professor	Computer and Information Science, The Ohio State University
16	1992-1993	Mark T. Kinnucan	Associate Professor, S	School of Library and Information Science, University of Western Ontario, Elborn College, London, Ontario, Canada
17	1993-1994	Soichi Taniguchi	Research Associate,	University of Library and Information Science Ibaraki-ken, Japan
18	1996-1997	John V. Richardson, Jr.	Associate Professor	The University of California at Los Angeles, Graduate School of Education and Information Studies
19	1997-1998	Traugott Koch	Senior Librarian,	Electronic Information Services, LUND University Library, Development Department NetLab, Lund, Sweden
20	1999-2000	Hwa-Wei Lee	Dean Emeritus,	Ohio University Libraries, Athens, Ohio
21	2000	Karen M. Drabenstott	Associate Professor,	University of Michigan, School of Information
22	2001	Elza Gousseva	Assistant Professor	Department of Library Science, Moscow State University of Culture and Arts
23	2001-2002	Nobuko Kishi	Associate Professor	Tsuda College, Kodaira, Tokyo, Japan
24	2001-2002	Tukaram Kumbar	Scientist-D	Information & Library Network Centre (INFLIBNET), Ahmedabad, India
25	2002	Jian Qin	Assistant Professor	School of Information Studies, Syracuse University
26	2002-2003	Mitsuharu Nagamori	Assistant Professor,	University of Library and Information Science, Tsukuba, Ibaraki Japan

6. OCLC Research Software Contest

2005 winners		
Winner	Submission	Remarks & Rewards
Dazhi (David) Jiao The Winner	An OPAC that includes a ranked list of harvested citations when a detailed bibliographic record is displayed.	The contest judges considered that David's submittal demonstrated an innovative way of integrating OPACS with harvested metadata and made good use of open source software from OCLC. As the contest winner, Mr. Jiao will receive a check for \$2,500 and

		a visit with OCLC researchers and others in Dublin, Ohio (USA).
Ross Singer of Georgia Tech The runner-up	A WAG the Dog implementation featuring Open WorldCat and xISBN functionality.	
2006 Winners		
Winner	Submission	Remarks & Rewards
Ross Singer Winner	Umlaut, an OpenURL Link Resolver intended to improve access to library collections by contextualizing citations and available holdings more accurately for a given user.	The contest judges were impressed at how much the Umlaut does for the user, especially the effort to get them to full text files, and thought the use of OCLC services was well done. As the contest winner, Mr. Singer will receive a check for \$2,500 and a visit with OCLC researchers and others in Dublin, Ohio
Jesse Andrews Contest runner-up	Book Burro aFirefox/Flock extension that uses Open WorldCat and xISBN functionality to facilitate locating books.	
2007 winners		
Winner	Submission	Remarks & Rewards
David Walkar	Bridge, a set of services to provide a configurable and customizable full record display made up of WorldCat services	The contest judges were impressed with how Mr. Walker was able to provide a set of very useful methods to enhance WorldCat services from the perspective of individual libraries. The software architecture, code, and documentation also were impressive. As the contest winner, Mr. Walker will receive a check for \$2,500 and a visit with OCLC researchers and others in Dublin, Ohio (USA).

FINDINGS AND CONCLUSION

The Major Findings are

- To promote LIS Research OCLC has constituted Awards, Scholarships and Research Grants. These are Frederick G Kilgour Award, LITA/OCLC Minority Scholarship, OCLC/ALISE Library & Information Science Research Grants Awards, OCLC Visiting Scholar Awards, Grants for organizing Seminars and Conferences.
- There are twenty three recipients for Frederick G Kilgour Award from 1998 to 2020 first awarded in 1998, the Frederick G. Kilgour Award generally is made on an annual basis. It consists of \$2,000 in cash and an expense-paid trip to the ALA conference.
- The LITA/OCLC Minority Scholarship, established in 1991, is awarded jointly annually by OCLC, Inc and the Library and Information Technology Association, a division of the American Library Association, in the amount of \$3,000.0 this scholarship was started from the year 1991 and total 7 winners received under this category till 1997
- OCLC/ALISE Library and Information Science Research Grants Awards recognizing the importance of research to the advancement of librarianship and information science, OCLC Research and ALISE. Grant awards range up to \$15,000 and support one-year research projects. ALISE serves 500 individual members and more than 60 institutional members, primarily in the United States and Canada.
- OCLC Research conferences and meetings include event summaries, presentations, webinars and audio recordings when applicable.

CONCLUSIONS

The present study draws the following conclusions on the basis of above key observations:

To promote independent research, particularly work helping to integrate new technologies that offer innovative approaches and research that contributes to a better understanding of the information environment and user expectations and behaviors, OCLC Research and ALISE, the Association for Library and Information Science Education, annually collaborate to offer the Library and Information Science Research Grant Program.

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UNDERSTANDING PERSPECTIVES OF COLLEGE STUDENTS ON SOCIAL MEDIA AS A DIGITAL ECOSYSTEM

Meera Swami¹ and Sunita Magre²¹Research Scholar, Ph.D. Student, Department of Education, University of Mumbai²Guide, Professor and Head, Department of Education, University of Mumbai**ABSTRACT**

The term “global village” refers to all parts of the world brought together by the internet and other electronic communication links. Social media use has increased rapidly over the past decade round the world. The increase in the number of users of social media has brought forth new ideas and concerns regarding the impacts of social media on our lives. This paper aims to explore the perspectives of youth (college students) on social media as a digital ecosystem. Qualitative phenomenological approach was employed. In-depth individual interviews were conducted for college students studying in undergraduate and postgraduate programmes of science and technology, commerce and management, arts and interdisciplinary studies. An open-ended, semi-structured interview protocol was used to collect the data. Data analysis involved organizing the data into codes, categories and themes. Data interpretation was carried out according to the themes that emerged. The themes were as follows: (1) Social Media: A multifaceted digital ecosystem connecting all, (2) Pitfalls of social media usage. The study revealed that the youth uses this tool for learning, sharing, interacting and building relationships, finding job opportunities, marketing, for awareness and activism. They perceive social media as a crucial part of their lives and have a thorough understanding of benefits and drawbacks that accompany social media usage. The perils of immoderate social media usage cannot be ignored; efforts can be made to curtail these ill-effects. This study will help in linking the discontinuity in the existing literature, create awareness among stakeholders and will steer further research and policies.

Keywords: Digital Ecosystem, Social Networking Sites, Social Media, Perspectives, Youth.

INTRODUCTION

Billions of us use social media every day around the world, and the number just keeps growing each day. It has become an intrinsic part of our lives to such an extent that it seems practically impossible for us to be without these media sites. It is used in building and maintaining our personal relationships, for the purpose of entertainment, at work place and in our studies as well. It has been observed that collectively more than 30 million messages on Facebook and almost 350,000 tweets every minute are sent. Our growing inclination towards social media is not only changing the way we communicate, but also the way we carry out our business, and the way we live in society. And it's doing so at a blistering speed.

Social media is a networking platform that provides a medium for people to connect and communicate with each other and for the youth to explore the world. Prior to the emergence of social media, people communicated either by mail, telephone or by personal visits. It was then that information travelled at a slower pace. While seeking information people would be required to visit libraries. The transmission system was revolutionized with the introduction of social media. Social media websites and applications enable users to create novel content. The upsurge of social media has made it faster and easier to access information. The social media sites are making it much easier for people to find one another even after decades of being apart.

Internet access and technology allow individuals to download information conveniently. Social media has become a crucial part of the modern society. It has made it feasible for individuals to choose what they read.

Social media revolution is related to modification of how different activities were carried out in the past. It has wide-ranging services in professional as well as personal lives - the very fact that one can be empowered with so much knowledge simply by the click of a button or be connected with so many avenues truly reflects its power. In fact, the maxim, 'it's a small world' holds true. This revolution in the sphere of social media has resulted in a democratic movement that emphasizes journalism's key factors such as: transparency, honesty, and also in giving a voice to the person who doesn't have one. It has influenced our economy too.

'Social media savvy' has replaced 'tech savvy' with regard to today's generation; Emails have been replaced by direct messages on social media like WhatsApp, Instagram, Facebook, Twitter etc. More than half of the Indian population is engaged in usage of social networking applications. Individuals with physical or other impediments/disabilities have found a place to express and connect through social media with other individuals who are similar to them. However, with the increasing use of social media its pitfalls are becoming increasingly

apparent, bullying and harassment being just a few examples. Bottom line remains that social media has become an inalienable part of life for an average teenager or college student.

NEED OF THE STUDY

The elevation in admiration for social media among college students has prompted researchers to study the startling growth of these platforms along with their pros and cons. India constitutes one of the fast growing markets for social media. Social media has grown into a package deal; providing connection, communication, entertainment, networking, information, and beyond. India now ranks as the seventh biggest market for social media worldwide. According to the Nielsen Company around 70 percent of all social media users in India access at least one social media application daily. Varsity students are effective users of social media for instructional purposes as well as for individual needs. As this social media occurrence is continuing to grow at a rapid pace, it is imperative to understand the effects it has on students. Each and every technological innovation brings some dilemmas and darker issues along as well. Likewise, these expanding links and applications online are setting back the actual values of life especially on college students, resulting in some unwelcome consequences.

The ever-increasing use of social media by young people across the world has numerous dangers and outcomes. These include privacy concerns such as sharing too much information, posting of false information about themselves or others, subjection to scammers and fraudsters, and dependency on internet or social media use that might be detrimental for their social, emotional, and psychological health and well-being. Susceptibility to cyberbullying; giving others access to personal information; subjection to inappropriate content, sexting, influences of third-party advertising; sleep deprivation, resulting in low academic performance are some other unfavourable outcomes of social media. It can be clearly inferred that social media could be both, a boon and a bane. Hence, there is an utmost necessity to understand the perspectives of college students on social media.

The youth segment of society is overlooked in researches and studies. Therefore, it is important to understand the college students' considerations regarding the use of social media. Hence, it was decided by the researcher to conduct a study to understand the perspectives of college students on social media as a digital ecosystem.

REVIEW OF RELATED LITERATURE

The review of related literature plays a leading role in helping the investigator to discover the research problem and avert duplication of a study.

Neelambar, M and Chitra, P. (2009) conducted a survey study on new media and society: A study on the impact of social networking sites on the Indian youth. Falahah, S. and Dewi, R. (2011) carried out a study of social networking usage in higher education environment. Suwannathachote, P. and Tantrarungroj, P. (2012) worked on how Facebook connects students' group work collaboration: A relationship between personal Facebook usage and group engagement. Rebecca, V. (2012) focused on Students' use of personal social networking sites to support their learning experiences. Melor, Md. Y. and Hadi, S. (2012) conducted a study on the effectiveness of Facebook groups on teaching and improving writing: Students' perceptions. Kavita (2015) focused on the influence of social media on Indian students and teenagers. Khurana, N. (2015) conducted a study on the impact of social networking sites on the youth. Krishna, P. K. and Sumana, S. (2015) worked on effect of social networking sites on students' academic performance in SIMS, Mangalore. Asad, A., Anam, I. and Kanwal, I. (2016) worked on effects of social media on youth: A case study in university of Sargodha. Sandra, O. M. and Ismail, N. (2016) observed the impact of social media on students' academic performance - A case of Malaysian tertiary institution. Selasi, K. O., Wolali, A. and Charles, F. O. (2016) worked on the impact of social media on the youth: The Ghanaian perspective. Andie, P. (2017) studied social media and its Stark influence on society. The research paper proposed the positive and negative impacts of social media on society. Gopinath and Gowtham (2020) carried out their study on the impact of social networking sites on Indian youth. Sheikhlal and Sadeghpour (2020) explored the effect of social networks on educational procrastination by students and intermediate role of self-regulatory learning strategies. Shahbazi et al. (2021) studied the social networking effects on student's academic group performance in a synergistic learning environment. Ostic et al. (2021) elucidated the impact of social media usage on mental health. By taking advantages of contributions from various disciplines, they looked at different mediators, such as social capital types (social capital connections and social capital bridging), social isolation and smartphone addiction.

Extensive reviews of Indian and foreign research literature have shown that most of the researches related to the influences of social media on school students, adolescents are conducted in developed societies in comparison to the developing nations like India. The youth section is relatively ignored in the studies conducted. Thus, it is important to understand and explore the college students' perspectives regarding the usage of social media sites

and applications. It is also important to identify the age group of teens who have long been engaged in the use of social media as a result of which there are changes in their behaviour, mental and physical health and for that reason the researcher decided to conduct a study to understand the perspectives of college students on social media as a digital ecosystem.

STATEMENT OF THE PROBLEM

Understanding Perspectives of College Students on Social Media as a Digital Ecosystem.

AIM OF STUDY

To understand the perspectives of college students on social media as a digital ecosystem.

OPERATIONAL DEFINITIONS

Some of the terms used in the study have been operationally defined to prevent misinterpretation, as definition of terms establishes the frame of reference with which the present problem is approached.

Perspectives

Perspectives are the view points and beliefs of the college students that are based on their own experiences of usage of social media.

College Students

It includes the college students studying in undergraduate and postgraduate programmes of science and technology, commerce and management, arts and interdisciplinary studies in the age bracket of eighteen to twenty-five years.

Social Media

The researcher dealt mainly with the following social media applications: Facebook, YouTube, Instagram, WhatsApp and Twitter.

RESEARCH QUESTION

The following was the research question that guided the study:

What are the perspectives of college students on social media as a digital ecosystem as revealed to the researcher?

RESEARCH METHODOLOGY

As the aim of research was to understand the perspectives of college students on usage of social media as a digital ecosystem, the researcher employed qualitative phenomenology approach. Phenomenology is a qualitative research method that is used to illustrate how humans experience a specific phenomenon. A phenomenological approach attempts to put aside biases and preconceived suppositions about human observations, feelings, and reciprocations to a specific situation. It permits the investigator to root about into the perceptions, perspectives, understandings, insights and emotions of the people who have experienced or lived the phenomenon of interest in reality. Therefore, this approach was chosen by researcher to get an in-depth understanding of how college students view, interpret and perceive social media as a digital ecosystem.

SAMPLE OF THE STUDY

In the present study, for conducting in-depth interviews, the researcher included twenty undergraduates and postgraduates from the colleges of South Mumbai. The participants were chosen considering four different groups, namely, science and technology, commerce and management, arts and interdisciplinary studies in the age group of eighteen to twenty-five years. The technique used for sample selection was snowball sampling or chain sampling.

TOOLS OF RESEARCH

For the purpose of this study, interview protocol was used to collect the data. In addition, the researcher prepared a personal data sheet for the purpose of data collection.

TECHNIQUES OF DATA ANALYSIS

Open-ended, semi-structured interview protocol was used to collect data. The interviews were conducted in online and offline modes in accordance with availability and convenience of the participants. They were informed that their participation in this study would be voluntary and their consent was taken prior to scheduling of interviews. This allowed the researcher to access the world of college students and to understand their world from the standpoint of a theory that is grounded in languages, behaviours, definitions, feelings and attitudes.

Data Analysis Technique Is Represented In The Diagram:

Data → Codes → Categories → Themes

SCOPE AND LIMITATIONS OF THE STUDY

This study dealt with undergraduates and postgraduates from the various programmes of science and technology, commerce and management, arts and interdisciplinary studies from South Mumbai only. The study was limited to the college students in the age group of 18 to 25 years; does not include any other colleges from other cities; was qualitative in nature and was conducted only through interviews using both online and offline modes.

SIGNIFICANCE OF THE RESEARCH

This study will generate awareness and understanding among the college students so that the proper use of social media becomes a tool to educate, enlighten, coach and uplift their mindset level. This study will further supplement the current knowledge about usage of social media by the India youth. The findings of this paper will notify government and other stakeholders about trends in young people's social media use, problems related with its use and suggest measures to facilitate its constructive use. This study may provide knowledge for the upcoming scholars. This study will be important with a view to get information pertaining to beneficial outcomes of using social media and the adverse effects of its immoderate use on their physical as well as mental health. The study will also make them mindful about the degree of their social media usage.

➤ From the analysis of the data the following themes emerged:

THEME I. Social Media: A multifaceted digital ecosystem connecting all.

1. Facilitates learning- A great gadget for education.
2. Allows sharing
3. Encourages interaction
4. Provides entertainment
5. Spreads awareness and activism
6. Effective marketing tool

THEME II. Pitfalls of social media usage

1. Time consumption
2. Fear of missing out (FOMO)
3. Effects on physical health: Affects body posture, eyesight and may cause obesity
4. Emotional and mental health effects: Causes anxiety, depression and addiction
5. Cyberbullying
6. Identity theft
7. Phishing

DISCUSSION

The motive of the study was to explore and understand the college students' opinions, feelings and perspectives on the various aspects of social media as a digital ecosystem. The social media applications like WhatsApp, Facebook, YouTube, Instagram, and Twitter are used by almost all of the participants. LinkedIn, Telegram, Spotify, Netflix, Chrome, GPay, Phonepe, Quora, Gmail, News apps, Games and Prime Video were among the other applications used. The majority of participants used their phones to access social media, but laptops, tablets, and PCs were also used. Almost majority of interviewees said they checked their phones every 15 minutes or so to access social media.

The respondents stated that they use social media for a variety of reasons. Youth use social media to communicate, interact, and stay in touch with friends and family, to stay informed about what's going on in the world, to learn about other people's experiences, to post motivational or interesting stories, to promote businesses, to learn new skills, and to find employment or a secondary source of income for themselves or others, for entertainment, educational purposes, gathering information, sharing news, and developing their own thoughts, and for entertainment as well as educational purposes. The youth see social media platforms as providing a sense of belonging. On social media, they portray themselves as upbeat, cheerful, and alert citizens.

Time consumption was revealed as one of the major concerns by majority of the college students which affected their daily tasks. They also expressed a fear of missing out (FOMO) which always made them pick up their phones on and off. They always felt that they might miss out on something trending if they are not checking their phones regularly. Phishing, identity theft, and cyberbullying were all mentioned as social media threats by the participants. They even linked social media use to emotional and mental health issues like anxiety, depression, stress, loneliness, low self-esteem, and poor sleep quality, as well as misinformation, fact-bending for personal gain, distraction from daily tasks, and even online bullying and harassment that causes trauma and stress. Data security and privacy issues are among the technical dangers to social media, according to the respondents. Long periods on social media have been linked to poor physical health. Some interviewees also mentioned that on social media, people often present a one-sided picture which shows them in a favourable light.

Regarding ways to approach and minimize the effect of downsides associated with social media, respondents enumerated the following - being cognizant of social media usage and placing time limits, switching off gadgets and spending time away from social media, tracking time spent on social media, deletion of social media, sticking to credible sources for any information, encryption of private data, steering clear of unnecessary or fraudulent web sites, maintaining a close group of online friends and acquaintances, being aware of the perils, creating awareness and consulting an expert in severe case of addiction or dependence on social media.

On evaluation it was revealed that the importance of social media has expanded as well as diversified during the pandemic and is being used not only for content consumption but also for content generation. Youngsters consider social media to be an impactful tool. It was noted that the participants' friends found social media to be useful. Most respondents agreed that their friends and family use social media platforms to connect primarily via Facebook, WhatsApp and Instagram.

Some participants revealed that their parents are also aware of the importance of social media. They understand the need to stay connected with people especially during the pandemic and otherwise as well. On the other hand, some respondents stated that their parents perceive usage of social media as a hindrance with regard to normal socialization and as a waste of time. Concerns with respect to social media addiction were conveyed. It was also stated by the respondents that everyone's views are based on their respective experiences and may or may not hold right for everyone.

CONCLUSION

The study shed light on the fact that maximum number of youth today use social media for some or the other purpose. They use this tool towards sharing, learning, interacting and building relationships, and also for generating awareness, activism and marketing. The youth view social media as an inalienable part of their life and culture, they also displayed great understanding of benefits and drawbacks of social media usage highlighting that if used moderately, social media is a blessing to the mankind. The perils of immoderate social media usage cannot be disregarded and efforts can be made to minimize them. Hence, social media is comparable with a double-edged sword.

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SCOPE AND CHALLENGES FOR WOMEN IN LEGAL STUDIES AT PALGHAR DISTRICT.

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ABSTRACT

There is in Africa, an old African saying that, "If you educate a man you educate an Individual; but if you educate a women, you educate a family." This saying is a pioneer, in its self to realize the importance of women's education. Women development can be seen in all the spheres in India lately. From earth to moon, there is not a single corner where women have not proved themselves. But still there are some subjects and fields where the lack of interest of Indian women can be traced. In this Article an effort has been made to find out the challenges and scope for Women in Legal field at the Palghar District in Maharashtra.

INTRODUCTION

Had Kalpana Chawla thought that as a woman how can she land on moon? Perhaps then the history would not have been created: but Kalpana Chawla broke loose from such orthodox thought and went on to prepare herself for landing on moon and ultimately she rested after laying her foot on the moon. This illustration of Kalpana Chawla should be a mile stone in every woman's life who wants to become something, who want to soar off in the sky, who want to fly and fly and fly but could not do so for some reasons either social personal or economical.

Beside all hurdles and tough educational journey Women have not left any stone unturned. For instance in Literature the well-known names amongst female are Jumpa Lahiri, Arundhati Roy, Kiran Desai, Nikita Lalwani etc. As a best Economist there are several other names that can be added to the list of Indian Women Economists—Jayati Ghosh, Devaki Jain, Indira Rajaraman, and Kanta Ranadive and of course Nirmala Sitharaman.¹

Meanwhile, a new generation is also making its presence felt, not just in academia but also in the policy world. Pami Dua is a member of the Monetary Policy Committee that sets interest rates. Shamika Ravi and Ashima Goyal are members of the Prime Minister's Economic Advisory Council. India has not yet had a female RBI Governor or Chief Economic Advisor. The private sector has a far better gender record when it comes to Chief Economists.

Moreover in sports field Mithali Raj, Mary Com, P.V. Sindhu, and as a Bussinesswomen Kiran Mazumdar Shaw, Renuka Jagtiani, Roshni Nadar Malhotra, Indra Nooyi. Adding to the list Gita Gopinath is the First Woman Chief Economist of IMF, Anshula Kant First Woman Chief Financial Officer of the World Bank Group are in the top position in the world.

So a question arises that in the legal field is the participation of women same? There are few famous women personality in legal field such are as :-

Mishi Chaudhry

She is the only lawyer to appear in the Indian as well as US Supreme Court. Not only this but this woman is also a Digital Rights activist who since a long time has been continuing the fight in the realm of net neutrality.

Vrinda Grover

Grover is not only a lawyer but also a Human Rights activist who has made significant influences in the Women's Rights movement in India. And she has been prominent in the drafting of the POCSO Act 2012, Criminal Law Amendment of 2013, and the Prevention of Torture Bill, 2010.

Indira Jaising

Jaising committed her life to struggle for the cause of human rights and thus she founded a Lawyers Collective, a human rights organization, in 1981. She was also the first woman to be appointed as an Additional Solicitor General of India in 2009.

Likewise Minakshee Arora, Minakshi Lehri, Meneka Guruswamy are also well known Lawyers of India. The above-mentioned women have held our head high always and have made the country proud of them. They are the priceless jewel of the country.

There is an almost equivalent ratio of women and men in law schools and colleges, but when they move up in the ladder from students to lawyers and then the Bench, the number of females in the profession drastically reduces.

STATISTICAL FINDINGS OF WOMEN IN LEGAL FIELD:-**1. Female Judges Data in Judiciary:-**

If statistical facts are referred regarding women representation in judiciary and lawyering, presently out of 33 sitting Judges of Supreme Court of India including Hon'ble Chief Justice, only 4 are a woman, Hon'ble Mrs. Justice Indra Banarjee, Justice Hima Kohli, Justice B V Nagarathna, Justice Bela Madhurya Trivedi. 21 Out of 24 High Courts presently in India number of women judges in some of the High Courts are: 6 out of 93 total Judges at Allahabad High Court, 5 out of 29 total Judges at Delhi High Court, 2 out of 36 total Judges at Calcutta High Court, 5 out of 62 total Judges at Bombay High Court, 25 out of which only 1 is the Chief Justice of Sikkim High Courts all female judges. In the last two decades the Delhi and Mumbai High Courts appointed only three female senior counsels each out of a total of 122 and 81 new senior advocate designations awarded by the courts respectively.²

Female Lawyers:-

For an account of female lawyers in India, a data of 2007 has been found out as this was a tough figure to be found out generally. So according to that data, out of 955013 total lawyers registered in State Bar Councils of 20 Indian provinces, only 98556 were female lawyers and the rest were of the opposite gender.³

CLAT Exam Data of Girls

While the ratio of the law aspirants appearing in one of most renowned examination is looked upon, CLAT for 2015, for the UG course (B.A, LL.B), 53226 students appeared, out of whom 20,392 were boys and 16,965 girl students.⁴

Girls Ratio at PG level

For PG (LL.M) 6217 candidates appeared, out of whom 2,292 were boys and 2,571 were girl students. There is a close affinity among the number of students appearing for the exam from both the genders at UG level. However in PG level female representation is a bit more than that of their male counterparts. So it can be deduced that, while there is no uncanny feeling among the women folk for not entering into the legal arena to opt it as a future venture, there are some factors which stop them to probe more as and when they gradually elevate themselves in higher platforms. Gender biasness can be posed as one of the plausible reasons of such diminishing percentage of their presence.⁵

Comparative Data of Girls from Different Colleges in Palghar District. :-

Besides the illuminating list, the overall appearance in the Legal field in Palghar District in Maharashtra is endeavored to make out through this research. An attempt has been made to find out the presence of the females in various faculties of Palghar District from various colleges and the data reveals the truth itself.

⁶Degree Colleges Data:-

Serial No.	Name Of The College	Total Student Studying In College	Total Girls Studying	Percentage Of Girls
1.	VIVA College of Commerce, Arts, and Science Virar (W)	11951	6250	52.29%
2.	Sonopat Dandekar College Palghar	4213	2045	48.54%
3.	Shree L.R. Tiwari Degree College of Arts Commerce and Science Mira Road	525	248	47.23%
4.	Dr.S.D.D.Arts college and Commerce and Science College Wada	952	451	47.37%
5.	Comrade Godavari ShamraoParulekar College of Commerce, Arts and Science. Talasari	1061	428	40.11%

Source:-Data derived from respected colleges 2020-21

It can be seen that in degree colleges the data of girl's enrollment is consistently increasing.

⁶Law Colleges Data:-

Serial.No.	Name Of Law Colleges	Total Students Studying	Total Number Of Girls Studying	Percentage Of Girl Student
1	VIVA College Of Law Virar	111	52	46.84%
2	Sonopat Dandekar Law College Palghar	240	100	41.66%
3	Ideal Law College Wada	260	112	43.07%
4	St.Rock College Borivalli	360	108	30%
5	L.R.Tiwari College of Law Mira Road	202	102	50.49%

Source:-Data derived from respected Colleges 2020-21

The data reveals the fact that in different Law Colleges the girl's data are fluctuating and lower than degree colleges.

⁷Outlooks and Observation of Esteemed Principals of the Different Colleges:-

1. Reverend Professor Mahesh Deshmukh Sir Vice Principal of Sonopat Dandekar College Dist. Palghar

Opined that the girls in Palghar district have financial restraint on them as well as they have lack of proper guidance so the girls are more in general stream rather than in law stream. Further, he added if the girl pursue the legal field they have the option of going into Civil Litigation, Corporate Sector, Academics, Judiciary, Legal profession or Law career for girls can be intellectually challenging, financially rewarding and personally fulfilling.

In response to increasing the awareness for the Law faculty amongst the girls he highlighted that

- 1) Free education to girls in professional colleges.
- 2) Women reservation should be increased.
- 3) Proper guidance should be provided by schools and junior colleges.

For the less present in law faculty among the girls his outcome was many parents consider this field unsafe for girls. They think that their daughters will have to deal with criminals under criminal law and their life will always be at risk.

2. Respected, Dr. A. P. Pandey Sir I/C Principal of VIVA ARTs Commerce and Science College

Believed that Law is a professional course and the girl students are not very well familiar with the scope of law, hence they go for vertical courses of different streams. Moreover there is a mindset trend that the girls cannot enter the legal arena; but now the times are changing. Further, he suggested the Govt. should initiate orientation programs about the scope of law in terms of legal practice and employment opportunities.

3. Respected, Shri Narayn K. Phadke Principal of Dr.S.D.D.Arts College, Commerce and Science College Wada

Believed that compared to law faculty the subject of Arts, Science and Commerce faculty are easy; including that the permission for the law faculty is not given by the parents. This negativity and the social factors are real challenges girls face for law faculty. To increase the awareness among the girls for law faculty, he suggested that the Government should announce special scholarship and ought to have reservation in admission and need to motivate the Girls.

4. Learned Adv. Dharmesh Mehta Sir I/C Principal of L. R. Tiwari College of Law Mira Road

Said normally in the rural area females take education for degree purpose only and do not seriously think about any career opportunities, which may be the reason for lack of awareness in female about law faculty. Moreover he said that being a professional course it leads to more exposure in public life which make them fall behind in the cultural and religious factor a reason for which girls are prevented from joining law faculty. Entering in a law faculty creates an awareness about Female Rights for the girls which is deterrent by the male oriented society hence it is a fetter for the girls in joining the law faculty. He further added that to promote awareness for

legal faculty amongst girls that Proper awareness of Law course and career opportunities in Law, Legal Education and career counseling camps need to be organized periodically and initiative should be taken by the District Legal Aid Cell to conduct Para Legal Training and Legal Literacy Camp in remote area.

Either we talk about the female participation in law education or as a legal fraternity the participation of women is lesser and weaker than the male counterpart even in judiciary as well as a lawyer or as students. The data of Females Judges, Lawyers and the participation of girls in colleges at academic level is meagre.

CONCLUSION

The pre Independence period, so far as the Women are concerned, for coming in conflict with the arena wherein male dominion is concerned was gloomy, so there was no participation of Females in any other field, except the kitchen area.

With the changing of the phases of moon, bit by bit, the areas dominated by men are nowadays, explored by women also, the Independence has not only made our own country independent, but have shattered the shackles from the women also.

The data obtained from various field and from various colleges in Palghar district including the opinion of the reverend speakers show that the orthodoxy, the custom and tradition are the major hampers which prevent women from entering the legal arena and when we really want to say that women are working shoulder to shoulder with men these factors needs to be overcome and curtailed.

The women are now entering the Legal domain, a field which was dominated by the Male worldwide and was thought as not befitting a female entrance, is now being walked upon by females also, not only that, by their efforts of elevation and perseverance they are endeavoring to prove themselves, to justify their selection, to honor their choice and it seems, from the illustrious examples, that they are doing well. Self-help, is the best help, this principle is aptly adopted by women in escalating themselves and this achievement has been taken note of by the Government, who have in their own way, taken initiatives to help this leap of the women, now it is up to the Women themselves to prove that they are not, what was in the past had been classified for them, as "the weaker section."

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- (12) B. Principal Dr. A. P. Pandey
- (13) C. Principal Shri Narayn K. Phadke
- (14) D. Principal Dr. Dharmesh Mehta

RELEVANCE OF LITERATURE IN TEACHING OF ENGLISH AS A SECOND LANGUAGE AT UG LEVEL

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ABSTRACT

The role of literature in second language teaching programmes has always remained a debatable point in the framing of syllabi at UG level. Literary texts were given preference when the grammar translation method was in vogue. With an emphasis on Structural Approach and the stress on teaching of English for different specialized purposes, the use of literary texts in second language teaching has been sidelined. After examining views and counter-views regarding the relevance of literature in teaching of English as a second language at UG level, one certainly find that careful selection and proper presentation of literary texts would provide a balanced remedy for the point of debate.

Keywords: Language, Literature, UG level, Second Language, Teaching Methods

Literary texts are often used as a main resource material for teaching of English as a second language in most of the Indian universities when the grammar translation method was in vogue. But what we find today in English language syllabus –a) excerpts, passages from biographies, scientific writings, newspaper writings b) simplified versions of classical literary texts. It always remains a point of debate and controversy whether to use literary texts for teaching of English as a second language. Let us examine arguments and counter arguments of this debate along with its aspects.

Pro-arguments for the use of literature at UG level for teaching English as SL.

Literature helps to acquire linguistic competence. As literature is language in use, it exposes various systems of language, its vocabulary and syntax. Literature gives more training in reading and writing skills for second language students.

Literature presents different situations and contexts in which language is used. It exposes real life like situations and shows how language works in them. Short stories, dramas, and fiction depict people communicating in day today 's situations. While language drill focuses on the various systems of language, literature shows how these systems are used for communication. Different dialects and registers can also be taught through literature and exposes language variations to the learners. As Widdowson (1984:159) rightly points out that literature could be used “to mediate between a structural and communicative orientation to language teaching.”

Literature of any language makes foreign students familiar with the cultural peculiarities of native language community. Literature can inspire at least a few students in the direction of creative writing in a second language. Some classics and masterpieces of the target language may motivate and make ground for creative literature in second language as is exhibited by Indian Literature in English.

Literature of any language has got a prestigious place in the study of the concerned language. Literary Studies occupy great importance in today's academic world. Ability of critical thinking encourages literary studies. So teaching of literature in second language learning classrooms may pave the way for literary studies in the targeted language.

It has been said that literature of any language sharpens humanistic, moral and aesthetic sensibilities of the learner. Even the literature of a second language can play an important role in developing deeper insight into human nature and life.

These and other reasons mainly based on developing linguistic competence by focusing on the employability of language in real life like situations, has strongly proved the case of the use of literary texts in second language learning classrooms. However, there are spirited arguments against such use and the same can be discussed as follows.

Arguments against the use of literature for second language learners—

There are many teachers and academicians who maintain that to learn a literature of any language basic linguistic competencies are required. Without it literature becomes a meaningless thing for a second language learner. For a student who has only a primary understanding of a second language, exposure to literature can only lead to confusion and misinterpretation. This situation forces learners to depend on paraphrasing and translation. Instead of developing linguistic competencies, it creates a fear and mental laziness in the learner. For him or her literature becomes something which can be expressed and understood in the other forms. As Sweet (1964:219) observes, “When the classics of a language are ground into pupils who have neither

knowledge enough of the language to appreciate their stylistic merits nor maturity of mind and taste to appreciate their ideas, the result is often to create a disgust for literature generally.”

Most often teachers are engaged in summarizing the literary texts and testing through factual questions with little scope for the promotion of competencies.

With rapid changes in this LPG and IT age, specialization of second language teaching for different purposes is taking place. In the case of English, students need to learn registers for practical purposes. As literature mainly serves cultural and aesthetic purposes, it does not make any sense for students who want to learn English for business purposes to study literary texts.

Sometimes literature employs words and syntax that would be unacceptable in ordinary usage. Linguistic competency always expects careful observance of grammatical rules. Literary language may create contradictions in the mind of a second language learner. Ornamental, figurative and unusual literary language may confuse the learner.

Literary texts selected for second language teaching are usually classics and masterpieces. Most of them are selected in a chronological order to give historical and period wise overview of the language. Many of such literary texts are full of archaic and outdated words and registers. In Indian universities literary pieces of Middle English are prescribed and contemporary literary pieces are not given enough place in the syllabi. It makes no sense to learn archaic language for having mastery over contemporary language. A.A.Sinha rightly asks, “Should our students whose main aim is to acquire proficiency in the use of English Language be exposed to the writings of Francis Bacon or Jeremy Taylor or the plays of William Shakespeare ?----In my opinion the students of the undergraduate level need to be exposed to such writings only which may advance their linguistic competence.”

Further, it is also observed that more often the study of literary texts is turned into the study of literary criticism. Instead of taking firsthand experience of literature, students mainly depend on what is popularly known as ‘critical material.’ This situation ruled out the possibility of developing linguistic competence through literature. All these points have shown that the exposure to literature does not ensure improvement in the linguistic abilities of learners.

If we analyze the above discussion in favor of literature, it is acceptable that literature enriches the knowledge of a second language and also gives different usages of target language in different contexts. Literature inspires creativity seems to be a very tall claim as far as second languages are concerned. Developing moral and aesthetic perceptions, enlivening the process of learning and motivating literary studies can be considered as advantages of teaching literature for literature classes rather than literature for language classes.

If we consider arguments against the use of literature for the teaching of a second language, the main point stressed is the mode of selecting teaching material and the method through which it is presented in the classroom.

There is a need to take a balanced view regarding the relevance of literature for second language teaching. The following things should be taken into account.

- A) Objective of employing literature for teaching a second language should be linguistic rather than cultural and aesthetic.
- B) Communicative effects and aspects of literary texts should be stressed upon by teachers while teaching a second language.
- C) Selection of literary texts should be done carefully so as to expose communicative possibilities in different contexts with ample opportunities of comparison between usages of language in various registers like advertisements, law and scientific writings etc.

Careful selection of literary texts, proper mode of teaching and right approach would certainly enhance the relevance of literature in teaching a second language.

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A COMPARATIVE STUDY ON TYPES OF PROCRASTINATION AMONG MALE AND FEMALE ADOLESCENTS

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ABSTRACT

Procrastination usually involves ignoring an unpleasant, but likely more important task, in favour of the one which is more enjoyable or easier. But giving in to this impulse can have serious consequences. Even minor episodes of procrastination can make us feel guilty or ashamed and can lead to reduced productivity as well as cause us to miss out on achieving our goals. Procrastination is a prevalent and problematic phenomenon that has mostly been studied in the domain of academic behaviour. Procrastination appears as a tendency, attitude or behavioural trait which Shah (2000) described as an indecisive state lacking in willpower and vitality to do work. The present study focuses on male and female adolescents in types of procrastination. The research consisted of a self-structured five-point scale that involved five points. Purposive sampling technique was used to select 50 samples consisting of adolescents aged 13-19 years. The data collected was analyzed. Statistical measures such as mean scores, T-test and MANOVA tests were used to analyze data. The major findings of the study were that adolescents are dreamers and defiers

Keywords: Procrastination, Types, Effects, Reasons, Adolescents

INTRODUCTION

Piers Steel (2007) defined procrastination as "To voluntarily delay an intended course of action despite expecting to be worse off for the delay". Procrastination usually involves ignoring an unpleasant, but likely more important task, in favour of the one which is more enjoyable or easier. But giving in to this impulse can have serious consequences. Even minor episodes of procrastination can make us feel guilty or ashamed and can lead to reduced productivity as well as cause us to miss out on achieving our goals. It is often seen in students with tasks such as writing assignments and studying for examinations.

Types of Procrastination

According to Linda Sapadin, (1996), there are six distinct sorts of procrastination. These six kids are taken from the book "It's approximately time". The first recognition on interest to detail, the second recognition of the future, and the opposite recognition on relationships with others.

The perfectionist "... but I want it to be perfect!"

For the perfectionist, failure equates to now no longer doing the mission perfectly. The normal perfectionist notion may sound something like "If I do not do the mission extraordinarily properly then I'm a failure". Perfectionists additionally generally tend to spend inordinate quantities of time on obligations due to the fact they need the result to be "simply so." The quantity of time they spend on obligations and initiatives may be mentally or bodily exhausting. They will spend time prepping earlier than working, then circulate painstakingly gradual after they do paintings due to their mammoth attention on getting the paintings done "right." Then, the undertaking or mission by no means appears finished, as it wishes to rework, refinishing, editing, correcting, modifying, proofreading... It by no means ends. The perfectionist is aware of deep down how a lot of intellectual or bodily power it'll take to do the mission perfectly so that they do not begin. Or they begin however grow to be so tired from the attempt of looking to get the result to be perfect, that they end or stall out. They simply cannot preserve the extent of power they're setting into the paintings. It's less difficult to prevent than to danger having the final results now no longer emerge in the manner that they'd was hoping it would.

The dreamer"... however I hate all the ones bothersome details!"

This is a person who enjoys making the correct plan extra than taking action. They are tremendously creative, however, locate it difficult to complete a task. Unlike the perfectionist, the dreamer procrastinator would not pay sufficient interest to details. They might also additionally have aspirations to do or entire something, however, they do not frequently have concrete plans to take that first step. A dreamer frequently makes use of indistinct phrases like "someday" or "soon," (Sapadin 1996).

The worrier"... however I'm afraid to extrude!"

Worrier procrastinators have an immoderate want for security, which reasons them to worry about risk. They continue too timidly via existence, annoying regularly approximately the "what ifs." Faced with a brand new

state of affairs or demand, they come to be especially anxious, due to the fact, something new entails extrude and, therefore, unknown and doubtlessly unwanted consequences. Thus, they generally tend to dispose of making decisions, or following via on decisions, so long as they can. Once they begin operating on a project, it may be possible to pull it out to help "melt the blow." Many times, consciously or unconsciously, they keep away from completing projects, so they in no way need to depart the "consolation zone" of the acquainted and circulate directly to new territory. Much to their dismay and frustration, they withstand extrude even if they know, intellectually, that the extrude is sort of sure to enhance their existing state of affairs.

The disaster maker". . . however I best get influenced on the remaining minute!"

The disaster-maker desires to stay at the edge. Addicted to the adrenaline rush of extreme emotion, regular challenge, and emergency action, disaster-makers satisfaction in pulling matters off on the remaining minute. To them, procrastination is a shape of adventure. Adventures, however, are with the aid of using nature risky, and the disaster-maker procrastinator is usually a loser. Despite the heroic, remaining-minute run, the education is frequently missed. Despite operating, day and night time all weekend, the paper frequently would not get finished with the aid of using Monday.

The defier". . . however why must I need to do it?"

The defier is a rebel, looking to greenback the rules. Some defiers are brazenly pleased with their tendency to procrastinate, exactly as it is going in opposition to the "normal" or "logical" manner to do matters. By procrastinating, they're placing their agenda one which no one else can expect or control. In different words, they're organising their individuality, in opposition to the expectancies of others. Other defiers are extra diffused, possibly due to the fact they're much less consciously privy to what they're doing. They do not flaunt their competition towards doing something. They truly do not take at the duty to do it on time. This extra diffused kind of defiance is called "passive-aggressive" behaviour (Sapadin, 1996). Both varieties of defier procrastinators are willing to peer enormously easy responsibilities like doing the laundry, paying the bills, or preserving an automobile as impositions on their time and energy, in place of as matters they must absorb stride as mature adults.

The over- doer". . . however I even have a lot to do!"

Over-doer procrastinators say "yes" to an excessive amount due to the fact they're not able or unwilling to make picks and set up priorities. In different words, they have not mastered the artwork of decision-making. Due to this liability, they tend to be inefficient in coping with time, organizing resources, and resolving conflicts. The result is that they are trying to do an excessive amount without delay and, inevitably, fail. Over-doers are frequently tough workers, and lots of them do accomplish a few matters very well; however, different matters in no way get executed in any respect in any other case get executed poorly or late. With a lot to do and so little time to do it in, over-doers are high applicants for early burnout.

RATIONALE

Procrastination is an active process- they pick out to do something else in preference to a task. In general, to achieve a goal, human beings have to have good enough motivation and capacity to perform. Their motivation, which is primarily based totally on the expectancy of receiving a little praise for efforts, can aid people self-control, and make it much more likely that matters could be carried out promptly. People battle with procrastination. Procrastination is even tougher to overcome due to the fact there are such a lot of addictive distractions everywhere; it's emerging as a larger hassle due to all of the accessible, appealing, and addicting distractions. The take a look at will cognizance at the natures of procrastination determined amongst adolescents. The take a look at will evaluate each gender to get a higher understanding.

REVIEW OF LITERATURE

Irum Saeed Abbasi & Nawal G. Alghamdi (2015) reviewed the paper "The Prevalence, Predictors, Causes, Treatments, and Implications of Procrastination Behaviors in General, Academic, and Work Setting". The conclusion of many studies have drawn in this study is that some of the identified factors closely associated with procrastination include evaluation anxiety, task aversion, task delay, low self-efficacy, lack of persistence, dependence, fear of failure, negative evaluation, irrational beliefs, learned helplessness, and perfectionism. Procrastination tendencies also give rise to poor self-esteem, poor self-confidence, anxiety, public and private self-consciousness, and concerns over public image. Procrastinators hold unrealistic expectations, lack effective time management, and organizational skills that cause anxiety and fear about the task at hand, leading to negative beliefs about their personal and professional capabilities. On the whole, procrastination is seen as a self-perceived problem that negatively affects people's general, social, academic, professional, and marital life.

Stephanie P. Da Silva, Amanda Smith, and Michael Facciolo (Columbus State University) in a study called "Relations between Self-Efficacy and Procrastination Types in College Students" done in October 2020, the tool used were 'General Self-Efficacy Scale' (Schwarzer and Jerusalem, 1995), 'General Procrastination Scale' (GPS) (Lay, 1986), and 'Active Procrastination Scale' (APS) (Chu & Choi, 2005). The sample of the study was undergraduate students, the total was 106 in number. The result was imputed in correlation. The conclusion of the study was, people with higher self-efficacy scored lower on the general procrastination scale and scored higher on the active procrastination scale. The present results show converse relations between self-efficacy and procrastination for the two types of procrastinators, active and passive.

METHODOLOGY

The research consisted of a self-structured five-point scale which involved five points, that is point 5 is Strongly agree, point 4 is Agree, point 3 is No response point 2 is Disagree and point 1 is Strongly disagree which provide quantitative data for the study. This chapter consists of the main objectives of the study, hypothesis framed, operational definitions of the main variables of the study, sample, sample size and sampling technique. It also consists of information about the tool used, the procedure of data collection and ethical considerations made. It also has the mention of data analysis and statistics used for data interpretation. The methodology section allows the reader to critically evaluate a study's overall validity and reliability.

AIM

To compare the types of procrastination among male and female adolescents (13-19 years).

OBJECTIVE

1. To study the types of procrastination among male adolescents (13-19 years).
2. To study the types of procrastination among female adolescents (13-19 years).
3. To understand which gender procrastinates more male or female adolescents (13-19 years).

HYPOTHESIS

1. H0: There is no significant relationship between the types of procrastination and male adolescents
2. H1: There is a significant relationship between the types of procrastination and male adolescents
3. H0: There is no significant relationship between the types of procrastination and female adolescents
4. H2: There is a significant relationship between the types of procrastination and female adolescents
5. H0: There is no significant difference in the nature of procrastination among male and female adolescents.
6. H3: There is a significant difference in the nature of procrastination among male and female adolescents

Operational definitions

Adolescents- a person whose age is between 13 to 19 years, the person can be male or female.

Locale

The study is conducted in the western suburbs of Mumbai

Sampling Technique

Purposive and Snowball Sampling Techniques were used to conduct the study.

Sample Size

50 Adolescents (25 male+ 25 female)

Variable

Independent Variable- Adolescents

Dependent Variable- Types of Procrastination

Design of the Study

The research design used for the study was Explorative as it had a hypothesis based on limited Evidence that was proved or disproved for further investigation

Tool used for Data Collection

The tool used for the study was a self-constructed five-point scale which was used to study the Types of procrastination among Adolescents. The tool was in the form of a statement that had only close-ended statements which define self-characteristics. The total number of statements were 36 which were divided into 6

types 'Types' (36 statements). It had five-point scoring from strongly agree, agree, no response, disagree, and strongly disagree having the lowest score 1 and strongly agree to have the highest score 5.

Reliability Test

To verify the reliability and validity of the scale applied in the tool, the Cronbach Alpha test was applied. Results are as follows.

Sr. no.	Factor	Number of questions	Cronbach Alpha Value Adolescents
1	Perfectionism:	5	0.732
2	The Dreamer:	5	0.727
3	The Worrier	5	0.613
4	The Crisis Maker:	5	0.762
5	The Defier:	5	0.737
6	The Over doer:	5	0.781
7	Factors of Procrastination:	6	0.778
	Overall	36	0.814

The rule for testing of Cronbach Alpha Test: If Cronbach Alpha Value is greater than 0.700, then the reliability test is accepted. The conclusion is the scale used in the tool is reliable and accepted.

The above table indicates that most of the calculated values are greater than 0.700. Therefore Reliability test is accepted and the tool is appropriate.

Validity Test

The self-constructed five-point scale was first validated by a guide and co-guide after that it was sent to 3 experts for validation. The experts' suggestions were reviewed, then taken into consideration and changes were made within the tool accordingly.

Pilot Study

A pilot study was conducted on 20 Adolescents (10 male + 10 female).

It was found that the tool was appropriate according to the objectives during the pilot study analysis.

The procedure of Data Collection

The procedure for data collection began with identifying individuals in different setups like schools and colleges. The individual in the age group of 13- 19 years of age was school-going and college-going students. Then individual participants were requested to fill in the response and they were informed that the participation is voluntary and the Data Collected from them will be kept confidential. This study was a great help in understanding the types of procrastination among adolescents.

Ethical Considerations

The sample was located and permission was obtained. The purpose of the study was shared with the participants. Confidentiality was maintained and they were told that all the information provided by them will be kept confidential and will only be reported as group data with no identifying information. All data, including the questionnaire, will be kept in a secure location and only those directly involved with the research can have access to them only for the research purpose.

DATA ANALYSIS

The data coding was done into an Excel spreadsheet and Statistical Measures such as Mean scores and Multivariate analysis of variance (MANOVA) was employed followed by results and discussions.

MANOVA- Multivariate analysis of variance is used for statistical analysis of the data wherever implicated.

MANOVA Types of procrastination among male and female adolescents.

Wilks' Lamda Test for Multivariate analysis

Value	F	Hypothesis df	Error df
.787	1.93	6.0	43.0

Table 1- MANOVA

Null hypothesis (1) accepted. Alternative hypothesis (2) rejected.

Null hypothesis (3) accepted. Alternative hypothesis (4) rejected.

There was no statistically significant difference in procrastination among female and male adolescents, $F(6,43) = 1.93$, $p < 0.097$

Hence, the null hypothesis (3) is accepted; alternative hypothesis (4) is rejected.

The above table denotes multivariate analysis in the types of procrastination among female and male participants in adolescents. The value is 0.787 with a hypothesis difference is 6.0 and F is 1.93. The p-value is lesser than 0.097. So null hypothesis is accepted and the alternative hypothesis is rejected

This study states that there is not much difference in the types of procrastination in male and female adolescence. Both thus procrastinate similarly during adolescence.

Graph 1- Mean types of procrastination among Female and Male Adolescents

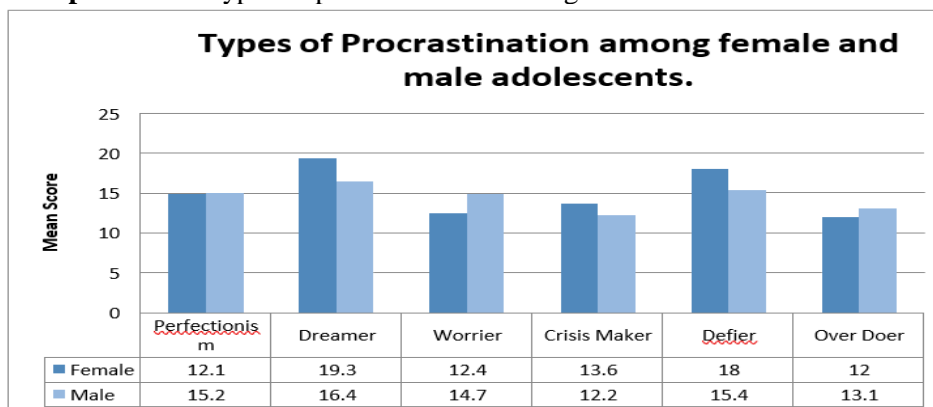


Table 2- Mean types of procrastination among female and male adolescents

Graph 1, exhibits the mean types of procrastination among female and male adolescents. The graph clearly shows that female adolescents (mean score 19.3) procrastinate more than male adolescents (mean score 16.4) in the category of dreamer. The also graph clearly shows that female adolescents (mean score 18) procrastinate more than male adolescents (mean score 15.4) in the type of defier. The bar chart indicates that female adolescents procrastinate the least in the category of over doer (mean score 12) as compared to male adolescents (mean score 13.1). On the other hand, male adolescents procrastinate the least in the category of crisis maker (mean score 12.2) as compared to female adolescents (mean score 13.6). Additionally, the chart outlines the fact that the scores of categories perfectionism and worrier lie in the middle of the range. But male adolescents score more in the category of perfectionism (mean score 15.2) and worrier (mean score 14.7) in contrast to female adolescents who scored lesser in the categories of perfectionism (mean score 12.1) and worrier (mean score 12.4).

It is observed that adolescent female respondents, who fall under dreamer, are highly creative and enjoy making an ideal plan but it's harder to take action on them. It is correlated by the book by Sapandia in 1996; it stated that the dreamer wants life to be easy and pleasant. Difficult challenges that confront the dreamer can automatically provoke resistance: "That might be hard to do" gets translated into "I can't do it." Dreamers are very skilful in developing and, usually, promoting grandiose ideas, but they seem incapable of turning their sketchy ideas into full-blown realities: a pattern that frustrates themselves as well as the people around them. Uncomfortable with the practical world, they then retreat into fantasies: "Maybe I'll get a lucky break," or "I'm a special person don't have to do things the typical [i.e., hardworking] way." (Sapandia, 1996)

According to Suzanne (2012), when someone procrastinates on a task that they are quite capable of doing, it is because mentally they are not quite ready to create what they want, and the process of waiting is a process of thinking. Ideally, it is also a period in which such acts of creative thinking like daydreaming will take place.

The above graph also shows that female adolescents are higher in defier (mean score 18) procrastination as compared to male adolescents (mean score 15.4). The finding of the study shows that female adolescents are more likely to rebel and seek to rebel the rules. The defier is more of the 'why should I do it? And they openly defiant and say, "yeah I'll do it, but they don't do it."

CONCLUSION

The salient findings of the study are:

Adolescents (13-19 years) fall under the dreamer and defier category of procrastination (mean score 18).

The study concludes that adolescents are dreamers and defiers. It can be understood that adolescents dream more about the tasks rather than taking action on them. The study found that female adolescents scored higher

in the dreamer category (mean score 19.3), as compared to male adolescents (mean score 16.4). The study also outlines that male adolescents score the least in the overdoer category (mean score 12) and female adolescents scored the least in the crisis maker category (mean score 12.2). But there is no significant difference found in both genders. It shows that adolescents do the entire task in imagination, hate to deal with annoying details of the tasks, often use words like “someday” or “soon” for doing the task, they have thoughts about wonderful things, but somehow the details should just get done or somebody else should do it, so their thinking style is fuzzy, and they end up procrastinating because of that dreaming personality. They are great at planning and scheming tasks but get frustrated by practical reality and hard work.

The study found that female adolescents scored higher in the category of defier (mean score 18) also in types of procrastination than their male counterparts (mean score 15.4). It tells that female adolescents break the rules; no one can predict or control their schedule of doing tasks, they openly challenge themselves by saying “I will do this task,” but they don’t do it, and they don’t care about future rewards.

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LEARNING AND DEVELOPMENT USING SOCIAL MEDIA IN VIRTUAL LEARNING ENVIRONMENT

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Learning become effective when it is made possible through e-learning. Internet is nowadays used for the learning-teaching and other academic purposes. Encouraging learning in a student's favorite medium which is easily accessible for learners will make it an exciting process. This article aims to incorporate social media in virtual learning environment (VLE). Accessing e-learning through virtual medium makes the teaching and learning more dynamic whereas introducing social media in it make them amazing. Social media is something that provides easy access to the students and learners. Transferring information's and learning resources is made easy using social media tools. As the world is being developed educational sector is also improving, new technologies are intervening for the development of educational institutions and learning process. VLE is a platform that enables students to overcome their obstructions and enable the learning possibilities at any situation. Making use of any good technique for the betterment of education is one of the positive characteristics of present generation. This article tries to investigate the incorporation of social media in learning and teaching process at virtual learning environment. Determines the benefits as well as drawbacks due to the use of it in VLE. Studying assiduously for gaining knowledge or information is a difficult task for everyone, but the internet intervention made it both an easy and entertaining process. Different types of social media usage are also discussed in this article. It aims to collect the apt impact of social media intervention in VLE among students and teachers.

Keyword: Virtual learning environment, social media, e- learning, assiduous, educational development.

INTRODUCTION

Innovative pedagogies and techniques for learning is developed using the technological assistance in educational field. Online learning and teaching are being developed day-by-day. Virtual learning environment (VLE) is one of the e-learning medium to teach and learn using visual aids, video conference, interaction, collaboration etc. E-learning has made in educational possibilities a great improvement. Using technical methods for teaching and learning is not a new thing in this era but using the entertainment and social zones available in online for educational purpose has both positive and negative impact on students. If we conduct a survey among the students itself, we can understand that the use of mobile device and social media has increased. Hence, if the social media tool's introduction into learning and teaching creates a positive impact. Information and communication technology provides a suitable platform for learning, teaching, interacting and also sharing ideas. Adopting social media in this virtual learning environment enhances great opportunities to the academicians for developing the student's ideologies and the learning-teaching strategies. Engaging social media in learning environment helps to increase information and interaction between instructor as well as learner. Using these social media tools in VLE elaborates the scope of online learning by promoting student's participation. Virtual learning environment (VLE) enables the students to meet the instructor and get the learning ambience as same as in the traditional classroom with more creative as well as progressive methods of education. Social media tools, which are used for entertainment purpose and to convey opinions about current issues helps to expand the knowledge being independent of the distance each participant is located. Such options develop the possibilities of students to enrich their learning process and enable interaction with peer groups etc, to expand their knowledge. Educational activities itself become easy and more appropriate after accommodating social media tools into this online learning environment. The life-pattern of the young generation has changed after the involvement of internet-based technology and social networking into their daily routine. Hence, utilizing it in a better way encourages them to have an amazing academic future. The study discusses the various social media tools, uses of it in VLE and educational field.

1. DIFFERENT SOCIAL MEDIA TOOLS

Information about different web 2.00 tools is described in this study. This enables students to use these tools and be active participants in course sessions and to share individualised response products.

1.1, EDMODO

It helps teachers and students to take part in educational activities by sharing contents, course materials, information etc. It helps the instructor to create a platform useful for the learner to learn and acquire knowledge using this social media tools. It is a secure place for both students and teachers.

1.2, TWITTER

Information and communication technology (ICT) developed platform to connect various people under a shelter. It enables to have access about current issues, latest stories, new ideas etc. One's opinion is visible to the whole world where all others can cast their comment about it. On one side it is social network to share ideas but it can also help to know the most recent matters present in the world.

1.3, YOU TUBE

It is an internet-based platform for one to create a video and share it in you tube. The original version of videos is available in this site which is visible to more than billions of people. It can provide an open conversation with the viewers and the vlogger by giving live options. In educational activities, this provides a space to understand about the interested topic or subject. For competitive exams, visual class sessions etc are available in you tube. Various kind of videos on different areas are uploaded which is available according to each person's need and one can attain it without any payment.

1.4, WHATSAPP

For educational purpose it enables to share links, documents, course materials in an easy manner. Even though it is an entertainment zone, this can be used to share materials needed for learning etc. Using such applications enables students to have active participation in studying activities.

1.5, KID BLOG

It enables individual blogging opportunity for each student with a control of teachers. Students participate in discussion, casting their opinions through post, blogs etc. encourages them to have better cognitive skills. Teachers have a control over their activities and this web-space remain secure due to it. This option also projected a positive difference in the student's academic performances.

1.6, MOODLE

It is a virtual learning environment (VLE). It provides a personalised learning environment and also it is trusted by different educational institutions. It is designed to support both teaching and learning using learning using learner centric tools enabling collaborative learning opportunities. It is an all-in-one learning platform that easily integrate everything needed for a course including external collaborative tools such as forums, wikis, chats and blogs.

2. USE OF SOCIAL MEDIA TOOLS IN VLE

In educational sector the impact of social media is unavoidable. Online learning using web2.00 technologies enable the learner to have access to collaborative learning. This process helps the participants to support interaction and develop cooperation to attain their targeted goal. Team work leads to a better achievement and increase student's ability to work cooperatively. Some of the major outcomes from collaborative learning using technology include, positive dedication, face to face interaction, self-assessment, ability to use social skills and achievement from group work. Technology intervened collaborative learning enable students to cope up with this competitive world. Content management is another possibility promoted by the intervention of technology in education. Using social media tools, the institutions or instructors can share information, presentation, course materials, videos etc between the users. Interaction is made possible through such technological assistance. Knowledge about different subjects, communication with other culture participants and sharing ideas etc are accessed through this virtual learning environment.

Social media is now used for the publicity of brands as well as communication, where if it is used for educational purpose students and teachers can have an effective mode of education through this medium at low cost. It can promote the development of society, and support program advancement of society and support program advancement which foster the trust with the rise of benefits for coming generation. New generation students are digital native, which make them easy adapters of technology. Social media can also be used as an effective tool to reach all students easily. In a single platform like Facebook all study materials, can be transferred by the instructor which helps the students to use it conveniently. Suitable vlogs and blogs regarding the course or topic can be verified and shared through social media tools. In educational platform social networks play an important role for its development and achievement. Along with the benefits certain drawbacks are also present in the case using social media tools. While calculating the advantages on embracing these tools in academic purpose found that the demerits can be denied in front of it.

3. IMPACT OF SOCIAL MEDIA ON SOCIETY AND EDUCATIONAL DEVELOPMENT

Social media had facilitated better social networking opportunities. It presented an opportunity for socialisation. The self-efficacy of the students has increased after the introduction of social media for educational development. The social relations are strengthened after the use of technology and higher academic institution began to incorporate it which made it beneficial for both social and academic settings. The students have to be given better time-management skills in order to use this medium wisely and achieve their dreams. Easy access to the information and materials are one of the major merits discussed about the social networks. It is identified that young generation are being addicted to the social media while using the same medium for learning purpose exempt them from misusing the technology and encourage them in learning process. Culture, society, business, politics and all spheres of life is influenced by social media. Intercultural and interactive dialogues are made possible with people across the world regardless of the distance that separate them.

Comparing to traditional media resources, social media helps people to actively take part in communication process both as information receiver and message creator. It also creates students to be familiar with electronic devices and media resources which provides beneficial for future. Students are able to collaborate with peer groups to improve their academic proficiency and communication skill. Teachers also felt ease in the use of social media in teaching process. They can share the actual idea through virtual learning environment to the students. Social media has provided a better medium to convey the ideas, subjects within a short period of time to a large group of students. This learning environment encourages the students to learn as well as transfer what they have learnt too other. Therefore, students get a habit of sharing and cooperation by the use of web2.00 tools in academic purpose.

CONCLUSION

The introduction of web applications in educational process leads to active social interaction, collaboration and networking. The social media platforms help to improve the future of academic institutions and create better life opportunities for students. It provides a space for subcultures and other minority groups to perform or share their views and beliefs. It also helps in research activities and has found a significant role in the progress of academic performances. The educational institutions have to realize its importance and allow to use web channels in educational setup.

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STUDY OF GOSAVI SAMAJ LIVING IN UMBRAJ AREA FROM THE POINT OF VIEW OF WOMEN'S EDUCATION AND HEALTH**Asha Budhram Madavi**

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ABSTRACT

Education is a powerful factor for social change. Education it empowers individuals and communities, creates awareness about various fields. This is the need to tell the Gosavi samaj and to create awareness among them about education. There is a society which is deprived of education. Why is the economic, educational, social condition of this society like this? What exactly are the reasons behind his condition? What are the situations they have to face while living human life? The necessary research and study is needed today for the development of the Gosavi samaj. It is the aim of the study. Field Survey, interactions with people, journals and other sources use in methodology. Studies have shown that female education is closely related to socio-economic, and health. Therefore, it is necessary to study the level of education of the women of Gosavi Samaj by doing this type of study that can change them. This study can help identify problem of various factors of areas. The purpose of this research is to find out the current status of education among women. There is an economic component behind the condition of the Gosavi Samaj today. The economic backwardness in their society is clearly visible. To overcome financial problems first they need to be educated. Self-employment should be made available. The schemes of the government should reach them so that their economic condition improves. After studying the Gosavi community, it was concluded that the number of educated people in this society is very less.

Keywords: Education, Health, Educational - economic condition, problem.

INTRODUCTION

Education plays an important role in the progress of a nation. The health of the nation depends on the education policy which should try to reach every person in every corner of the country. The rate of education of women in many villages is very poor. The progress of a country depends on the development of women in that country. There is a need to pay more attention to the education of women. The study of women's education that is required today because education is a powerful factor for social change. It empowers individuals and communities, builds awareness in people about different areas. The root cause of all the problems of women today is illiteracy. If a woman is educated then she will be aware of her rights, which helps in overcoming problems like dowry system, infant mortality rate, female feticide, child marriage etc. This is the need to tell the Gosavi samaj and to create awareness among them about education. There is a society which is deprived of education. Why is the economic, educational, social condition of this society like this? What exactly are the reasons behind his condition? What are the situations they have to face while living human life? The necessary research and study is needed today for the development of the Gosavi samaj. It is the aim of the study.

OBJECTIVES:

1. To Study of women's education.
2. To Study of health information.
3. To Study of Social, Economical and other problems.
4. To find out the reason behind the prevailing problem.
5. To study the trying to come up with solutions to problems.

Study Area: Laxminagar of Umbraj Area, Tal._ Karad, Dist. - Satara.



Study Methods

Field survey, dialogue with stake holder, reference books, socio-economic, statistical reports, journals and other sources.

Importance of study:

Numerous studies have shown that women's education is closely linked to socio-economic, and healthy. Therefore, it is necessary to study the level of education of women in Gosavi society. By doing this type of study, we will understand the situation there and it can be useful to increase women's education up to 100%.

Need to Study:

Education is an important factor for social development, especially health and women empowerment. This amendment is to make the Gosavi society aware by identifying the factors necessary for the increase in women's education. Which can change them. This study can help identify problem areas. The purpose of this research is to find out the current status of education among women.

Discussion

Human Life: The Gosavi community living in the Umbraj area is very simple. Their standard of living is simple and straightforward. The total population of this area is 1015. There are 528 males and 487 females. An analysis of the population of this community reveals its social and economic status. In this society, there are more working people and less dependent people. After studying his life, his financial situation became clear. Looking at the educational status of this community, it was realized that they are in dire need of education.

Sr. No	Age	Population
1	0 – 5	96
2	5 – 15	225
3	15 - 25	121
4	25 - 35	165
5	35 - 45	175
6	45 - 60	133
7	60 above	100



Women's Education: Education is a means of social change. Education is the foundation on which the building of society and democracy rests. The education of a child starts from his home. Parents are the child's first teacher. But, the role of mother is more important in the development of the child. So a mother should be educated in this regard. People in our country are still not aware of women's rights and the importance of their learning. The progress of a country depends directly on the development of women in that country. The literacy rate of women in many villages in our country is very poor. There is a need to pay more attention to the education of women. The root cause of all the problems of women today is illiteracy. Even though women have been given the same rights as men in principle by our constitution, they have never been given any freedom in general and have been deprived of all their rights. This has been possible only due to lack of education.

Women's Health: Education and health are related because when a woman takes education, she is aware of her health. Due to lack of education, women are not aware of hygiene and health. If a woman is educated then she will be aware of her rights. Even today there are many places where there are no toilets yet women are making adjustments. Our society is male dominated; Emphasis is placed on the education of men instead of women.

Many people still believe that a woman's life begins and ends in a home and in the realm of reproduction. Due to ignorance, girls are married off at an early age and give birth to children long before they have many health problems. The relationship between women's education and child health has also been studied.

The status of education of Gosavi society

Education is a major means of social development. There is no awareness in Gosavi society that education will lead to their development. The literacy rate in this sector is low due to low awareness towards education and lack of financial strength. Literacy is low and educated people are very low. The children here do not go to school. If some children want to study or some people want to get education, they cannot get education due to poor economic condition. Very few children of this community go to study in the ashram schools of Umbraj area. Discussions with the people of the Gosavi community showed that education would create new problems in their lives. Due to education, the younger generation in the society, which is the support of parents in old age, leaves them by reading, writing, learning more. Educated youth are not ready to return to their families. They connect with modern society. Due to modernity, educated children of Gosavi community feel ashamed of their backward community and live outside the community. Due to this a negative attitude towards education has arisen in this society. This negative attitude does not reflect the positive attitude of children towards higher education. The level of education of girls is very low. It is very important to educate girls, it is necessary to create a positive attitude in them. It will take a lot of hard work to change the society here.

Health status of Gosavi society

Education and health are closely related. By getting proper education we keep the house and campus clean. Due to lack of education, women are not aware of hygiene and health. She goes out in the morning to collect food. Food collection is an important part of the work that the Gosavi community does to meet their subsistence needs. When collecting food, rice and vegetables come from different houses and are taken together. This meal is nocturnal, stale. All these are given to their children at the same time, it affects the health of the children. Eating affects their health. She has less clothes because her financial situation is not good. So sometimes the same garment has to be worn for more than one day. Lack of health awareness can lead to disease. The health of young children is not taken into consideration. A large number of women use tobacco. Lack of cleanliness is evident here. There is an empire of dirt due to uncleanness. Health problems arise in such an environment. There is a need for health awareness.

SUGGESTIONS

This society has health, social and educational problems. After studying all these problems, it was found out how and in what situation this society spends its life due to various problems arising in their lives. After knowing the problems of this society, what can be done about their problems? This needs to be considered.

Health measures plan: Under this it is necessary to give them information about hygiene and health. Implementing sanitation campaign through Gram Panchayat or Gram Vikas program. Contact these people at least once through the primary health center and explain to them about health issues and various health issues. Providing them with primary health care facilities. Providing water facility. Inform about the diseases caused by contaminated water and emphasize on the importance of hygiene. Give them various measures to improve their health.

Suggestions for Educational Problems: As they are financially weak, some educational concessions should be given to their children. This community should be made aware under the free education campaign. Their children should be given books and clothes so that they are ready for education. The children of this community go to work on the brick kiln during the day. Starting night school for children who work during the day. The most important of these is the education of women. Only then will education spread among them. It is very important for women to be aware of education. Along with education, plans should be made to provide them with vocational education so that the financial base is strong and their negative attitude towards education can definitely change. It is important to tell them that education is an important step in the development of society.

CONCLUSION

There is an economic component behind the condition of Gosavi society today. Because even in today's 21st century, economic backwardness is evident in their society. They need to be educated first to overcome financial problems. Self-employment should be provided. Government schemes reached them to improve their economic condition. After studying the Gosavi community, it was concluded that the number of educated people in this society is very low. Lack of education does not get a job. Their economic business is to sell fish, they are economically backward. Despite living in a modern society, this society lacks education. Girls do not get education and boys get education but the number is less. This society is in dire need of educational

awareness. Health information is scarce due to lack of education and illiteracy. These people do not pay attention to their health. There are a lot of problems here because there is dirt in these areas which has affected their health. Need to be educated according to the time. Female literacy by its empowering role serves as a summative and combining component to various other factors. The root cause of all the problems of women today is illiteracy. If a woman is educated then she will be aware of her rights and will help in the development of her family.

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DESCRIPTIVE STUDY: EMPLOYMENT OPPORTUNITIES IN DIGITAL EDUCATION DURING COVID-19

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ABSTRACT

As our nation has improved digitally, the number of users exceeds the number of users not only in urban and rural areas. The use of digital has given opportunities to many sectors in India, especially in IT and the education sector. In the wake of the COVID-19 cases, the Government of India had to impose an emergency lockdown on schools and universities that decided to continue education online. The sudden change from the traditional method of teaching to a modern method had many challenges and opportunities. Many private institutes and tutors saw online education as an opportunity and took advantage of it by using low-cost software and high-speed internet facilities. Online institutions provide innovative teaching techniques, skill development, and specialised courses for all age groups. The online institutes focused on hiring young, qualified tutors, especially female tutors or teachers, who were provided the opportunity to work at flexible times or work from home. India's Edtech added 3 unicorns to its credit with BYJU's topping the chart in race of adding value to India's journey of innovations. Thus, Unleashing the positive side of the pandemic, the research study recognizes, digital education as unexplored dimension for creating job opportunities not only for teachers but also for business developers and software engineers. The secondary data is collected to understand the positive impact on employment opportunities in the education sector during COVID-19 compared to other sectors in India.

Keywords: COVID 19, Edtech, Unicorns, Employment.

INTRODUCTION

“Dream of creating an education system that nurtures, rather than undermines, creativity.”

The technology has taken over almost every field of our day to day life and onset of online course or education came as a path –breaker. Now a days, schools or any institute doesn't require huge investment or time, all one need is a good internet connection and computers. Online learning is utilizing of digital technologies to access educational curriculum out of traditional classroom.

E-learning is more interactive and learners get personal attention which results in quality education in India. It provides career plan opportunities to students and also for the teachers.

The major reason for the growth in online education is MOOCs – Massive Open Online Courses. It aimed at unlimited participation and offers open access through the web. Government of India is supporting for improving quality education and reach through digital India.

The edtech market in India is expected to reach \$4 billion by 2025, up from \$750 million in 2020. In Financial Year 2020, in India, the gross enrolment ratio in higher education was 27.1%.

After the US, India has become the 2nd largest market for e-learning. The sector is expected to reach US \$1.96 billion by 2021, with about 9.6 million users, up from US \$247 million and around 1.6 million users in 2016.

Online education has given opportunity to IT firms to come with innovative ideas of e-learning techniques or aids for imparting extensive and specialised knowledge which enhances children and adults to get expose many courses. Online learning tools: Zoom, Google meet, Mind mapping software, rainforest video making, pear deck, insert learning, OBS system and so on.

Many online institutes were introduced for various skill development courses, post graduate, diploma courses or certified courses. It has generated employment opportunities to many tutors or women or teachers, where they can work from home for multiple online institutes. The area in which has shown higher graph during COVID-19 for employment opportunities that is education sector. Drastic steps were taken by the schools, colleges and universities by shut down to fight against pandemic, and switched to well organised online learning.

List of Online Institutes in India

1. **UpGrad:** It provides degree and certificate programs from world's top universities.
2. **BYJU's:** It is an Indian multinational educational organisation that specialized in online tutoring for pre-primary till higher secondary class.

3. **Vedantu:** This organisation is an Indian online tutoring platform which focused on primary, secondary and high school curriculum, Indian Entrance Examination and Olympiads.
4. **Unacademy:** Its is an Indian Educational Technology Company, which is registered over 500000 educators and offers study materials for professional courses and entrance exams.
5. **White Hat Jr.:** Indian ed-tech startup and online tutoring firm that teaches coding to kids from the age group of 6 years via 1:1 live video class.

REVIEW OF LITERATURE

Dr.Pravat Kumar Jena (2020), The study analysed the impact of COVID-19 on the education sector in India. It highlights how many government and private institutes are using different digital technologies to continue with the education of students. Many underprivileged students suffered as a result of the lack of digital platforms. The demand for digital technology in the education sector has also created many employment opportunities in the IT sector.

Mukesh Rawal (2021), The study aims to show the positive and negative impacts of COVID-19 on teachers and students. Although many institutes have adopted digital platforms for teaching and learning, many have suffered losses due to the increased cost of upgrading their technology infrastructure. But students from rural or backward areas did not have access to online education. Some educators and learners utilise digital technology to get connected globally.

Yasmeen Bano & Dr. S. Vasantha (2019). The research emphasizes replacing the traditional method of education with digital education in India. It has also been identified that learners want to explore various skill development courses and accomplish them with the help of digital technology.

Naresh and M. Rajalakshmi (2020): The study is about determining the employment opportunities for students who have pursued online degrees. From the findings, it seems that online 1:1 learning is quite effective compared to traditional classroom learning. It has been identified that companies are ready to hire employees with an online degree, but it should be pursued by well-recognized online institutes.

RESEARCH OBJECTIVES

- To highlight the positive impact of COVID-19 on employment opportunities in the digital education sector in India.
- To determine the future of e-learning sub-sector in India.
- To provide suggestions and recommendations for building effective e-learning programmes and career opportunities in the education sector in India.

RESEARCH METHODOLOGY

The research study is descriptive in nature. The data and information presented in the research study were gathered from various reports on the COVID-19 pandemic prepared by national agencies. Details related to employment status in the education industry were gathered from the IBEF website, journals, and e-newspaper articles.

PROBLEM OF THE STUDY

As a result of the COVID-19 pandemic, schools and colleges were closed and continued through digital technology. There was a rise in unemployment, which affected their children's education, and so the government took the decision to reduce fees in schools and colleges. Teachers from private schools and colleges, especially those catering to low-income groups, many teachers did not receive salaries or 50% salaries during the lockdown, which hit hard on single-income households. Due to inadequate income, many teachers decided to opt for a second job after their work timings. Many also started their own home-based enterprise or institution.

Sectors Not Hit By COVID-19 and See Spike in Hiring

Many industries had a negative impact around the world, which included airlines, hospitality, and oil and gas drilling. This negative effect continued from March 2020 and declined again in the second wave of virus infections in most countries. Due to the COVID-19 lockdown, India's job market seems to be stable and hiring is expected to increase over the next six months, but recovery seems to be unmatched with most upcoming opportunities that were least affected. The pandemic has drastically changed teaching and learning techniques, and edtech is leading with advanced technology, higher returns, and hiring in digital learning.

Since 2019, there has been a rapid increase in demand for digital talent in the education sector. While there is a dip in other sectors' hiring from January 2020, there is accelerated growth in the education sector.

During a pandemic, within the education sector, e-learning is a sub-sector and has seen growth in digital hiring. There was a five-times growth in the proportion of digital hiring in e-learning. In 2016, digital hiring was only 7%, and it is expected to reach 33% in 2020 in the e-learning sector. Professionals in education, especially edtech companies and online training portals, decided to train business developers, software engineers, and teachers with digital skills that are relevant to academic roles. In the edtech sector alone, there are more than 10,000 active job openings and permanent roles, and at least 50,000 temporary job openings in the industry.

Comparative Analysis on hiring in edtechs

There is boom in the education technology after pandemic, the job market is continuing from 2021 with edtech startups which they are hiring to launch their products and expand into new markets. According to Economic Times, the overall increasing headcount by 93%-96% in 2021. There are top companies which has increased number of hiring's not only for business developers or software engineers but also for teachers.

EDTECHS	No. of Manpower Hired from 2020
Talentedge	1000 employees to be hire
Byju's	To hire around 8000 manpower
Interviewbit and scaler Academy	1000 hiring in next 6months from 340
Udemy	50% Team capacity in India
Simplilearn	More 500 employees to be hiring.
Unacademy	30% more hiring
Vedantu	24% growth in women hiring employees
Whitehat Jr.	Over 2000 teachers and 400 employees every month.

FUTURE OF E-LEARNING SUB-SECTOR IN INDIA

The lockdown has accelerated the global movement towards online learning, and these firms believe this growth momentum will continue through 2021. Digital technology has not only helped with continuing education but also with becoming a more efficient and skilled person.

EdTech has seen exponential growth in 2021, as government policy, products, and consumer behaviour (parents) are eager to allow their children to learn new skills, which has changed the mentality to demonstrate higher status in society.

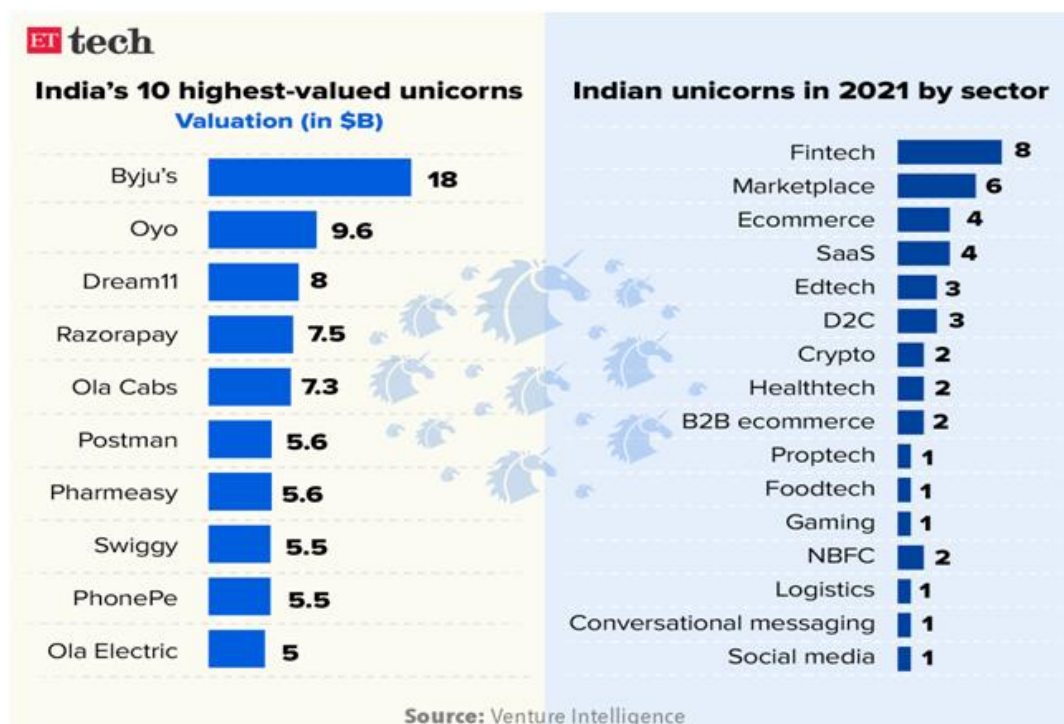
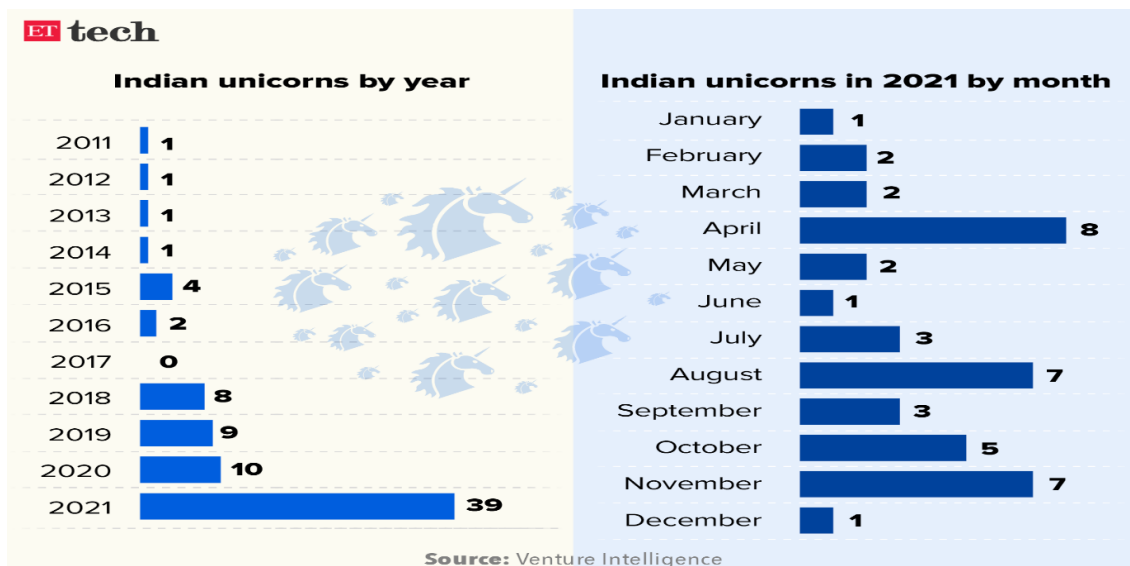
Indian EdTech sector has attracted huge capital investments and it will continue for the next few years. Many investors have become bullish about the large potential industry, and around \$2.2 billion in funding was received by Indian EdTech startups in 2020. Over the past 14 months, the demand for EdTech institutions and related services has grown by about 140%.

EdTech targets multiple age groups of learners, right from the 6-year age group to the mid-age group, and has increased personalized learning. Digital education has become dominant, which not only supports the classroom but has also changed the form of traditional education to digital or e-learning. There will be a slight dip in the growth of EdTech after the reopening of schools or colleges, but it will have stability as many students working will continue their education through EdTech institutions. There is a possibility that we will witness the gap between demand and supply in the next 2-3 years.

Overall, hiring is happening across functions, including product development, technology, sales, marketing, and corporate, while senior talent is also being brought on board to bolster leadership ranks. EdTech has created new roles for jobs that are student counsellors, online tutors, virtual lab instructors, online assessment management, business developers, course coordinators, content creator, marketing, program managers, software engineers, security specialists, etc. NEP and Edtech companies will go hand-in-hand as Edtech solutions will simplify the tracking of the right career path for students and bridge the skill gaps. This will help them select the right subjects and will help them excel in their careers.

There is growth of employment opportunities due to the many start-ups in our country. Many EdTech companies have given females opportunities to teach coding or any subject from any graduate background. This has helped them survive throughout the pandemic especially for sole earner.

India is ranked as 3rd highest number of unicorns after US and china and overtaken UK.



It includes UPGRAD, holds a list for the next year or two years. Another EdTech is Eruditus, which continues to hold a significant stake in its unicorn company. Vedanta-Bengaluru based firm, has acquired the majority of stakes in a customized learning platform and doubt-solving sessions.

SUGGESTIONS AND RECOMMENDATIONS

1. EdTech's must not only target children from high-income families, but also children from lower-income families, allowing each child to learn about topics that are relevant to academics or non-academics.
2. The online institutes should provide certified courses in music, IT, language, mathematics, or any other subject that is recognized by top universities in India.
3. There should not be an age limit for learning any skills or while pursuing any course. This will help the candidates who have left their education incomplete.
4. The Government of India should provide some funds to start EdTech only for rural or backward area students. So that low fee or no fee is charged and it will help them get to learn for free.
5. Special schemes should be developed to provide funds with a low interest rate to entrepreneurs who have innovative ideas for starting an EdTech business.

6. Provision of internet access and resolution of network problems in rural or underserved areas.
7. EdTech companies should provide laptops or an updated version of smartphones to the employees they hire, to increase their selection chances, which would generate employment.
8. Parents should not enroll their kids for the status quo but should enrich their knowledge and skills.
9. The subject expert can create their own courses and syllabus and upload on any well-known website or also share with unprivileged students.
10. EDTECH's who charges higher fees should also provide equipment required by the students enrolled in their institutions.

CONCLUSION

The pandemic has worsened the economic situation across the nation. Many people have lost their jobs working in hotels, tourism, airlines, online ticket booking firms, railways, or have been laid off from many manufacturing or banking sectors in India. Many IT companies have implemented work from home for more than a year to reduce other expenses. There was also a hit for schools and colleges, as they were closed, parents were not ready to pay full fees and it affected the teachers' pay scale. But it did not lower their work responsibilities; it was complete exploitation for the teachers. They were made to collect fees from the students by calling their parents and also complete the regular work of the day. Many teachers quit their jobs as they had a spouse to work for, but sole earners had no option other than to stay in the same school.

On the other hand, parents were ready to pay two times the fees for coaching classes or any other institution. Therefore, many teachers started to work two jobs as it was for an online school, so travelling time is saved and can be easily managed. The eagerness of parents to make their children and youth learn new things has increased the number of EdTech companies in India. Due to pandemic and lockdown, there has been increase in demand in the online education sector and rise in new recruits for teachers, marketing executives, technical skill employees and other positions.

Many EdTech's like, Vedantu, Udemy, Up Grad, Byju's, etc., already existed pre-pandemic and very few were aware of these EdTech's. But during the pandemic, it became well known and many young people, teachers, and children enrolled in this online learning to upgrade their knowledge.

Online learning institutions have given many job opportunities, especially for females, to teach any subject of their interest and skills to the students, and they are paid an average of 20k–30k per month. Along with their regular job, they can earn an extra salary. Many expert teachers started online institutions at the local level by using Google Meet or Skype. This has resulted in a gender gap in hiring for the education sector, which is reducing, whereas 35% of females are recruited in the education sector. According to LinkedIn Research, the proportion of women digital talent in the education sector has increased by 8%.

The new national education policy is a supporting factor for the increase in Edtech business in India. There will be a huge opportunity for Edtech due to the new national education policy. As authorities have included the role of technology in the preparation and implementation of NEP, many tools and platforms are to be developed for online teaching and learning processes.

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**A STUDY ON THE CONCEPTUAL COMPETITIVENESS OF THE INDIAN FITNESS INDUSTRY
USING PORTER'S DIAMOND MODEL**

¹S. Shanthi and ²Ann Mary¹Associate Professor, Department of Economics, Mount Carmel College, Bangalore²MA Economics Student, Mount Carmel College, Bangalore**ABSTRACT**

The global fitness industry is witnessing a massive expansion and growth. The fitness industry provides various fitness services and products, that can promote health and fitness, thereby deriving profits. Studies have indicated that the global fitness industry is \$100 bn in size. With the passage of time the concept of fitness is changing drastically. With the steep rise in life style diseases, due to sedentary life styles, work schedules and other stressors individuals across the globe are becoming more and more fitness conscious. The onset of the global pandemics and the associated increase in health consciousness has been clearing a new path for the growth of the fitness Industry. This increase in awareness and fitness consciousness is leading to the boom in the fitness industry. Another reason for the boom, specifically in the Indian scenario is the expansion in size of the Indian middle class. This boom in the global fitness industry throws many opportunities as well as challenges to the Indian fitness market. The Indian fitness industry continue largely as an unorganised sector. The Porter Diamond model is used understand the recent factors influencing the fitness industry. The various factors which can steer the direction of the Indian fitness industry were classified.

Keywords: Fitness Industry, Competitive Advantage, Fitness Expenditure, Porter Diamond model

INTRODUCTION

The fitness Industry comprises of individuals, enterprises, or entities that looks into exercise, health and complete maintenance of the body. Gyms, fitness clubs, professional trainers, fitness equipment, supplements and food companies, orthotics, gadgets and wearable companies and sporting commodities companies are the key players in fitness industry. The motive of the industry is to make available various fitness services and products, that can promote health and fitness, thereby deriving profits.

The Global Fitness Industry has a massive market size close to \$100 billion. Fitness is now being considered as one of the primary areas of importance across the globe. The latest IHRSA reports states that the total revenue from fitness industry was \$94bn in 2018. There has been a drastic shift in the idea about fitness, from working out and burning calories in gyms to adopting and adapting to a healthier lifestyle.

According to a 2018 study by Redseer Consulting, India's the then fitness industry was valued at \$12 Bn USD, and it is expected to attain a value of \$32 Bn USD by 2022 with an annual growth rate of 27%. Presently the fitness sector is highly fragmented and unorganized. The Diamond Model proposed by Michael Porter helps in identifying factors that contribute to the competitive advantage of an Industry.

STATEMENT OF PROBLEM

The Indian Fitness industry though in its nascent stage, is all poised for expansion. With a market penetration as low as 0.5% (in 2017), the fitness market is highly disintegrated and unorganized. Over 60% of top fitness companies located in Delhi NCR, Mumbai, Bengaluru, Chennai, Kolkata, Pune, Hyderabad and Ahmedabad. Lack of a well-defined system or ministry to oversee the developments in the fitness sector can negatively impact its growth. In-depth and multidimensional studies and analyses, are of prime importance to trace the growth path of the fitness industry. Such initiatives would enable stakeholders to be more resourceful and thereby unleash all the potentialities that the industry stand to offer. Thus, it is the need of the hour to conduct studies that look into the patterns, trends in the fitness industry.

OBJECTIVES OF THE STUDY

- To analyse Conceptual Competitiveness of the Indian Fitness Industry using Porter's Diamond Model
- To Understand the new trends in the fitness industry as a result of the pandemic situation.
- To identify the expenditure patterns of fitness enthusiasts.

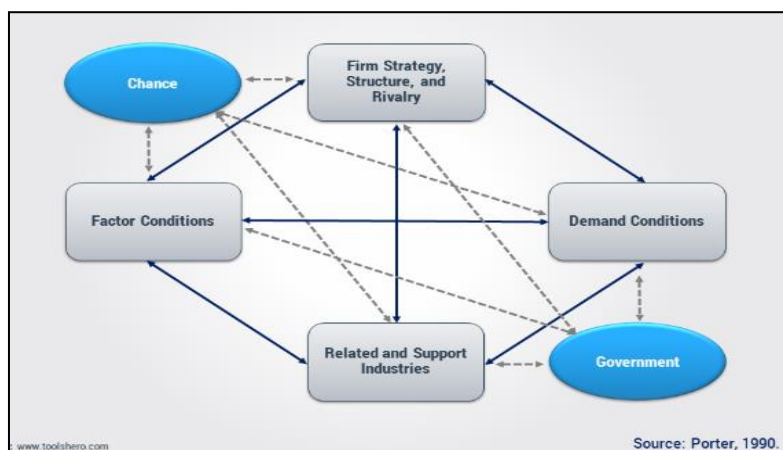
ANALYSIS AND INTERPRETATION

Objective 1: To analyse Conceptual Competitiveness of the Indian Fitness Industry using Porter's Diamond Model

Michael Porter's Diamond Model, which is also known as the 'Theory of National Competitive Advantage of Industries' explains the competitiveness of an industry in a given geographical location. This model was developed by Michael Porter, founder of the Institute for Strategy and Competitiveness at the Harvard Business School. The theory was first published in his book 'The Competitive Advantage of Nations'. It is a proactive economic theory. According to the theory the 4 determinants of competitiveness of the given industry are:

- i. Factor Conditions,
- ii. Demand Condition,
- iii. Related and supporting industries
- iv. Firm strategy, structure, and rivalry

Two other determinants that can influence the competitiveness are Government and Chance.



FACTOR CONDITIONS

This refers to the nation's pool of factors of production, i.e Land, Labour, Capital and Organization. It primarily deals with the resources present or absent with the nation. The various kinds of resources are human resources, capital resources, natural resources, infrastructure, and knowledge resources. These factor resources are further divided into Basic Factor Conditions and Advanced factor conditions. Basic factors are capable delivering the initial advantages, whereas it is the advanced factors that can drive a sustained growth.

Nearly 43% of the respondents of the survey, says that they would consider a career in the fitness sector. Of those interested to take up a career in the fitness sector 34.6% would consider a full-time job. A 2015 study showed that there are over 117 fitness startups in India. This number is continuously on the rise. India exports fitness equipment to 149 countries. Indonesia is the largest importer of these fitness equipments. This steep rise in the number of individuals and enterprises in the fitness sector points to abundant availability of human capital and physical infrastructure.

DEMAND FACTOR

Demand Factor refers to the demand for the industry's products and services in the domestic market. This is a critical factor that is capable of steering the growth of the industry. Increasing lifestyle disorders, demographic diversity, growth of Indian middle class and disposable income can be cited as the factors that are driving demand in the in Indian fitness industry.

An estimation by MSPI suggests that youth makes the 33.4% of the population of the country. The survey indicated that majority of the gym goers belong to the age group of 18 yrs. to 30 yrs. Thus this boom in youth population is directly influencing the demand for fitness service and products. Those between the age group of 15 to 65 years forms 67 % of the population. 28.4 years is the present media age of India. Therefore, demographically India is fortunate and forms a thriving ground for the fitness industry as it is individuals in this ages groups who demand for the various products and services catered by the fitness industry.

The Indian Middle Class is witnessing a massive growth and the proportion of poor are shrinking. This swelling of the middle class with rising income has helped to churn out a new demand for fitness sector. As of 2018, the middle income group comprise of 54% in India. India will gain about 140 million middle-income and 21 million high-income households, overall nearly doubling the total share of these segments to 51% by 2030. A gradual yet steady increase in the discretionary spending by the Indian youth is also a major demand factor

Alongside the rise in disposable income, exposure to the western lifestyle and culture by means of modernization and urbanization, individuals are more and more willing to spend on fitness.

Steady growth of Indian cities leading to rapid urbanization is indicative of the prospective demand in the fitness industry, resulting from greater awareness of the fitness services and urban lifestyles

Obesity in the Indian sub-continent has reached epidemic proportions. A study funded by the Ministry of Health and Family Welfare, the Indian Council of Medical Research, and the Bill & Melinda Gates Foundation found that 20-4% of Indian adults were overweight in 2016. 72 million people in India suffers from diabetes. Thus this rise in health issues leads to an increase in fitness service demand.

Initially the demand for various fitness services and products were primarily from the male population. A recent CII-Deloitte report suggests that 45% of the gym goers are now women. This trend further adds up to the increase in demand.

Related and Supporting Industry

Success of one industry is not dependent on absolute factors but on relative. Healthcare sector is closely associated with the fitness. With the advancement in the health sector and its improved facilities individuals are benefitting. The technology, telecom and internet penetration in India has helped the fitness industry experience a boom. Technology based apps not only tracks the fitness levels of an individuals but also provide the necessary guidelines for betterment. The smart phone penetration in India is 31%. India is ranked second after China in terms of internet users. Thus advancement in the telecom, internet and technology industries is fueling the developments in the fitness industry.

Firm Strategy, Structure and Rivalry

This dimension looks into why to companies are created, organized, and managed, as well as the nature of domestic rivalry. Affirmative management alongside efficient organizational models improve the competitiveness of the industry. Gold's Gym and Anytime Fitness are among the popular International names which has made its presence in India. The first gym by Gold's was setup in India in 2002. Presently the gym numbers to over 140 across 95 cities. In Indian fitness industry franchising is one of the strategy played especially by international brands. Snap Fitness, Gold's Gym, UFC Gym, Anytime Fitness are the popular franchises in India. This franchising gives an opportunity to provide Indian clients, a global exposure.

Major portion of the Indian fitness market is highly disoriented and unorganized. A market analysis by fitternity suggests that there are over 24,000 gyms in India. Firms that are proficient in providing quality service, with sustained results will be quick to capture the market. The quality of service translates into a competitive advantage.

In Porter's words it is domestic rivalry (competition) and consistent search for competitive advantage helps businesses to gain internationally. Over 90% of the business respondents claimed that one of the biggest challenges that they face is rising competition. This cut-throat competition in the market will push the service providers to be unique and novel in their approach so as to retain their client base. The consumers in turn benefit out of this competition in terms of better facilities and lower prices. This domestic rivalry will also force the unorganized players to adopt a defensive mechanism and thereby slowly converting themselves into an organized sector.

Role of Government

The Government of any nation has the strongest role to play when it comes to the development of any industry. The policies adopted by the government has a direct bearing on the flourishing or the failure of an industry in the economy. Fit India Movement launched on 29 August 2019, by the Indian Government is an initiative to encourage the nation to be fit.

Also in the year 2018 the government reduced the GST on fitness expenditure. Earlier expenditure on gym and fitness studio was treated as a luxury expenditure can thus it was in 28% slab. Additionally, the Section 80D of the income tax Act, 1961 provides the taxpayer deductions for expenditure on fitness.

Chance

Chance refers to likelihoods. It means, the possibility of a random event or a particular occurrence influencing a specific industry. Incidents such as war or natural calamity or economic crisis can have negative impact on an industry. Such incidents are unavoidable, but with proper planning the impact on the industry can be altered. The global pandemic is a typical example of 'chance'. The pandemic has over turned the functioning of the fitness industry. Various players in the fitness industry experienced negative effects of the imposed lockdowns

and the pandemic related restrictions of social distancing and reduced capacity in public spaces. The fittech brand Flexnext from their available data suggests that there are 58 million new users only in the start of 2020. The home based fitness equipment industry based on the present situation is likely to grow at 9% CAGR

Objective 2: To understand the new trends in the fitness industry as a result of the pandemic situation.

The onset of the global pandemic was a deathblow on the fitness industry. The primary focus of the industry was to survive the pandemic; however, the industry is now seeing new opportunities in the pandemic struck world.

- **Going digital**

With the pandemic related restrictions in place all the fitness service providers chose to adapt new and digital approach moving away from the tradition ones. Fitness apps became popular. Fitness sessions are now either streamed on platforms such as YouTube. India witnessed a steep rise of 156% rise in the downloads of such apps, indicating 58 million users in the country

- **Increased demand for home based fitness equipment**

Search analysis on popular e-commerce platform highlights the following: search trends have gone up by 1.5x for tread mills, 1.3x for home gyms and 1.2x for weights. According to sales data from fitness brand Decathlon rowing machines recorded a sales growth of 315% and self-powered elliptical machine 195%

- **Increased popularity of virtual classes**

Tech integration has massively benefitted the Indian fitness industry during the pandemic times. Regular fitness classes are now held across virtual platforms such as zoom and Google meet. The pandemic helped to accelerate the usage of technology in fitness sector.

- **Rise in demand for fitness gadgets and fitness wearable**

Amazon alone witnessed 5x sales in various fitness related products and apparel. Online store Puma witnessed a 20% growth in the sales of fitness apparel and footwear. According to the International Data Corporation, the Indian wearables market grew 170.3 per cent year-over-year (YoY) in Q1 2021, between January and March, shipping 11.4 million units.

- **Growing dependence on Virtual Reality and Augmented Reality**

If technology was viewed as a deterrent to physical activity earlier, in the present pandemic times technology is playing a crucial role in the fitness industry as a whole. Virtual reality and augmented reality provide an immersive experience. This brings in a dimension of entertainment while exercising thereby keeping up the motivation of the users. The data generated with the help of virtual reality and augmented reality along with artificial intelligence is helping the key players to make effective decision driving growth

OBJECTIVE 3: To identify the expenditure patterns of fitness enthusiasts

3.1 To study the impact of gender and annual income on fitness expenditure

The objective here is to understand the relationship between the dependent variable (Annual fitness Expenditure) and independent variables (Annual Income and Gender) . Annual Fitness expenditure is obtained by the sum of expenditures on Fitness Club Membership, Fitness Accessories and on Food Supplements.

Null Hypothesis (H_0): There is no significant impact of annual income and gender of individuals on their fitness expenditure.

Alternate Hypothesis (H_1): There is a significant impact of annual income and gender of individuals on their fitness expenditure.

Level of Significance (α) = 0.01

```
Call:
lm(formula = Annual_Fitness_Exp ~ Annual_Income + Gender + 0,
    data = fitdata)

Residuals:
    Min       1Q   Median       3Q      Max
-26188  -3139   3599  11486  39293

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
Annual_Income 1.545e-02  9.139e-04  16.901  < 2e-16 ***
Gender        5.617e+03  1.685e+03   3.333  0.00108 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

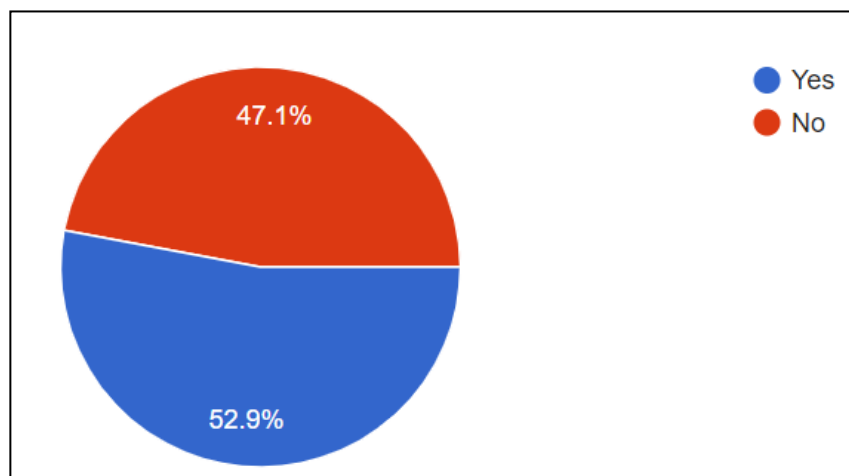
Residual standard error: 11550 on 148 degrees of freedom
Multiple R-squared:  0.7925,    Adjusted R-squared:  0.7897
F-statistic: 282.7 on 2 and 148 DF,  p-value: < 2.2e-16
```

Given above is the R output of multiple regression. Since the p value is less than the α value of 0.01, the Null Hypothesis is rejected and the Alternate Hypothesis is retained. This indicates that both the independent variables, have a significant impact on Annual Fitness Expenditure, the dependent variable. However, the annual income has a significant impact on the fitness expenditure by an individual. The adjusted R^2 squared value of 0.78 indicates that 78% of the changes annual fitness expenditure can be predicted by annual income and gender.

3.2 Expenditure on personal fitness trainers

Fitness conscious individuals are now willing to spend more in order to remain fit. Due to this reason personal fitness trainers are now gaining popularity among fitness enthusiasts.

Graph: Willingness to spend on personal fitness trainers



Source: Primary Data

The pie shows the response to the question - 'Would the respondent prefer to have a personal fitness trainer.' The result thus obtained showed that majority of the respondents were interested to have a personal fitness trainer. Close to 53% of the respondents expressed their preference for a personal fitness trainer. This in turn reflect on the growing fitness consciousness and awareness among the respondents. This was followed by a Chi-Squared test to understand, if there is a significant difference in the willingness to spend on personal fitness trainers, by male and female fitness enthusiasts.

3.3 To understand if there is a significant difference in the willingness to spend on personal fitness trainers, by male and female fitness enthusiasts.

Null Hypothesis(H_0): Willingness to pay for personal trainers and gender of the fitness enthusiasts are independent of each other.

Alternate Hypothesis(H_1): Willingness to pay for personal trainers and gender of the fitness enthusiasts are dependent on each other.

Pearson's Chi-squared test

```
data: mydata
X-squared = 1.4793, df = 3, p-value = 0.6871
```

The above given r-output window shows the result of Chi-square test. The Chi-square value is 1.479. The p-value is 0.68, which is greater than the α value of 0.01, thus the Null Hypothesis is retained. This means that gender does not have an influence on willingness to pay for a personal fitness trainer. Thus, there exists no difference in willingness to spend on fitness trainers among male and female fitness enthusiasts.

3.4 To understand if there is a significant impact of annual income on an individual's willingness to spend on personal fitness trainers.

Null Hypothesis(H_0): Willingness to pay for personal trainers and annual income of the fitness enthusiasts are independent of each other.

Alternate Hypothesis(H_1): Willingness to pay for personal trainers and annual income of the fitness enthusiasts are dependent on each other.

Level of Significance (α) = 0.01

Pearson's Chi-squared test

```
data: fitdata
X-squared = 23.188, df = 9, p-value = 0.005787
```

The Chi-square value is 23.18. The p-value of 0.0057 is lesser than the α value of 0.01, thus we fail to accept the Null Hypothesis. The alternate Hypothesis is accepted. This means that willingness to pay for personal trainer significantly depends on income level of an individual.

3.5 Expenditure on Fitness Equipment at home

Table: Investment on Home Fitness Equipment

Investment on home fitness equipment	No of Individuals
Nil	56
Below Rs.15,000	78
Rs.15000 – Rs.30,000	10
Rs.30,000 - Rs.50,000	3
Above Rs.50,000	3
Total	150

Source: Primary Data

The above table indicate the investment on fitness equipment at home. Of the respondents 62.6% have fitness equipment at home. It can be observed that a majority of the individuals have minimal investment in home fitness equipment. This show the preference among individuals to go out to a fitness centre and work out.

Foam roller, pull up bar, exercise ball, dumbbells, resistance band, jump rope, stationary bike, treadmill are the low cost, popular home fitness equipment among the fitness enthusiasts. Another option used by many fitness enthusiasts is renting of home fitness equipment. It is also an economic approach.

Treadmills are the most popular equipment that is rented. However, a matter of concern is the maintenance of the equipment. Rentickle, RentoMojo, GrabOnRent are popular platforms that helps to rent fitness equipment. There is also a growing popularity of second hand fitness equipment.

FINDINGS

Based on the diamond model the following are the identified constituents under each factor dimension, formulated by Michael Porter.

Dimensions	Constituents of factor conditions
Factor Conditions	<ul style="list-style-type: none"> Improved fitness infrastructure, rising number of fitness startups and entrepreneurial venture, increased investments in fitness sector 43.44 million USD is the combined value of fitness equipment export from India. Indonesia is the largest importer of the goods.
Demand Condition	<ul style="list-style-type: none"> Median age of the country is 28.4 33.4% makes the youth population of the country The growth of middle class to 54% of the population Increased discretionary spending of the Indian youth Steep rise in lifestyle based disease. 61% of death in the country is due to NCD or Lifestyle disease Rise in the participation of female users. 45% of the users are females.
Related and supporting industries	<ul style="list-style-type: none"> Development in Health, Telecom and Internet Sector India has 624 million internet users
Firm strategy, structure, and rivalry	<ul style="list-style-type: none"> Fitness sector is largely unorganized and fragmented in India. Large number of foreign players. Franchising is a popular trend and market capturing strategy by international players. Rising domestic competition and customer retention are the biggest challenges.
Government	<ul style="list-style-type: none"> Fit India Movement worked towards instilling an increased fitness consciousness Reduction of GST on fitness expenditure from 28% to 18% Tax deductions on fitness expenditure based on section 80D
Chance	<ul style="list-style-type: none"> The pandemic has caused a steep rise in the fitness consciousness among the Indian masses 58 million users were added only in the first and second quarter of 2020

- To identify the various expenditure patterns of fitness enthusiasts and other recent trends
- Both the annual income and gender influences the fitness expenditure of an individual.
- 52.9% of the respondents would like to have a personal fitness trainer.
- Willingness to spend on personal fitness trainer is primarily dependent on income of the individual and not on gender.
- 87% of the customers are satisfied with the facilities and services provided by the fitness clubs.
- Fitness Consciousness is the prime motive behind individuals joining the fitness centers. Medical reasons and appearance enhancement are the other reasons that encourage individuals to join the fitness industry.

SUGGESTIONS

- Immediate steps need to be adopted to formalize the Indian fitness industry
- Make In India campaign to provide the necessary impetus to the producers of fitness equipment
- Allocation of funds to the Fit India Movement
- Increased technology integration to sustain the gyms that were to be closed down due to the pandemic
- Active implementation of virtual reality and augmented reality to capture new users and maintain the motivation of the current users
- Implementing data drive policies both by the government and players in the industry

LIMITATIONS**The Limitations of the Study are as Follow:**

- It primarily is focused on identifying the various constituents of the Diamond Model
- Lack of detailed study on Indian fitness industry, to act as secondary source
- The recent trends were compiled based on studies which many be focused on a single perspective

CONCLUSION

India is now growing into one among the most conducive environment for the fitness industry to thrive. Demographic diversity, swelling middle class, rising disposable income, huge consumer base, rising standards of living and quick paced urbanization leading to massive expansion of the towns and cities. Internet and telecom penetration in India is opening new opportunities for development.

India holds huge potential for the fitness Industry to flourish. A growth rate of 9.3% is expected in the fitness industry. A major part of the revenue derived from the fitness industry is now dependent on the demand for fitness wearables. The increase in the fitness service demands from tier 2 and 3 cities is increasing substantially. A corporate culture with well-equipped gyms is much in trend. Number of households with home gym facilities are becoming popular in tier 1 cities. All this together contribute to the growth of fitness industry. This growth however needs to be under constant supervision as it may otherwise lead to the over exploitation of the customers by the market players. Stringent laws need to be adopted by the government regarding the various players of the industry.

The Indian fitness industry is still in its nascent stage. It is highly fragmented and unorganized. The Diamond model propounded by Michael was used in the study to identify various factor conditions which makes the Indian fitness industry a competitive one. The greatest advantage is that of the demand factors in India. The onset of the pandemic has become both a boon and bane to the Indian fitness industry. The Pandemic related restrictions have led to the close down of gyms rendering many fitness sector professionals unemployed. However, new segments of the industry is witnessing growth and has the potential to thrive. The pandemic can be used as an opportunity to explore the potentials of the fitness industry. The government has a major role to play in the growth of the industry. Technology has now become the key driving force in the industry. Effective technology integration will help to address the down turns faced by the industry as a result of the pandemic.

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SIGNIFICANCE OF INTER-RELIGIOUS DIALOGUE IN SECULARISM: THE GANDHIAN PERSPECTIVE

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INTRODUCTION

The term 'Secularism' has a unique interpretation in Indian context which is categorically different from the western interpretation. Being a multi-cultural and multi-religious society, the spirit of secularism in India has been that of '*Sarvadharmā Samābhava*' – the spirit that was reiterated by Gandhi that implies the spirit of equal respect towards all religions. Gandhi suggested inter-religious dialogue as a means to bring about mutual understanding giving rise to respect for each others religious views. The interplay between religious identity and dialogue will pave the path for communal harmony that is highly essential to realize the true spirit of secularism. The aim of this paper is to appreciate the significance of inter-faith dialogue to strengthen secularism in order to create a peaceful society.

The concept of secularism, which has developed in the Western countries as an anti-religion attitude, would have been assigned a different meaning by Gandhi in the Indian context with the help of which he could have tried to reconcile religion with secularism. It is therefore pertinent to understand the western concept of secularism in order to appreciate the Gandhian notion of *sarvadharmā Samābhava* which he seeks to achieve through inter-faith dialogue.

Western Concept of Secularism:

The etymological meaning of the term 'secular' is that which belongs to the *saeculum*- a segment of time. However, historically, in the West it came to mean 'laic' or 'civil' which is to be understood as opposed to the 'clerical' or the 'religious'. In the West the civil law was distinguished from canon law or Church law. (Parel, 19) Thus in the western civilization, secularism developed as a result of the debate between the church and the state where they insisted on the total separation of the two. Such a separation was further affirmed through the first Amendment of the American Constitution in 1776 when Jefferson used the term 'wall of separation' to describe the divide between religion and politics. Basically, secularism was an expression of the human urge to live one's own life independently of the domination by the church which was the prevalent pattern of the Western society. It also affirmed the authority of reason and science over faith.

Thus, the word secular in the Western context implied three things: freedom of religion, equal citizenship to each citizen irrespective of their religion, and the separation of religion and politics. It introduced science, technology and rationalism in the society which formed the basis of a modern secular state. In the process, it had to oppose and struggle against the clergy and vested forces in the society. The era of renaissance brought about unprecedented progress in science and technology. The scientific theories demolished numerous religious dogmas due to which religion and science were seen as contradictory.

G J Holyoake coined the word secularism to describe the socio-political movement started by him, Charles Bradlaugh and others. (Parel 19) According to them, secularism simply meant the concern for life in this world, as articulated by the humanists and positivists. It affirmed the worth of this worldly existence, the independence of scientific knowledge and human happiness as the only legitimate aims of social institutions. Thus, gradually, secularism in the West came to be identified with atheism and resulted in the total rejection of religion. From the nineteenth century onwards, Western civilization began to shed as much of its spiritual dimensions as possible. It was suggested that spirituality and religion can be the sources of moral backwardness and intellectual immaturity. It was thus believed that economics and politics supported by modern science can solve all problems of humanity. God and religion began to be considered as major obstacles to human progress and therefore it was suggested that they deserve to be rejected by all means. Thus, the thinkers like Marx, Freud, Nietzsche etc. vehemently refuted the religious or spiritual aspects of life. As Sir Isaiah Berlin has noted, and noted with approval, "secular humanism seeks a twofold displacement. The displacement of God by the 'conception of the rational life,' and the displacement of the soul seeking union with Him, by the individual who wants to be guided by reason alone" (Parel 20). Thus, reason was given supremacy over faith by the secularists.

The Indian Context of Secularism:

The western model of exclusion or rejection of religion or religious considerations in the society is neither possible nor desirable in the context of Indian society. India borrowed the word 'secular' from the West and included it in the preamble of its constitution by the 42nd Amendment in 1976. The purpose behind the

inclusion of 'secularism' in the constitution was to make it known to the world that the government of India does not consist of any one monopolised religion, that there is no state religion which was signified by the word 'Dharmanirapeksha' as the translation of the word 'secular'. It was expected that since all citizens of the country are treated equally despite their religious differences, they will live in peace and harmony if the state does not belong to any one particular religion.

India is a multi-religious nation with a flourishing history of pluralism that has been thriving for thousands of years. Among the many faiths that have been practiced in India are Hinduism, Islam, Christianity, Sikhism, Buddhism, Jainism and so on, few of which have also originated in India. Hence, it can be rightly claimed that in India there are people belonging to almost all religions of the world. The citizens of India are given constitutional freedom to follow the religion of their own choice. Religious pluralism has always been an integral part of the Indian society. But, the religious diversity which is a boon turns out to be a curse when it gives rise to religious conflicts and violence, disturbing the peace and harmony of the country. The spirit of Secularism, has the potentiality to enable the people belonging to varied religions to coexist peacefully. Secularism as one of the key concepts included in Indian constitution thus acquires even greater significance in India with its unique religious pluralism.

The Spirit of Sarvadharmā Samābhava:

Gandhi believed that it is possible to build a pluralistic society which will accommodate all religions within its fold by developing the respect for each other. Thus, he envisaged to establish the culture of unity within diversity through the spirit of Sarvadharmā Samābhava making space for the people belonging to different religious views. Thus, the spirit of Sarvadharmā Samābhava as an interpretation of secularism can serve as a viable alternative that can bring people together, unite them and make them willing to cooperate with each other. As suggested by Akhil Bilgrami, one of the famous Gandhian thinkers, Gandhi attempted to give a new meaning to secularism by making it "the proud possession of a thoroughly religious society..." (Bilgrami "Gandhi's religion" 113) Secularism may thus serve as an effective means to resolve the issue of religious pluralism.

Gandhi was convinced that different religions of the world can be consistent with one another since they have common essence due to which there cannot be a genuine conflict between them. He also proposed that people should be given the freedom to decide which religion to follow or whether to follow any religion or not because it is every individual's personal matter which no one else, including the state, has the right to interfere with. His secularism thus implies freedom of religion. As he wrote, "I swear by my religion, I will die for it. But it is my personal affair. The State has nothing to do with it." (Gandhi, *Harijan*, 22-9-1946)

Gandhi's ideal of truth and non-violence logically imply the equal respect for all religions as a necessary feature of society. According to him, different religions are to be approached as different ways to understand the Truth and therefore none of them is completely true or completely false. Since different religions have developed at different times and different places in the history of humanity, it is not possible to arrive at any one religion to be true and universally followed. The plurality of religion is unavoidable and thus, the best way to deal with religious pluralism is to make an attempt to understand, appreciate and respect each other's religious views. As he writes, "there is no such thing as one true religion. Every religion and every individual that describes God attempts the impossible, because God is actually indescribable" [As qtd. In Sorabji, *Gandhi and the Stoics*, 10] He believed that "man was an imperfect being whose destiny it was to strive for the truth" (Chatterjee 231)

Religious Intolerance:

One of the main concerns of Gandhi which was close to his heart was the problem of religious intolerance resulting in the homogenization of the society in which the people belonging to minority religions are forced to accept and follow the religious views and practices of the majority. Many a times, such an inclusionary, homogenizing attitude is pursued with physical and psychological violence toward them, which is strongly objectionable. The intolerant religious people accept the doctrinal view of their own religion and regard their own beliefs and ways of life as ideal. They accept their own religious views as the standard to judge the beliefs and ways of the life of those who belong to the other religions and whom they regard as 'the other'. In their view, 'the other' should not remain 'the other'. They try either to merge 'the other' with themselves or resist and criticize them. Such resistance ultimately end up with the negative approach of hatred towards 'the other' finally leading to the use of either emotional or physical violence. Such a negative attitude is harmful to mutual respect and peaceful co-existence of the people belonging to different religions or world views.

When such conflicts arise, the people involved in the conflict may blame the others, without realizing that the problem lies in the very approach with which they deal with each other. What is required to resolve such

conflicts is to bring about a change in the attitude of the people towards each other's religious views. Rather than strictly and rigidly adhering to one's own world view dogmatically and considering one's own view as superior, the people belonging to one religion should make attempts to understand and accommodate the views of 'the other'. Positive dialogue with a view to respect the point of view of 'the other' is likely to bring about the much required mutual understanding and respect. To understand the point of view of another faith requires tolerance, empathy, broad mindedness, humility and willingness to recognize Truth wherever it is to be found. It is only if we possess these qualities that we can appreciate and respect other's faith, traditions, customs, culture and way of life.

Unity of All Religions:

Gandhi firmly believed that the prophets and seers of different religions have made attempts to bring about the consciousness of the unity underlying the whole universe and the deep sense of equality between all human beings. He thus proposed inter-religious dialogue as a creative process in which the participants are willing to go beyond the constraints of the boundaries of their own religious views and make attempts to understand and appreciate the religious views of other. This will help them clear the misunderstandings about each other's religious views and resolve the so called religious conflicts. Such a constructive dialogue may help develop the spirit of empathy that can bind the whole of humanity together.

Significance of Religious Tolerance:

Gandhi attempted to develop a new model of religious tolerance through which people belonging to various world views will be able to understand and respect each other's points of views. He himself exhibited extraordinary willingness to learn about unfamiliar religious beliefs and practices, understand them and imbibe from them whatever appealed to him. Initially in his hometown and later in London as well as South Africa, he came across people from many faiths and traditions including even the secularists and the atheists. He tried to communicate with each of them and also established a very good rapport with them through debates and discussions on various religious issues. In order to be better equipped to argue with them, he also tried to learn more about his own religious tradition. He did not hesitate to clarify his notions about Hinduism by sending a list of questions to one of his friends, Raichandbhai, who later came to be well-known as Srimad Rajchandra. (Gandhi, *The story* 81) This exhibits his keenness to use discussions and debates to resolve the issue of religious pluralism.

Religious Pluralism:

It can thus be concluded that Gandhi was a pluralist who was willing to understand the role played by different religions in the life of the followers. Rather than rejecting religious pluralism, he tried to preserve it by changing the approach of the believers towards their own religion along with the religion followed by others. Gandhi suggested that one should try to enrich one's own religion by drawing out the best from other religions. He, therefore, encouraged his followers to undertake the study of scriptures of other religions apart from those of one's own. He encouraged them to have a dialogue with the people from other religions.

Significance of Inter-Religious Dialogue:

He sincerely believed that the inter-religious dialogue may turn out to be a mutually transformative process and can replace the rigidity by flexibility with regard to the religious matters. Rather than rejecting the traditional identity-defining boundary, Gandhi attempted to redraw the boundaries of institutionalized religions. He tried to interpret religious scriptures to reject its literal meaning, and searched for the moral and spiritual message hidden in the scriptures of various religions. As he wrote, 'I am not a literalist. Therefore, I try to understand the spirit of the various scriptures of the world. I apply the test of Truth and Ahimsa laid down by these very scriptures for interpretation. I reject what is inconsistent with that test, and I appreciate all that is consistent with it.' (Gandhi, *Young India*, 27/08/1925, p.293) His view of religion, thus, has the potential to develop the secular approach toward religion and show the way out of the current mood of intolerance and violence.

Gandhi did not believe in restricting the boundaries of religion to any one particular religion. Rather he was ready to imbibe and understand the truth from whichever source it is available. He did not approve of closed or rigid approach towards religion. In his view, religion should be treated as a dynamic and flexible realm of life. He suggested that the mutual understanding and respect for each other's religious views and practices will render the boundaries as porous as possible. Thus, Gandhi prescribed the constructive inter-religious dialogue as a means to develop the spirit of mutual respect that can create a sound foundation for a peaceful secular society.

CONCLUSION

Gandhian suggestion to have a constructive inter-religious dialogue leading to Secularism opens up the space for communal harmony leading to peaceful co-existence, which is very significant in the society that is torn

apart due to rampant injustice and violence done under the name of religion. It may also help resolving both inter-religious as well as intra-religious conflicts in the society. The transformed approach to religion will enable it to serve its original function of binding the humanity together and guiding its followers towards morality and spirituality. By giving a new meaning to the word 'secularism' suitable for Indian society, propounding moderate form of secularism as against the atheistic form of secularism, Gandhi tried to bring harmony in the society.

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APPLYING BEHAVIORAL SAFETY METHOD FOR CAR DRIVERS TO IMPROVE SAFETY

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ABSTRACT

The behavioral safety method was developed by International Mining Consultants Limited for estimating and reducing risk in industries. It is an ergonomic method to analyze and reduce risks. The goal of this method is to identify the significance and regular human error areas anywhere possible before committing any errors. Main aim of the present study was to prevent accidents by car drivers due to human errors and violations. An exploratory research design was adapted for the study. Total sample consists of 30 respondents; from that 15 respondents were female and 15 were males who drive the car. A small checklist was adapted to collect the data. Simple frequency and percentages were used to analyze the socio demographic profile of the respondents and also one percentage safe formula was used to analyze the percentage of safety in car driving activity of the respondents. Results revealed that majority (33.33%) of the respondents were at risk while driving a car followed by 26.6% were at safe, 16.6% were somewhat safe, 13.33% were at danger and 10% of the respondents were at somewhat risk. Most of the people were unaware about safety measures to follow while driving a car thus majority of the respondents were at risk. So there is a need to initiate some awareness programmes related to safety measures to follow while driving a car.

Keywords: Behavioral safety, Risk, Awareness, Car driving.

INTRODUCTION

The Behavioral Based Safety (BBS) approach found in behavioral science was conceptualized by B. F. Skinner (1938, 1953, and 1974). It was first applied in experimental behavior analysis after that also applied to behavior analysis, developed from Skinner's research and teaching. It was laid the foundation for numerous rehabilitations and interventions to improve quality of life (Goldstein & Krasner, 1987; Greene, Winett, Van Houten, Geller, & Iwata, 1987).

The behavioral safety method was developed by International Mining Consultants Limited for estimating and reducing risk in industries. It is an ergonomic method to analyze and reduce risk. It is a scientific method to provide feedback to improve safety. It is an indication for risk management and injury prevention. The goal of this method is to identify the significance and regular human error areas anywhere possible before rising of any errors. Main aim of the present study was prevention of accidents by car drivers due to human errors and violations.

BBS generally adheres to the seven key principles they are focus intervention on observable behavior, look for external factors to understand and improve behavior, direct with activators and motivate with consequences, focus on positive consequences to motivate behavior, apply the scientific method to improve intervention, use theory to integrate information, not to limit possibilities and design interventions with consideration of internal feelings and attitudes. The present study followed the fifth principle that is applying the scientific method to improve intervention.

OBJECTIVES OF THE STUDY

1. To apply the behavioral safety method for car drivers
2. To measure the behavioral safety of car drivers

REVIEW OF LITERATURE

Wanga *et.al* (2018) has studied on evaluating the effectiveness of behavior-based safety education methods for commercial vehicle drivers. Experimental design was adopted. Total 34 male commercial vehicle drivers who have age between 22 to 48 were coached with one of three different BBS education methods for 13 weeks following a 13-week baseline phase with no education. Data was collected two times for the study by using structured questionnaires. This study found that BBS education was confirmed to be effective in safety-related event reduction. The most effective method was face-to-face coaching including feedback with video followed by weekly telephone coaching by using strategies was most convenient delivery mode, also significantly effective. Majority of the young drivers were involved in safety-related events when compared to older drivers. Drivers' at-fault safety-related events reduced significantly under all three BBS education methods.

Bao *et al.* (2020) investigated on examination of teen drivers' car-following behavior under naturalistic driving conditions: With and without an advanced driving. A total of 108 drivers were randomly selected and grouped into three age groups (36 younger (20– 30 years old), 36 middle-aged (40– 50 years old), and 36 older (60– 70 years old) drivers). The Main findings of the study were all adult drivers tended to keep longer headways when driving at night than during daytime to compensate for poor vision conditions, but no such compensation behavior was observed in the teens. Both teen and young-adult drivers were more violent following behavior than middle-aged and older drivers. After completion of experiment by introducing advanced driving assistance systems teen drivers' pedal use and car following behavior was more than other age groups, though they reported low acceptance of those systems.

Calvi *et al.* (2020) conducted a study on evaluation of augmented reality cues to improve the safety of left-turn maneuvers in a connected environment: a driving simulator study. The aim of the study was to test the potential of Augmented Reality (AR) technology, built into connected vehicle technology, to improve the safety of left-turn maneuvers of connected vehicles by adding visual virtual information to the driver. Results revealed that significant positive effects of AR warnings on driving performance and traffic safety were observed: the number of safe left-turns increased and the delays at the intersection decreased. AR signaling improved driving behavior both during the waiting time, with many more drivers waiting for the gap in front of the stop line to avoid disrupting advancing traffic.

Vaiana *et al.* (2020) study entitled with driving behavior and traffic safety: an acceleration-based safety evaluation procedure for smartphones. An experimental research design was adopted and developed an android mobile application to connect and collect live data from drivers. Total 5 drivers with different driving behavior, two were younger with driving license with 3-4 years of driving experience and another three were 45-50 years of old with many years of driving experience were selected for the study experiment. For identification of aggressive behavior many potential dangerous events were considered they were excessive speed higher than the limit, aggressive left and right turns, aggressive U turns and aggressive lane change. After collection of GPS data by mobile application, calculated the vehicle's accelerations and giving real-time information to road users about their driving style. Results revealed that aggressive drivers mean values of external points were 10% higher than safe drivers.

MATERIALS AND METHODS

An exploratory research design was followed. The total sample consists of 30 car drives from that 15 were male respondents and another 15 female respondents were selected for the study from both the public and private sectors by using simple random sampling technique. A small checklist was adapted from Geller, 2005 to collect the data. Simple frequency and percentages were used to analyze the socio demographic profile of the respondents and also one percentage safe formula was used to analyze the percentage of safety in car driving activity of the respondents. Driving experience and educational qualification were taken as independent variables while speed limit and intersection were dependent variables.

RESULTS AND DISCUSSION

Results were presented under the following headings.

Table 1: Distribution of respondents by their age

S. No	Age	F	%
1.	50 and above	12	40.0
2.	47 years	3	10.3
3.	45 years	2	8.0
4.	43 years	2	7.0
5.	Below 43 years	11	34.7

Table 1 depicts that a little less than average (40%) of the respondent's age was 50 and above years followed by 47 years (10.3%), 45 years (8%) and 43 years (7%) and remaining were below 43 years old.

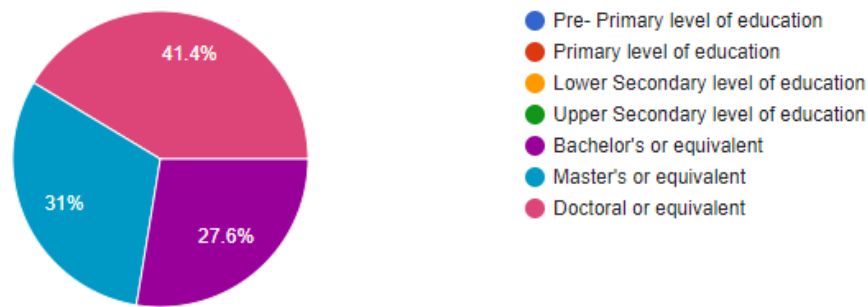


Figure 1: Frequency Distribution of educational status of the respondents

Figure 1 depicts that about 41.4 per cent of the respondents completed their doctoral or equivalent degree programme followed by masters or equivalent (31%) and bachelors or equivalent (27.6%) degree programmes.

Table 2: Distribution of respondents through type of four wheeler usage

S. No	Type of four wheeler	F	%
1.	Swift	4	14.0
2.	Polo	3	6.9
3.	Honda city	3	6.9
4.	Others	20	72.2

Table 2 reveals that 14per cent of the respondents were using Swift cars followed by Polo and Honda city equally (6.9%). Remaining respondents were using Alto, Indica, Maruthi etc.

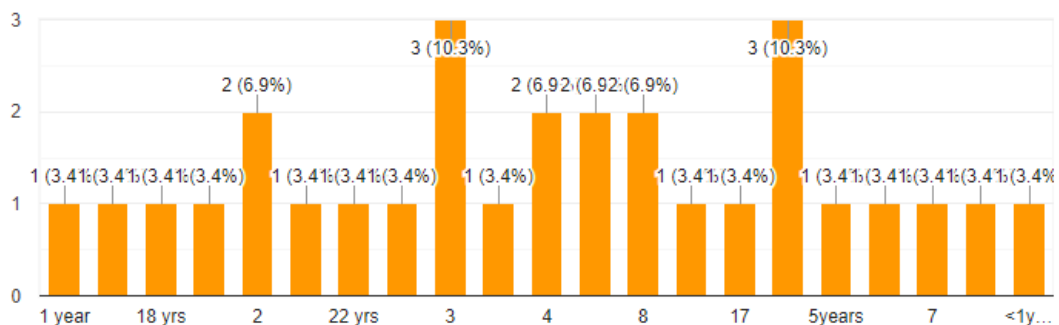


Figure 2: Frequency distribution of years of experience in car driving

Figure 2 shows that one-tenth (10.3%) of the respondents have 20 years of experience in car driving followed by 6.9 per cent of the respondents have 2, 4, 5 and 8 years of experience and remaining respondents were having 22, 18, 17, 7 and 5 years of experience in car driving.

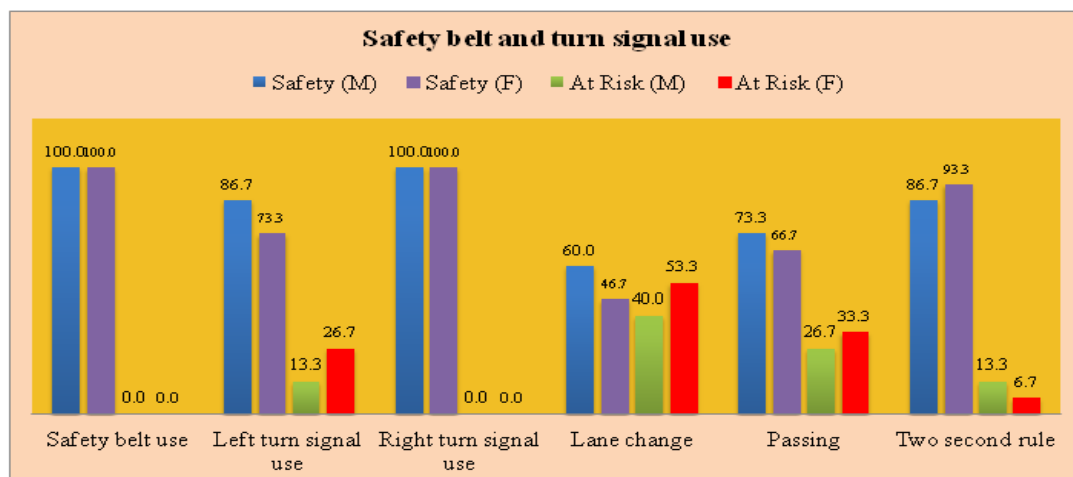


Figure: 3 Distribution of respondents through safety belt and turn signal use

Figure 3 shows that cent per cent of both male and female respondents said that safety belt and right turn signal were used for safety purpose. Most (93.3%) of the female respondents said two second rule was used for safety purpose. Majority of the male respondents said that both left turn signal use (86.7%) and two second rule (86.7%) were used for safety purpose. Most (73.3%) of the male and 66.7 per cent of female respondents said that passing was used for safety purpose. Maximum (60%) of the male respondents said that lane change was used for safety purpose while female respondents said that lane change use causes risk (53.3%).

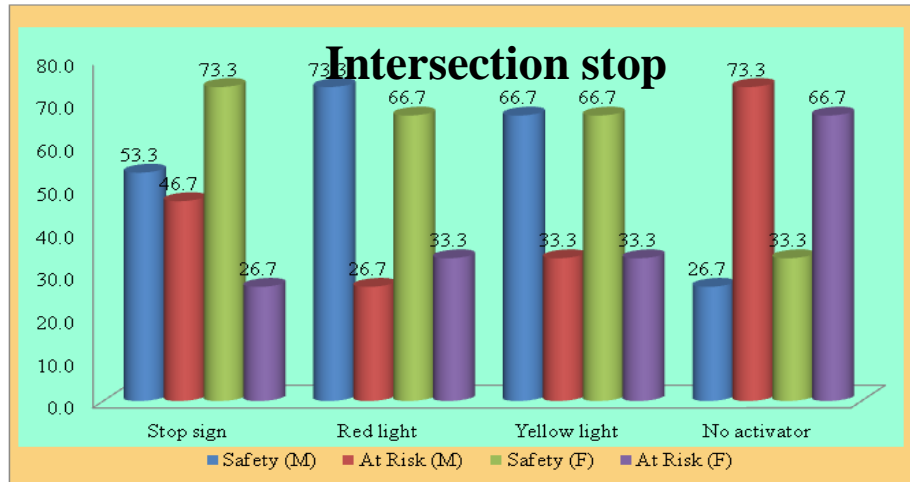


Figure: 4 Distribution of respondents by means of intersection stop signals

By observing figure 4 it was understood that majority of the female (73.3%) and male (53.3%) respondents said stop sign indicates safety followed by 46.7 per cent of the male and 26.7 per cent of the female respondents said stop sign indicates risk.

Most (73.3%) of the male and (66.7%) female respondents said that red light was used for safety purpose followed by 33.3 per cent of the female and 26.7 per cent of the male respondents said red light depicts risk. Majority (66.7%) of both male and female respondents said yellow light indicates safety and 33.3 per cent of both male and female respondents said yellow light indicates risk. About 73.3 per cent of male and 66.7 per cent of female respondents said no activator indicates risk.

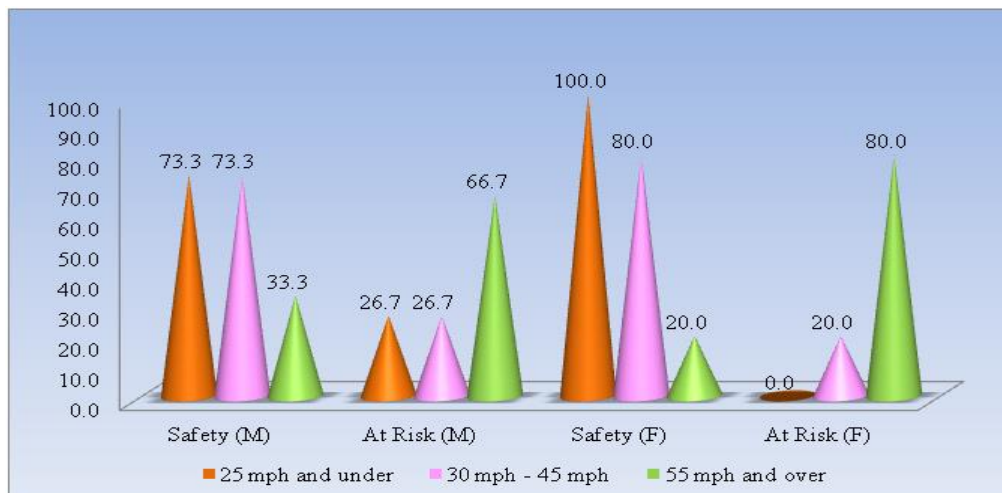


Figure: 5 Distribution of respondents by speed limits

Speed Limit

Figure 5 reveals that cent percent of the female respondents said 25 miles per hour and under speed indicates safety followed by 80 per cent of female respondents said 30 mph- 45 mph and 55 mph and above speed limit indicates safety and at risk respectively. Only 20 per cent of the female respondents said 55 mph and over and 30 mph – 45 mph speed indicates safety and at risk respectively.

Nearly 73.3 per cent of male respondents said both 25 mph and under and 30 mph – 45 mph speed indicates safety, only 33.3 per cent said 55 mph and over also at safety. Majority (66.7%) of the male respondents said 55 mph and over speed indicates risk followed by equal per cent (26.7%) of male stating that both 25 mph and under and 30 mph- 45 mph speed indicates at risk.

Table 3: Safety percentage and safeness of the respondents

Class interval Intervals	Frequency	Percentage (%)	Safeness
1%-20%	4	13.33	Danger
21%-40%	10	33.33	At Risk
41%- 60%	3	10.00	Somewhat Risk
61%-80%	5	16.60	Somewhat safe
81%-100%	8	26.60	Safe

Formula: $\text{Total safe observations} / \text{Total safe} + \text{At risk observation} \times 100\%$

By using one percentage safe formula the results were depicted in the above table. One-third (33.33%) of the respondents were under risk while driving a car followed by 26.6 per cent were safe, 16.6 per cent were somewhat safe, 13.33 per cent were in danger zone and 10 per cent were at somewhat risk while driving a car irrespective of their gender.

Table 4: Safety percentage through gender

Gender	Frequency	Safety percentage (%)
Female	15	69.00
Male	15	71.00

By applying percentage safe formula for gender (for both male and female respondents) the results were depicted in the above table. Majority (71 %) of the male and (69%) female respondents were at safety while driving a car. When compared to female respondents, male respondents were 2 per cent safer in driving a car.

CONCLUSION

Before doing this research there is no knowledge about behavioral safety method and its application. By doing this research, got to know that there are different behavioral safety methods for different activities to improve safety of users. Most of the people who drive the car were unaware about safety measures to follow while driving a car thus majority of the respondents was at risk. When compared to male respondents, female respondents were falling at more risk. Majority of the respondents were ignoring the safety measures to follow while driving a car because of their busy schedule and also in hurry in reaching office in time. So there is a need to initiate some awareness programmes related to safety measures to follow while driving a car. Government should punish with fines and penalties for the people who ignore and cross the safety measures more than once or twice in a week or month.

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POLICY FRAMEWORK FOR CLEAN ENERGY TECHNOLOGY

¹Nikhil S. Dhage and ²Kalyani Joshi¹Department of Dr. Babasaheb Ambedkar Studies, SPPU, Pune, Maharashtra, India²Department Botany, SDSM, Palghar, Maharashtra, India**ABSTRACT**

The present paper, Policy framework of Clean Technology: Policy Framework is prepared with the objectives to understand present issues and how to use clean Energy technology to overcome them and achieve Sustainable Development Goal. Environment and Economic development conflicts results in degradation of valuable natural asset. This paper discusses about Renewable Energy technologies -how to utilize them, how to frame policy in today's context of Covid 19 Pandemic, Economical business modelling etc. Policy framework for Clean Energy Technology is need of Hour. We are software expert in Global market. Clean Energy Technology necessity, present issues and their effects on Environment Education. This research paper tells Renewable Energy, Internet of Things, Data Analytics, Ground water management, Gas Management etc to Bring New Policy With special emphasis on Environmental Issues. How to Analyse Data to improve Natural resources through Policy Framework and it also includes Practical Analysis of Renewable Energy, Internet of Things, Data Analytics. Also, Policy Frame work to combat climate change, Clean Energy Technology action plan Development, Review of Indian Government Polices, International Standards, Sustainable Goal critical analysis. This research paper is practical deals with practical approach to tackle resource management using technologies. How should we plan our economy like water resource? This Research paper makes policy recommendations based on Socio-Economical approach. This Policy Framework has potential to strengthen our path to achieve Sustainable Development Goal to achieve our Sustainable Development Goal to Promote prosperity while protecting our planet.

Keywords: Renewable Energy, Internet of Things, Data Analytics, Policy Framework.

RESEARCH OBJECTIVES

1. To understand energy policies, technology policies, and environmental policies with reference to clean energy technologies.
2. To bring out practical discussion on how software technologies works, and how to manage digital transformation- Data science.
3. To come with concept of policy framework for clean energy technology, recommendations and way forwards.

RESEARCH METHODOLOGY

The paper titled 'policy framework for clean energy technology' is an output of descriptive research as we as practical energy analysis which done using software. The primary data sources are official documents released by Government of India on energy consumption and energy policy, news articles, journals, and various reports released by authorised institutions. To analyse energy utilization cloud based software is used.

INTRODUCTION

"Energy neither be not created nor be destroyed; it can only be converted from one form into another"- first law of Thermodynamics given by Rudolf Clausius in 1850. Though the statement of 1st law is correct, it pointed out the energy conversion, 'The Key Phenomenon' which is responsible for life sustaining on earth. The energy we (humans) received from nature gets back to environment after its consumption in different form. The entire world is facing energy crisis due to rapid increase in population, over exploitation of natural resources, reliance on fossil fuel to overcome energy demand (Coyle, Eugene D. and Simmons, Richard A. 2014). The government authorities of many countries and non-governmental organizations are continuously working to tackle the problem of climate change and global warming. The governments are forming the different policies for sustainable and rational utilization of energy resources. The technologies and the policies and can be proof as the best tools in problem handling (Coyle, Eugene D. and Simmons, Richard A. 2014). There are some major challenges and issues in energy management which should be treated at priority which are classified in following table.

Sr. No.	Huge Electrical Power Demand	Technological Challenges	Environmental Issues
1	Increasing industrialization, urbanization.	Indigenization of technologies	Burden on primary, secondary and tertiary sector
2	Increasing import bills.	Increasing semiconductor material demand	Climate change impacts: urban floods, landslides

Table 1.1: Major challenges and issues in energy management

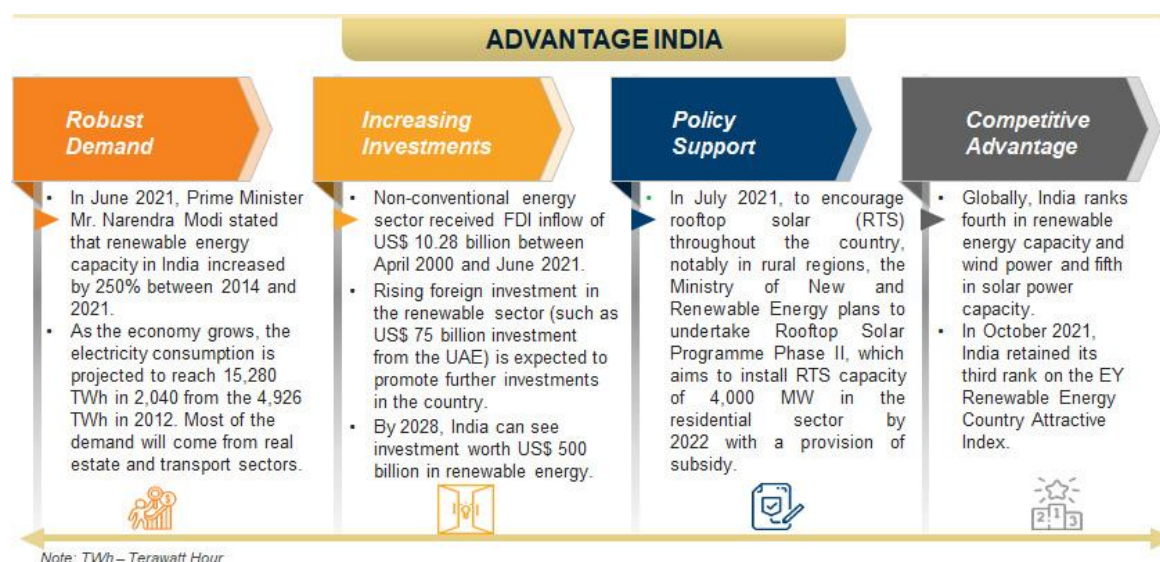
The only way to handle above issues is utilization of clean energy sources by using modern technologies and integrated policies through which the sustainable energy management can be possible.

Policy Analysis

The world scenario shows the developed nations are the biggest polluters in USA ranked first in list, in 2011 the per capita carbon dioxide emission in USA was 16.94 t/capita followed by Russia 11.65 t/capita. India with population 1,241 million per capita carbon dioxide emissions in 2011 was only 1.41 t/capita. (Coyle, Eugene D. and Simmons, Richard A. 2014). With this data it can be conclude that though nation is growing there is still chances of sustainable energy management.


















“Policy for Clean Energy Technology is a statement for integration of Economy, Environment, New Advanced technologies for efficient Resource management like Water, Air, and Land etc.” It means the policy should be integrated. According to John Phillips and Peter Newell (Aug 2013) in India the political powers put influence on the clean energy governance hence understanding towards the landscape of political powers must be understood for climate and carbon finance intervention as political powers in India characterizes the energy sector of country.

From last decades India is focusing on achieving sustainable goals with prior focus on SDG 7 affordable and clean energy. The data of India Brand Equity Foundation which is a initiatives of government of India shows that, by 2022 nation is aiming to achieve target of 227 GW renewable energy capacity and this number is more than target of Paris agreement that is 175 GW. Several companies are working to contribute in renewable energy production among that TATA Power stood 1st in list followed by Suzlon and renew power ventures, these works on solar and wind powers. Following flow chart shows summery of renewable energy development of India.

**Image 1.2 source:** www.ibef.org

In NITI aayog in 2017 mentioned in report that by targeting year 2040, Ambition Scenario aimed to present a range of possible energy implications to nation. The reports of NITI Aayog, Govt. of India, proofs that authorities are working on policy making which will be sustainable, clean technology reliance and by which the target of affordable and clean energy to all can be targetable. As further the paper is concern with the IOTs and modern probes these are important tools in modern technologies by which the analysis and interpretation of data can be done in effective way. Following images of graphs are some examples of energy utilization analysis done by various ways using cloud based software.



No.	Name	Status	Model	Installation Date	Action
1	MSEDCL Incomer 1	ON	Schneider Conserve 6400NG	11/27/2020, 3:45:34 PM	  
2	400 Kva DG	ON	Schneider Conserve 6400NG	11/27/2020, 3:47:15 PM	  
3	750 Kva DG	ON	Schneider Conserve 6400NG	11/27/2020, 3:48:39 PM	  
4	MSEDCL Incomer 2	ON	Schneider Conserve 6400NG	11/27/2020, 3:50:08 PM	  
5	Moulding 1	OFF	Schneider EM 1200	11/27/2020, 3:54:58 PM	  
6	Moulding 2	ON	Schneider EM 1200	11/30/2020, 3:02:08 PM	  





Note: all graphs are developed using cloud based software by Mr. Nikhil S Dhage.

Above graphs are the interpretations of energy utilization of solar power installations. The consumption is categorised as insulation area, baffle area, utility area, and POB-10.

Steps to be Taken:

1. **Development of Technologies at Local Level so Economical Financial funding patters new to Redefine** so sustainable employment, reduction in Poverty, Hunger –social economical problems must be resolved.
2. Industrial development need to reach Common man for Quality life as Energy is one of parameter of Per capita Income – Income Increment Model.
3. Bottom to Up Approach in Legal action, Educational Intuitions, Village to Parliament model – Complete Natural Resources Management.
4. Data Management for Water security, Food Security, Climate Security, Energy Security, Urban Developments.
5. Clean Energy Technology is Only Option huge insight, Introspections required to reach at bottom Level so Operational and Functional development of Institutions via Academics, Skill Development, Manufacturing Units Integration, Redefining Growth Model.
6. Covid 19 Pandemic is one of emergence to save Human Generations. We have to ACT – Action Plan of Clean Energy Technology required as compulsions.
7. Redefine and Redesign Infrastructure-Environmental services.
8. Strategic Partnership development should be done.

Way Forward:

1. Redefine Development Model based on Sustainable Development must be achieve through the integrated policy.

2. FDI should included in Environmental Projects
3. Academics research on Basics and New Technological advancements must be carried out.
4. Focus on Funding in Academics is today's necessity.
5. Environmental Skill Development

Yes we can achieve target of \$ 5 Trillion Economy, We need Policy for Clean Energy Technology!!!

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IN VITRO DEVELOPMENT OF SALT TOLERANT CELL LINES IN ARACHIS HYPOGAEA L

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ABSTRACT

Arachis hypogaea (Groundnut) is a largely cultivated economic oilseed legume. The seeds have high nutritional value, rich in vitamins, minerals and antioxidants. Plant Tissue Culture is one of the best techniques and biotechnological tool used for crop improvement. In the present study salt tolerant groundnut cell lines were established by using in vitro techniques (callus and cell suspension culture). Murashige and Skoog's (MS) media supplemented with 2,4-D and kinetin in 49 different combinations was used. The callus obtained was further subcultured in MS media supplemented with various NaCl concentrations (25mM to 75mM). Increase in salt stress lead to the accumulation of proline content which shows adaptation of the groundnut cell line for stress conditions.

Keywords: *Arachis hypogaea*, cell line, salt stress, proline

INTRODUCTION

Many tropical and subtropical regions of the world have principle and largely cultivated economic oilseed legume named as Groundnut or Peanut (*Arachis hypogaea*) (Venkatachalam et al., 1996). These seeds have nutritional value (carbohydrates, protein, antioxidants, vitamins, essential minerals required for human as well as animal consumption (Atasie et al., 2009). Groundnut has essential nutrients like protein, phosphorous, thiamin, niacin, minerals like calcium, iron, zinc, boron, etc. Groundnuts are beneficial in the treatment of inherited blood disorders. Consumption of roasted groundnuts with jaggery provides resistance and immunity against infections. They are rich in anti-oxidants and help in reducing the risk of contracting cardiovascular diseases, cancer risk and also help in anti-ageing, thus keeping the body young and fit.

Groundnut contaminated with aflatoxin, a mycotoxin produced by *Aspergillus flavus* under environmental stress condition causes economic loss affecting their quality (Kishore et al., 2002). Reactive oxygen species originates under stress conditions which oxidizes photosynthetic pigment, membranes, lipids, proteins and nucleic acid (Braga et al., 2009). Antioxidants such as carotenoids, glutathione, as well as antioxidant enzyme like peroxidase, superoxide dismutase and catalase has major role in protection of plant cell under stress conditions (Sgherri et al., 2000).

Plants under salt and water stress accumulate a number of metabolites, which are termed as compatible solutes because they do not interfere with plant metabolism (Kuznetsov & Shevyakova, 1997). Proline contributes to the alleviation of salt stress-induced peroxidative damage and may therefore be important in maintaining the homeostasis of reactive oxygen species under events of environmental stress (Jain et al., 2001).

Proline accumulation has stated the most frequently reported modifications induced by water deficit and salt stresses in plants, and it is often considered to be involved in stress resistance mechanisms (Lutts et al., 1999). Increased level of proline in salt tolerant varieties has been reported (Winicov, 1998). Proline accumulation under stress condition has been found to be mediated both by increased synthesis from glutamate and ornithine as well as by decreasing its oxidation (Hare & Cress, 1997)

Conventional breeding methods have been used most widely for crop improvement but it is not rapid as well as time consuming. Among different techniques of biotechnology, plant tissue culture is the one being applied in crop improvement programme (Purushotham et al., 1998). The *in vitro* techniques were developed initially to demonstrate the totipotency of plant cells predicted by Haberlandt in 1902 (Vasil, 2008). Cell culture techniques have proved to be useful in many areas of plant research. By using technique of tissue culture one can increase their efficiency or make them resistant to environmental stress. Among different techniques of biotechnology, plant tissue culture is the one being applied in crop improvement programme.

In the present study an attempt is made to produce salt tolerant groundnut cell lines by using *in vitro* techniques (callus culture). Accumulation of proline is also studied here to understand the stress resistivity of groundnut cells.

MATERIALS AND METHODS

Collection of plant material:

Groundnut pods were collected from a farm at Dindori taluka, Nashik District. Seeds were dissected from pods

Sterilization of explant

Groundnut (susceptible to fungal contamination) seeds washed under tap water for 30 minutes, dipped in Tween 20 solution for 15 minutes. Seeds were then treated with 70% isopropyl alcohol for 30 secs and were subjected to HgCl_2 (0.1%) treatment for 15 min followed by alcohol (70%) treatment for 30 sec followed by sterile DW wash for 3 to 5 times.

Culture medium and inoculation

Murashige & Skoog (MS) (1962) medium with 0.8 % agar and 3% sucrose supplemented with 49 different hormonal combinations of 2,4-D + kinetin was used. The MS medium was autoclaved at 121°C for 20 min. The sterilized seed explants were inoculated in MS medium under aseptic conditions.

Culture conditions

The culture tubes were incubated at $26 \pm 2^\circ\text{C}$ temperature, 60 % humidity and light intensity from 2000-4000 lux. Photoperiod of 16 hour light and 8 hour dark was followed.

Adaptation of callus to salt stress

25 mM NaCl: The established callus was subcultured in Murashige and Skoog medium with different hormonal concentrations and supplemented with 25mM NaCl concentration. These cultures were maintained in the above mentioned culture conditions.

50 mM NaCl: Callus obtained in 25 mM NaCl was further subcultured in MS medium with different hormonal concentrations and supplemented with 50mM NaCl concentration

75 mM NaCl: Callus obtained in 50 mM NaCl was further subcultured in MS medium with different hormonal concentrations and supplemented with 75mM NaCl concentration

Estimation of proline:

Proline content in both sensitive and salt resistant callus was determined according to the method described by Bates et al. (1973). Callus was homogenized with 2 mL 40% ethanol in a cold mortar. The extract was centrifuged and absorbance of the supernatant was measured at 528 nm.

Table 1: Hormonal combinations used (49) (mg/ml)

2,4-D	0.1	0.3	0.5	0.8	1.0	1.5	2.0
KiN							
0.1	0.1	0.3	0.5	0.8	1.0	1.5	2.0
	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.3	0.1	0.3	0.5	0.8	1.0	1.5	2.0
	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.5	0.1	0.3	0.5	0.8	1.0	1.5	2.0
	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.8	0.1	0.3	0.5	0.8	1.0	1.5	2.0
	0.8	0.8	0.8	0.8	0.8	0.8	0.8
1.0	0.1	0.3	0.5	0.8	1.0	1.5	2.0
	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	0.1	0.3	0.5	0.8	1.0	1.5	2.0
	1.5	1.5	1.5	1.5	1.5	1.5	1.5
2.0	0.1	0.3	0.5	0.8	1.0	1.5	2.0
	2.0	2.0	2.0	2.0	2.0	2.0	2.0

Table 2: Hormonal combinations appropriate for callus culture of groundnut in which response was found fast as compared to other concentrations (15 combinations out of 49)

Medium no.	Combinations of Auxin + Kinetin (mg/L)	RESPONSE	Days
A	0.5+2.0	++	After 16 days
B	0.8+2.0	+++	After 13 days
C	1.0+2.0	++++	After 13 days along with rooting after 20 days

D	1.5+2.0	++++	After 7 days
E	0.8+0.1	++	After 16 days
F	0.1+0.1	++	After 16 days along with rooting after 26 days
G	1.5+0.5	++	After 16 days
H	0.8+1.5	+++	After 13 days
I	1.0+1.5	+++	After 13 days
J	1.5+1.5	+++	After 13 days
K	1.0+0.5	+++	After 13 days
L	2.0+0.8	++	After 16 days
M	2.0+0.1	++	After 14 days along with shoot and roots after 20 days
N	2.0+0.1	++	After 16 days
O	2.0+0.3	++	After 16 days

Table 3: Estimation of Proline content in callus obtained in selected hormonal combinations with salt stress

Sr. No.	Hormonal Concentration	MG proline / G callus			
		Normal callus	25 mM NaCl	50 mM NaCl	75 mM NaCl
1	B (0.8/2)	0.505 ± 0.05	1.075 ± 0.06	1.332 ± 0.04	1.751 ± 0.05
2	G (1.5/0.5)	0.778 ± 0.05	0.983 ± 0.06	1.30 ± 0.05	1.415 ± 0.06
3	I (1/1.5)	0.887 ± 0.04	2.125 ± 0.03	2.481 ± 0.02	2.603 ± 0.07
4	J (1.5/1.5)	1.450 ± 0.06	1.502 ± 0.07	2.431 ± 0.02	2.520 ± 0.05
5	K (1.0/0.5)	1.210 ± 0.03	2.013 ± 0.05	2.105 ± 0.03	2.483 ± 0.06
6	M (2.0/0.1)	1.070 ± 0.03	1.234 ± 0.06	1.699 ± 0.05	1.831 ± 0.04
7	O (2.0/0.3)	1.297 ± 0.05	1.336 ± 0.06	1.487 ± 0.05	1.490 ± 0.06

RESULTS AND DISCUSSION

Amongst 49 hormonal combinations used (**Table 1**), callusing was observed in only 15 hormonal combinations (**Table 2**). After 3-4 days of inoculation greening of explant was observed. After about 14 days callus initiation was observed and after 22-25 days fully developed callus was observed. Salt resistant callus cells were obtained for 7 (out of 15 combinations) hormonal concentrations only. Callus was subjected towards salt adaptations for selected hormonal concentrations only.

In A[0.5/2.0] on sixth day after inoculation whole explants was observed green and after sixteen days callus initiation was observed. This combination can be used for callus culture of groundnut. In B[0.8/2.0] and C[1.0/2.0] on sixth day after inoculation whole explant was observed green, on thirteenth day callus initiation was observed and after twenty days roots were seen. These combinations can be used for rooting purpose. In D[1.5/2.0] callus initiation was observed after seventh day. Thus in this combination the rapid response was observed. In E [0.8/0.1] callus initiation was observed after sixteen days of inoculation. In F[0.1/0.1] callus initiation was observed after sixteen days along with emergence of roots after 26 days. This combination can be used for rooting purpose. In H[0.8/1.5], I[1.0/1.5], J[1.5/1.5], K[1.0/0.5] hormonal combinations, callus initiation was seen on thirteenth day and also the size of obtained callus was big. In L [2.0/0.8], N [2.0/0.1] and O [2.0/0.3] though greening of the tissue was fast but callus initiation took more time. In M [2.0/0.1] callus initiation was seen on fourteenth day along with shoots and roots after twenty days. This combination can be used for rooting and shooting both. Direct organogenesis of groundnut using 6-Benzyladenine (BAP) has been shown by Verma et al. (2009). There are also studies showing callus induction and plantlet regeneration from cotyledon segments using IAA, NAA in combination with BAP, KIN (Palanivel et al., 2002).

Proline contributes to the alleviation of salt stress-induced peroxidative damage (Jain et al., 2001). Here proline was found to be directly correlated to the salt concentration (**Table 3**). As the salt concentration increased, proline content was also found to be increased. Salt tolerant cell lines production would prove to be very important in knowing the stress resistant mechanism. Ability of the pod yield under salt stress has also been studied (Azad et al., 2014). Even studies have been done on the drought tolerant cell lines of groundnut (Purushotham et al., 1998). It has been found that salinity stress causes reduction of leaf growth rate, emergence rate, overall shoot development and seed germination (Ambede et al., 2012) Proline acts as a membrane protector, stabilizing proteins and membrane structures (Alhasnawi, 2019.). Proline accumulation in reported in

plant cells due to salt stress. It has been showed that salt stress activates the enzymes required for proline biosynthesis, thus making them more tolerant (Verma et al., 2020).

Plant tissue culture technique is easy to control and has been found to be effective for carrying out salt tolerance studies in groundnut (Mohan & Shashidharan, 2018.). The system is easy to control so that tolerance potential of the plants can be well assessed.

In the present study suitable hormonal combinations *in vitro* were found that could be used for further studies of salt tolerance in groundnut.

ACKNOWLEDGEMENTS

The authors are thankful to the Principal and Head, Department of Biotechnology, K.R.T. Arts, B.H.Commerce and A.M. Science College, Nashik for providing necessary facilities to carry out the research work.

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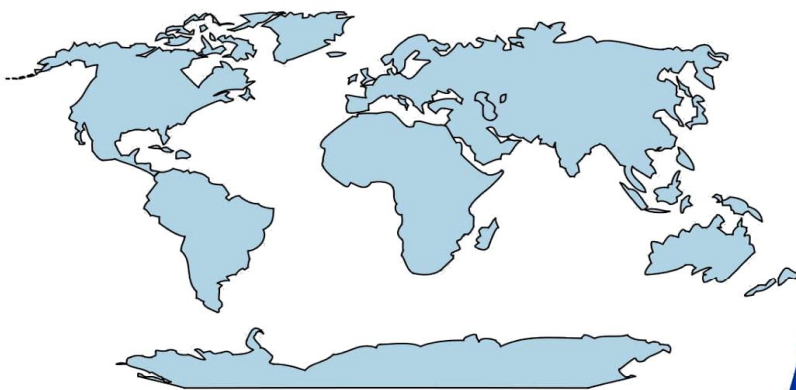
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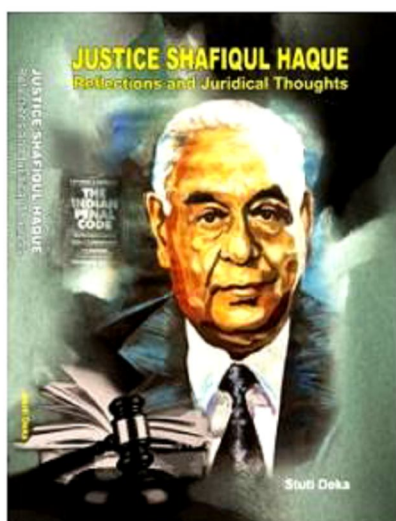


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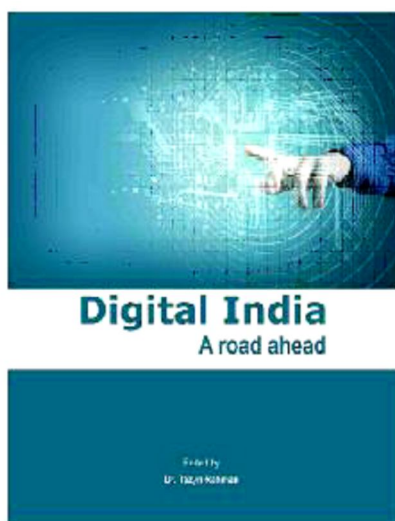
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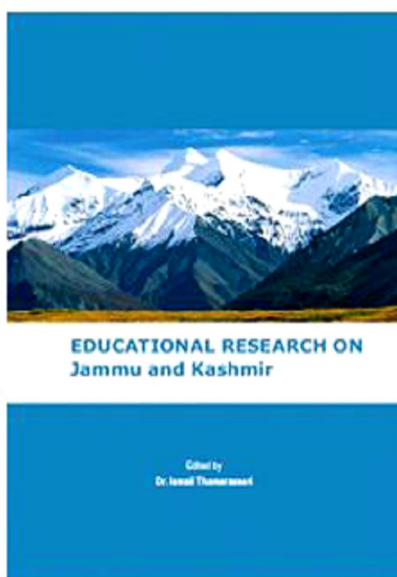
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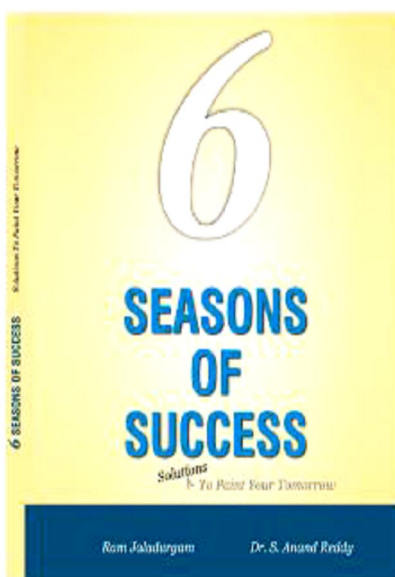
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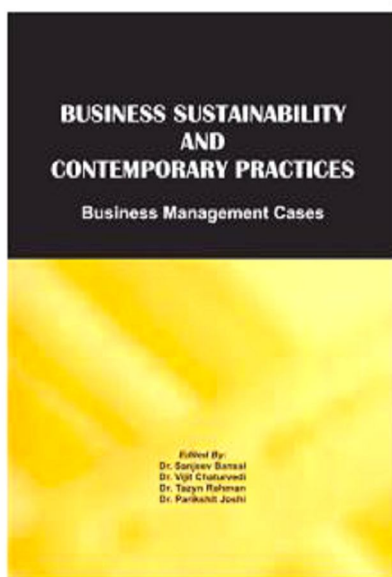
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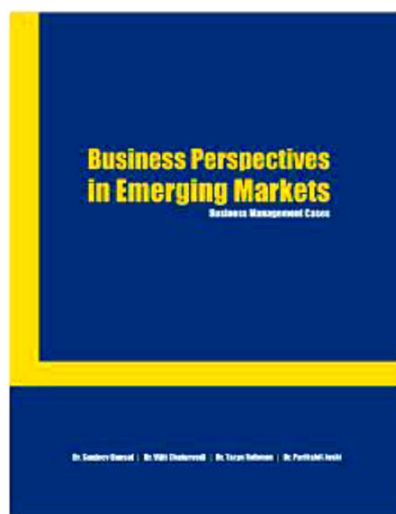
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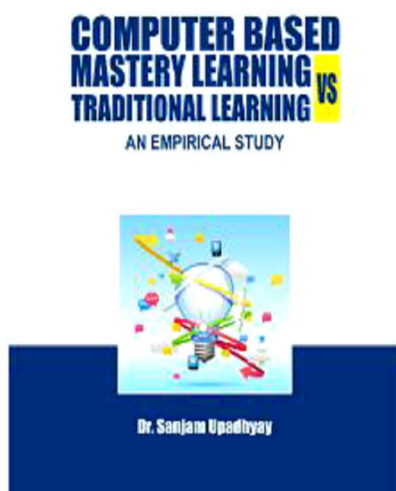
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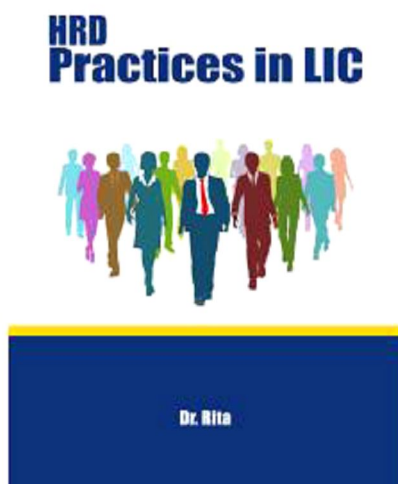
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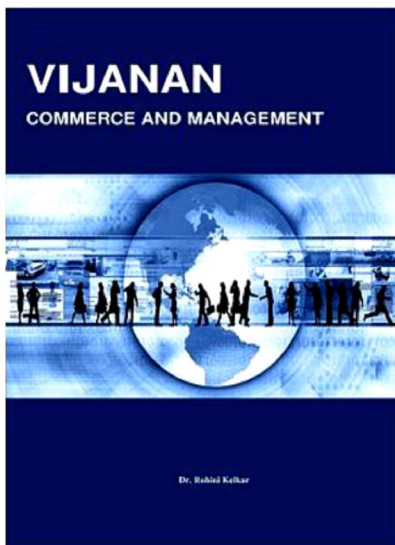
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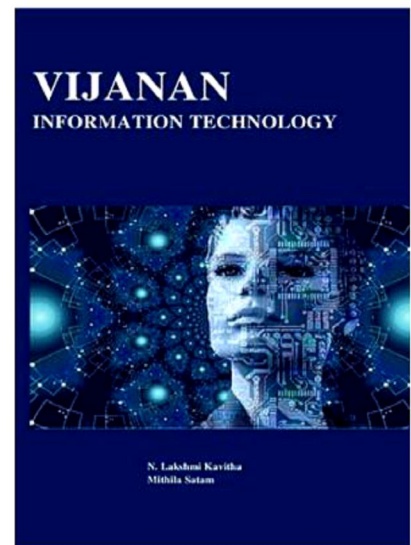
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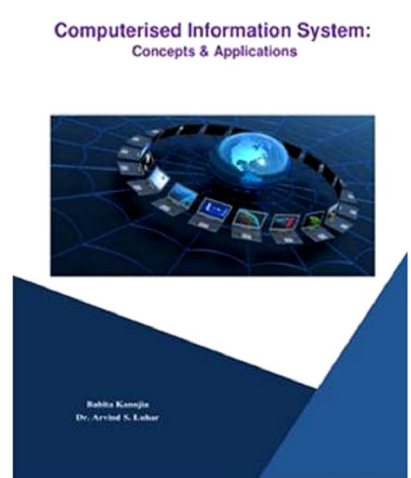
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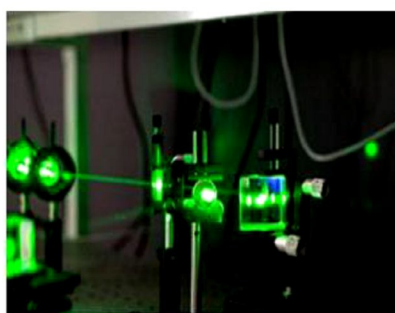


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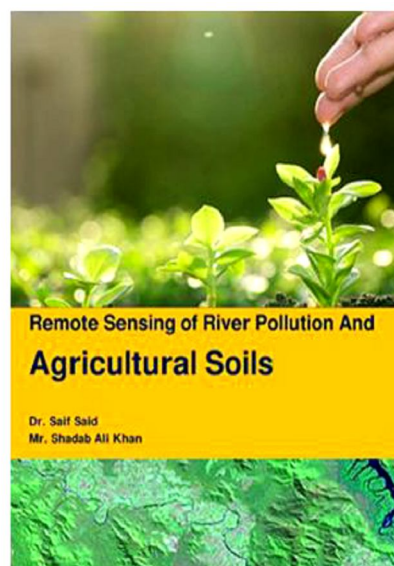
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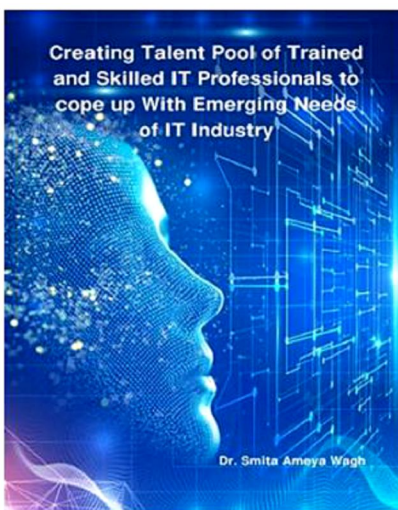
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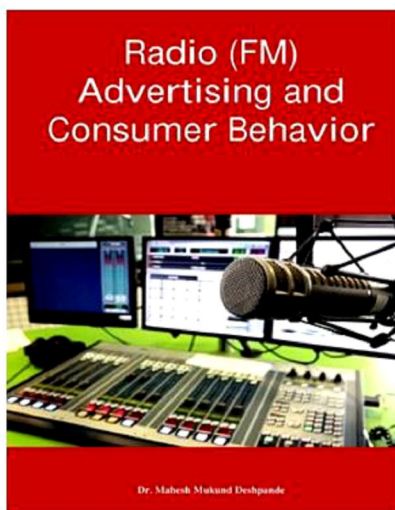
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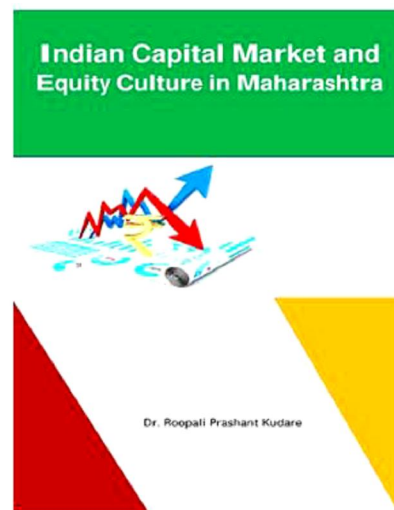
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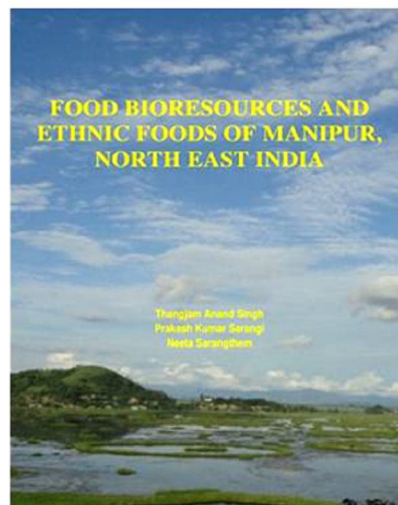
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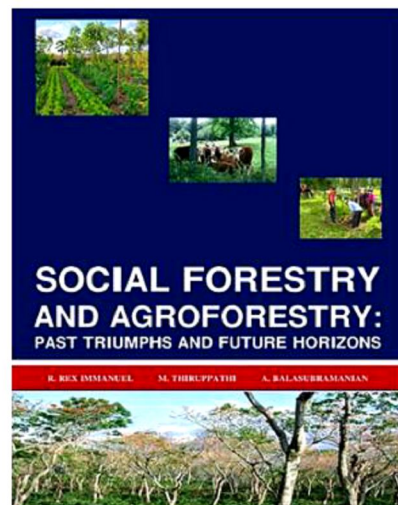
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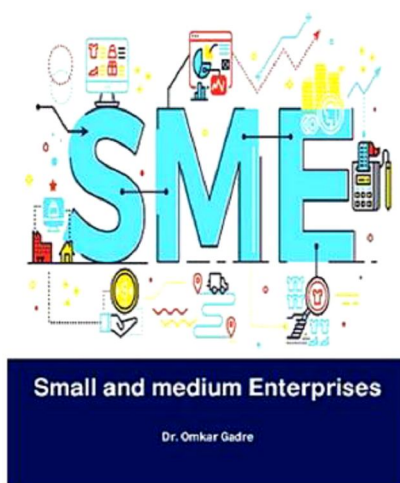
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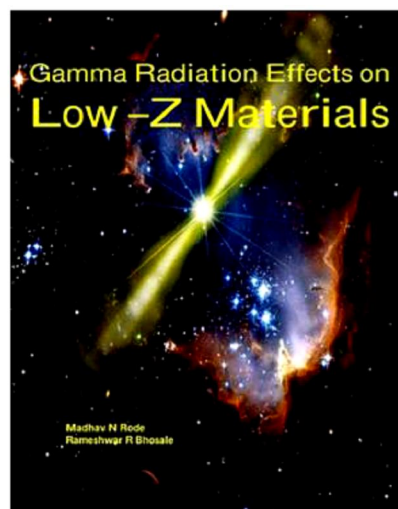
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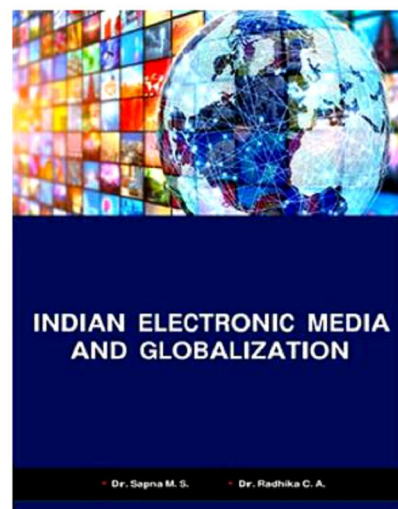
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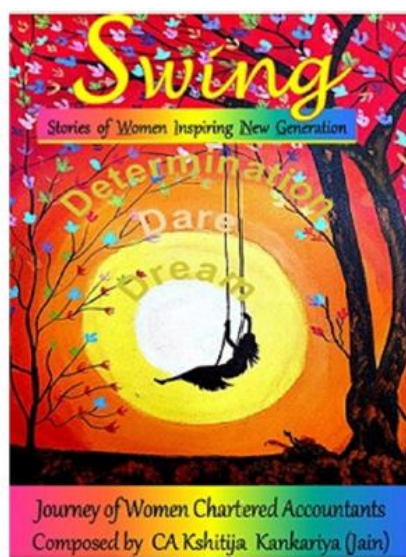
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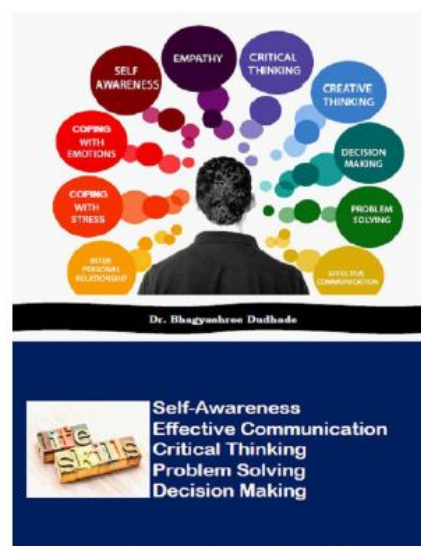
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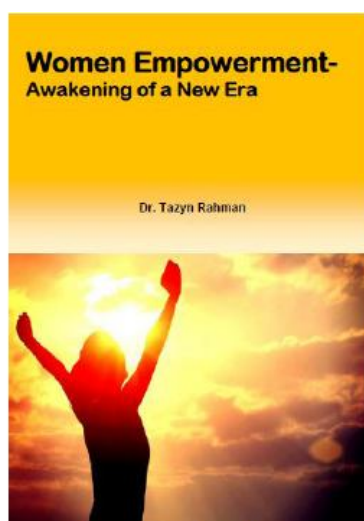


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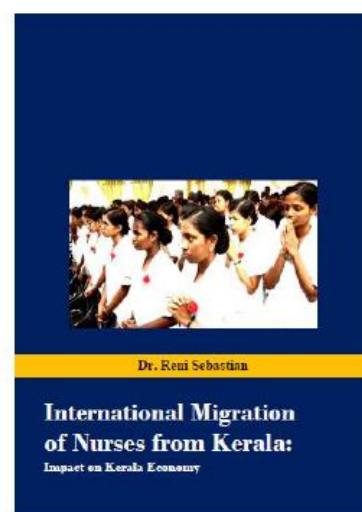


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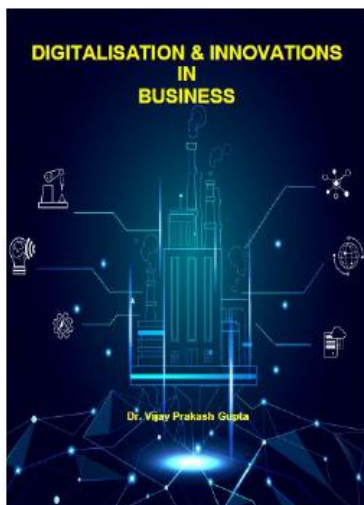


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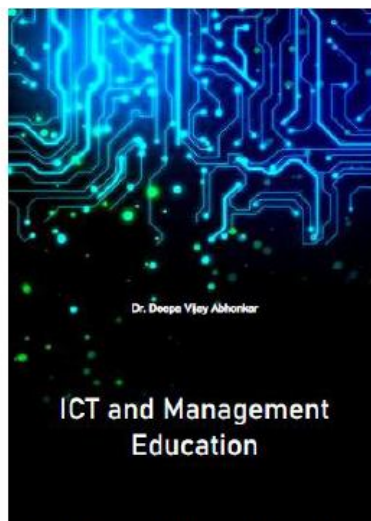
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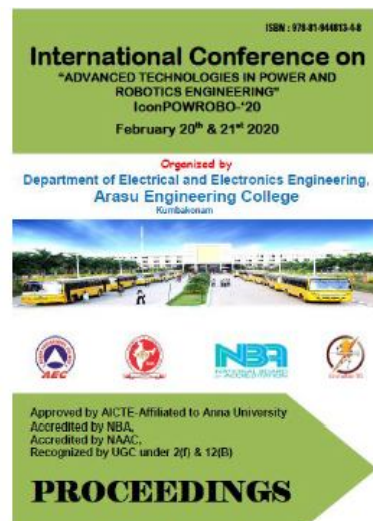
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