

# Paradigm Shift From Brick To Click Environment Due To Covid-19 Pandemic: High School Teachers' Attitudinal Judgement

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## Abstract

An attempt has been made in this study to assess the attitude towards online modes of teaching of high school teachers amidst COVID-19 pandemic in educationally and economically backward district 'Jangal Mahal' Purulia, West Bengal, through a Likert-type five-point attitude scale developed and standardized by the researchers with Cronbach alpha 0.89. 't'-test, ANOVA and Duncan multiple range test were employed to analyze the data collected from 312 randomly selected teachers through Google form. Results revealed that 83.97% of teachers showed favourable attitude towards the virtual platforms. Attitude of teachers with respect to gender, marital status and subject taught did not vary significantly but significant differences were found in the attitude scores with respect to residential background, academic qualification, age group and teaching experience. Findings of this study may produce a strong foundation for the smooth propagation of teaching-learning activities in the educational crisis created by the pandemic ambience.

**Keywords:** attitude, COVID-19, Duncan, education, high school teachers, purulia.

## 1. Introduction

The spectacular opulence of a nation relies upon its human resources as the excellence, achievement, dignity and majesty are the primordial treasures for a country and to assimilate these salient attributes, a prudent splurge is truly essential for the shaping of its human resources. Education serves this comprehensive purpose exclusively contemplating students as the target group and teachers play the role of choreographer to bring these desirable changes in their behaviors. So, a nation needs compatible and dedicated teachers for achieving educational goals as well as national development.<sup>1</sup> The quality and quantity of teachers are immensely significant as these are the foundation for the

training and production of manpower required for the accomplishment of national objectives.<sup>2</sup>

But the entire world has been suffering from catastrophic illness spawned by coronavirus disease (COVID-19) which has enforced a worldwide lockdown. All educational activities have been caulked impacting badly more than 120 Crore students and youths across the planet as the educational system has never encountered a greatest challenge like the COVID-19 pandemic in the past.<sup>3</sup> In Indian educational scenario almost 32 Crore school and college students have been intermitted by this pandemic to move at their own pace.<sup>4</sup> The unprecedented shudder of this pandemic has disrupted the traditional vis-à-vis teaching-learning environment introducing a fortuitous switch over in academic ambience. In this crisis

period government of India and other state governments took the initiative to sustain the flow of unfinished education through the use of digital/online/e-platforms as online platforms were the best solution during this pandemic environment.<sup>5</sup> Again, this pandemic gurgitation has provoked mental health implications for children and adolescents<sup>6</sup> and the mental health of high school teachers also got affected.<sup>7</sup>

In these implausible circumstances teachers' attitude towards online mode of teaching is a crucial factor in the 'new normal' paradigm as attitude plays significant role in ascertaining people reactions to particular situations.<sup>8</sup> Moreover, the success of any educational enterprise depends to a large extent on the attitude of teaching professionals and a special emphasize has been conferred on the blended mode of teaching-learning in National Education Policy<sup>9</sup> so an absolute overview on the attitude of high school teachers towards online mode of teaching is enormously inevitable to perceive their opinions as COVID-19 pandemic has yielded umpteen amenities to come out of the rigorous classroom teaching model to a novel era of digital model. So, the teachers can take the benefits of using various digital platforms and they can increase their digital competencies<sup>10</sup> to meet the demand of the learners arising out of the educational crisis.

## 2. Background of the study

The digital revolution has fetched myriads of radical changes in the field of education across the globe.<sup>11</sup> Teachers believe that traditional methods are insufficient for the learners in today's era<sup>12</sup> and integration of technological inputs can help the learners in their better learning<sup>13-15</sup> and the usage of internet and computer based technologies in the effective teaching-learning purpose has been increased<sup>16</sup> which has contributed positively in the development of online courses.<sup>17</sup>

Whatever the advanced and capable technology it is, the effective implementation of that technology depends upon the users having a positive attitude towards it.<sup>18</sup> The success of any online education depends to a great extent upon the attitude of teachers towards it.<sup>19-20</sup> Attitude of teachers towards e-learning has been studied<sup>21-22</sup> and it has

been found that the attitude of teachers depends on gender<sup>23</sup>, locale of teachers<sup>24</sup>, teaching experience.<sup>25-27</sup> Again, teachers having positive attitude are more familiar with web-based technologies<sup>28</sup> which are vital for online mode of education.

Purulia is a backward district in West Bengal in economic and educational perspectives and inhabitants are lagging behind the usage of modern technology<sup>29</sup> and it is one of the most backward districts having hilly and forested regions and a part of 'Jangal Mahal' in West Bengal with a very low literacy rate.<sup>30</sup> Again, attitude towards online mode teaching of the high school teachers belonging to this district has not been explored so far. Hence, how do the school teachers encounter the circumstances during the COVID-19 pandemic for sustaining the flow of unfinished education and how do they embellish themselves with the emergent digital skills need to be explored which forms the background for the study.

## 3. Review of related literature

### 3.1 Overview towards online mode of teaching-learning

Studies revealed that most of the teachers showed favorable attitude towards e-learning<sup>31-33</sup> and reported that virtual platforms are flexible learning environment<sup>34</sup>, online classroom is a potential method for teaching during pandemic situation<sup>35</sup> and focus should be given to the attitude of teachers and students towards online classes<sup>36</sup>. Studies have also reported that online classes require training<sup>37</sup> and teachers are not prepared enough for this environment<sup>38</sup>. Again, teachers are not well prepared to teach online in this sudden change<sup>39</sup>.

### 3.2 Attitude towards online mode of teaching

A significant relationship was found between the attitude of teachers and the use of instructional materials related to virtual teaching.<sup>40</sup> Study revealed that teachers' positive attitude towards the teaching with computer-based lessons depends strongly on their teaching experience<sup>41</sup> and teachers possess positive attitudes towards online

instructional resources that helps students to stimulate their learning.<sup>42</sup> Study indicated that faculty members have moderately favorable attitudes towards internet-based distance education.<sup>43</sup> It was established that teachers' attitude on the integration of technological tools to enhance students' learning is independent of gender bias<sup>26</sup> and gender did not influence online behaviour.<sup>44-45</sup> Also male and female language teachers do not significantly differ in their attitude towards online teaching.<sup>46</sup> It has also been found that attitude towards online teaching is not satisfactory and gender biasness with male teachers having more favorable attitude and more experienced teachers were found to have less attitude towards online teaching.<sup>27</sup> Study also revealed that high school teachers' attitude towards online teaching is independent of gender but the urban teachers possessed more favourable attitude than their counterpart rural teachers and the less experienced younger teachers showed more interest in online teaching than the more experienced aged teachers.<sup>24</sup>

Based on the review of related literature, this study has considered the following objectives to foster smooth teaching-learning environment in Purulia, a district in West Bengal crawling in educational perspectives.

#### **4. Objectives of the study**

- 4.1 To find out the level of attitude towards online mode of teaching among high school teachers.
- 4.2 To compare the mean scores of attitudes towards online mode of teaching between male and female high school teachers.
- 4.3 To compare the mean scores of attitudes towards online mode of teaching between rural and urban high school teachers.
- 4.4 To compare the mean scores of attitudes towards online mode of teaching between UG and PG high school teachers.
- 4.5 To compare the mean scores of attitudes towards online mode of teaching between married and unmarried high school teachers.
- 4.6 To compare the mean scores of attitudes towards online mode of teaching between Arts and Science high school teachers.
- 4.7 To compare the mean scores of attitudes towards online mode of teaching between below 40 years and above 40 years high school teachers.
- 4.8 To compare the mean scores of attitudes towards online mode of teaching among high school teachers having different levels of teaching experience.

#### **5. Hypotheses of the study**

Based on the afore-mentioned objectives following hypotheses have been formulated for this study in the null form.

H<sub>01</sub>. There is no significant difference among the different levels of attitude towards online mode of teaching of high school teachers.

H<sub>02</sub>. There is no significant difference in the mean scores of attitudes towards online mode of teaching between male and female high school teachers.

H<sub>03</sub>. There is no significant difference in the mean scores of attitudes towards online mode of teaching between rural and urban high school teachers.

H<sub>04</sub>. There is no significant difference in the mean scores of attitudes towards online mode of teaching between UG and PG high school teachers.

H<sub>05</sub>. There is no significant difference in the mean scores of attitudes towards online mode of teaching between Arts and Science high school teachers

H<sub>06</sub>. There is no significant difference in the mean scores of attitudes towards online mode of teaching between below 40 years and above 40 years high school teachers.

H<sub>07</sub>. There is no significant difference in the mean scores of attitudes towards online mode of teaching between married and unmarried high school teachers.

H<sub>08</sub>. There is no significant difference in the mean scores of attitudes towards online mode of teaching among high school teachers having different levels of teaching experience.

#### **6. Methodology**

##### **6.1 Design**

The investigators adopted descriptive, quantitative, survey design to study the attitude towards online

mode of teaching of high school teachers in Purulia district, West Bengal.

## 6.2 Population

All the secondary and higher secondary teachers of Govt. sponsored Bengali medium schools in Purulia districts, West Bengal affiliated by WBBSE and WBCHSE are the population of this study.

6.3 Sample. Schools were selected randomly from the entire district and 350 teachers were asked to respond to the attitude scale sent through WhatsApp and e-mails (collected from data bank maintained by school teachers' organization of Purulia district). A total of 312 numbers of participants have responded. The sample profile is furnished in Table 1.

**Table 1:** Sample profile based on different variables

Sl. No.	Category	Subgroups	Number	%	Total
1.	Gender	Male	209	66.99	312
		Female	103	33.01	
2.	Residential background	Rural	258	82.69	312
		Urban	54	17.31	
3.	Educational qualification	Undergraduate	77	24.68	312
		Postgraduate	235	75.32	
4.	Marital status	Married	256	82.05	312
		Unmarried	56	17.95	
5.	Subject taught	Arts	175	56.09	312
		Science	137	43.91	
6.	Age group	Below 40 years	178	57.05	312
		Above 40 years	134	42.95	
7.	Teaching experience	5-10 years	82	26.28	312
		10-20 years	169	54.17	
		Above 20 years	61	19.55	

## 6.4 Tools used

A scale for measuring the attitude of high school teachers towards online mode of teaching consisting of four dimensions with 46 items altogether has been developed by the researchers. The dimensions of the attitude scale were adapted from the attitude scale towards online teaching and learning<sup>11</sup> but all the 46 items were developed by the researchers.

## 6.5 Pilot study and refining of the attitude scale

For the pilot survey the scale was sent to 120 respondent school teachers of the district with a request to fill up the scale items and to evaluate those items with respect to clarity of the language used, applicability and relevancy, length of the

survey and time taken and out of them 97 teachers responded and provided feedback which were taken into consideration for refining the scale.

## 6.6 Item Analysis, Reliability and Validity

'T' value of each item was calculated which forms the base for item selection in the process of standardization. 40 items were retained in the final draft of the scale by following statistical formula. The value of Cronbach alpha was found to be 0.89 which showed a high level of internal consistency between the items and the scale possess good reliability.<sup>47</sup> The face validity of the scale has been established beyond doubt and the attitude scale has construct validity as item were selected using 't' value. The intrinsic validity of the scale was found to be 0.94 by taking the square root of reliability coefficient. Content validity was established

through opinions of three subject experts. Equal number of positive and negative items confirmed

the unbiased criteria of the attitude scale. The detail distribution of items is discussed in Table 2.

**Table 2:** Distribution of items in different dimensions

Sl. No.	Dimension	Item numbers in the final draft		Total items
		Positive items	Negative items	
1.	Appreciation for online teaching and learning	1, 14, 21, 22, 26, 34, 39	12, 13, 24, 28, 37	12
2	Responsiveness towards online education	6, 23, 25, 38	7, 8, 15, 18, 27, 29, 36, 40	12
3	Proficiency in handling online teaching	5, 9, 17, 20	4, 31, 33, 35	08
4	Knowledge of technological reforms	2, 3, 11, 16, 30	10, 19, 32	08
		20	20	Total 40

### 6.7 Norms of the scale

The final draft of the scale was used to collect the data from the respondent high school teachers. The norms of the scale in terms of scores of attitudes towards online mode of teaching are given in Table 3.

**Table 3:** Norms of the Scale

Sl. no.	Name of the scale	Mean	SD	Norms (in terms of score)		
				Low	Average	High
1.	Teachers' Attitude Scale towards Online Mode of Teaching (TASOMT)	120	17	102 & below	103-137	138 & above

Norm of the scale depicts that more the score obtained by the teachers more is the favorable attitude towards virtual teaching platforms.

### 6.8 Procedure

A Google form (<https://docs.google.com/forms/d/e/1FAIpQLSduwaOnX-1J3Lqzopq-L66T3VCAKU->

d4DXSnWhnnxqr6PDmsg/viewform?vc=0&c=0&w=1&flr=0) was developed by the researchers in order to maintain COVID-19 protocols. Some general and demographic information of the respondents were asked along with 40 scale-items arranged in five-point Likert scale method and the link was sent to selected school teachers through WhatsApp and e-mails with a request to submit it within ten days. The final survey was conducted in the month of April and May 2021. After the collection of data, the responses were scored. The total score of each participant can vary from 40 to 200 and after the final scoring, the scores were analysed with the help of appropriate statistical tests.

### 7. Analysis and interpretations

Descriptive statistics has been furnished in Table 4 and the inferential statistics (t-test & one way ANOVA) were analyzed with help of SPSS version 26 which has been furnished below.

**Table 4:** Frequency and percentage difference of attitude towards online mode of teaching

Category	Low Attitude		Average Attitude		High Attitude		Sub-total	Total
	N	%	N	%	N	%		
Overall	50	16.03	212	67.94	50	16.03	312	312

Male	34	16.27	148	70.81	27	12.92	209	312
Female	16	15.53	64	62.14	23	22.33	103	
Rural	41	15.89	185	71.71	32	12.40	258	312
Urban	02	3.70	32	59.26	20	37.04	54	
UG	13	16.89	58	75.32	06	7.79	77	312
PG	30	12.76	155	65.96	50	21.28	235	
Married	38	14.85	179	69.92	39	15.23	256	312
Unmarried	08	14.28	36	64.29	12	21.43	56	
Arts	20	11.43	117	66.86	38	21.71	175	312
Science	21	15.33	100	72.99	16	11.68	137	
Below 40 years	15	8.43	124	69.66	39	21.91	178	312
Above 40 years	25	18.66	91	67.91	18	13.43	134	
Teaching Experience 5-10 years	06	7.32	60	73.17	16	19.51	82	312
Teaching Experience 10-20 years	21	12.43	118	69.82	30	17.75	169	
Teaching Experience >20 years	16	26.23	41	67.21	04	6.56	61	

Table 4 shows that only 16.03% (n=50) of the overall sample have low attitude towards online mode of teaching but 83.97% (n=262) teachers possess favorable attitude towards the online mode which is a major engrossing fact of this study. Out of male respondents only 16.27% (n=34) have low attitude towards this mode but 70.81% (n=148) and 12.92% (n=27) of male teachers possess average and high levels of attitude respectively. Their counterpart female teachers are more enterprising in this matter. Only 15.53% (n=16) of them show low attitude whereas 62.14% (n=64) and 22.33% (n=23) are keeping moderate and high level of attitudes towards this newly adopted teaching mode which introduces virtual platforms for the teachers and learners. Out of rural teachers only 15.89% (n=41) possess low level of attitude but 84.11% (n=217) of them are keeping favorable attitudes towards online mode of teaching. Whereas only 3.70% (n=2) of urban teachers have low attitude and 96.30% (n=52) of them are keeping favorable attitude towards virtual mode of teaching which a great cognizance for the landscape of pandemic is also. Among the undergraduate and postgraduate teachers 83.11% (n=64) and 87.24% (n=205) of

teachers possess favorable attitude towards the online mode of teaching respectively. Similarly, among the married and unmarried teachers 14.85% (n=38) and 14.28% (n=8) keep low level of attitude respectively and almost same percentage of married and unmarried teachers (85.15% (n=218) and 85.72% (n=48) respectively) keep favorable attitude towards virtual platforms. 21.71% (n=38) among the teachers who taught arts subjects show high level of attitude whereas only 11.68% (n=16) among the teachers who taught science subjects show high level of attitude. This declination may be due to the reason that it is tedious to deliver science lessons through the virtual base. In the age group of below 40 years only 8.43% (n=15) of teachers show low attitude and 21.91% (n=39) of them show high level of attitude towards online mode. But in the senior age group of above 40 years 18.66% (n=25) of them low attitude and 13.43% (n=18) of them keep high level of attitude. Similarly, 7.32% (n=6) of the teachers who have less experience in teaching (5-10 years) have low level of attitude and 19.51% (n=16) of them keep high level of attitude towards online mode. 26.23% (n=16) of teachers having more experience of teaching (> 20 years)

are having low attitude but 6.56% (n=4) of them have high level of attitude which reveals the fact that aging effect as well as the capability of using information and communication technology (ICT)

skills of teachers are the barriers in promoting the online mode of teaching.

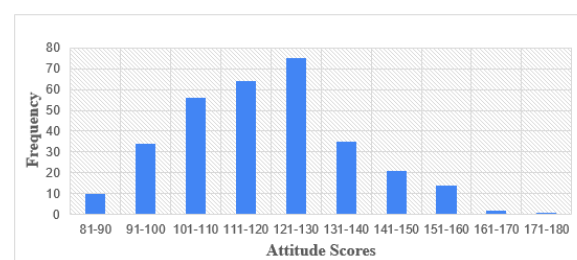
**Table 5:** 'T-value' between different pairs

Pair of Comparison		N	Mean	SD	Mean Difference	t-value	Remarks
Gender	Male	209	118.56	17.41	2.72	1.32	Not significant
	Female	103	121.28	16.69			
Residential background	Rural	258	117.97	15.84	9.03	3.60	Significant at 0.01 level
	Urban	54	127.00	20.65			
Educational qualification	UG	77	115.31	16.89	7.58	3.23	Significant at 0.01 level
	PG	235	122.89	18.17			
Marital status	Married	256	119.61	17.39	1.89	0.758	Not significant
	Unmarried	56	121.50	14.01			
Subject taught	Arts	175	122.46	18.08	3.58	1.82	Not significant
	Science	137	118.88	16.08			
Age group	Below 40 years	178	123.37	17.39	4.87	2.44	Significant at 0.05 level
	Above 40 years	134	118.50	17.50			

## 7.1 Testing of Hypothesis I

The objective was to find out the different levels of attitude towards online mode of teaching and it is distinctly visible from the data of the Table 4 that the school teachers possess three levels of attitude namely low level, moderate level and high level with 16.03%, 67.94% and 16.03% of their overall sample respectively. Attitude scores obtained by high school teachers are shown through a bar graph in Figure 1.

**Figure 1:** Bar Graph showing the Attitude Scores of Teachers with respective Frequencies



For testing of the hypothesis that there is no significant difference among the three levels of attitude of teachers, one way ANOVA was employed, the result of which is described in Table 6.

**Table 6:** Summary of One-way ANOVA of attitude towards online mode of Teaching

Sources of variance	df	SS	MSS	F-value	Remark
Levels of Attitude	2	68843.96	34421.98	459.27	Significant at 0.01 level
Error	309	23159.40	74.95		

Total	311	92003.36			
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From the table 6, it is evident that F-value is 459.27 which is significant at 0.01 level with  $df=2/309$  and it shows that the mean scores of attitudes towards online mode of teaching in lower level, moderate level and higher level differ significantly. Thus, the null hypothesis  $H_01$  is rejected.

### 7.2 Testing of Hypothesis 2

It is revealed from the Table 5 that the 't'-value for male and female teachers is less than the table value for that particular  $df$  and the pairs are not significant. Hence the null hypothesis  $H_02$  is not rejected and it can be stated that male and female teachers possess the attitude towards online mode of teaching to the same extent which is coherent with some literature<sup>46</sup> but contradicts other.<sup>27</sup>

### 7.3 Testing of Hypothesis 3

It is asserted from the Table 5 that the 't'-value for rural and urban teachers is greater than the table value for  $df=310$  and hence the pairs are significant at 0.01 level. In light of this reference,  $H_03$  is rejected. Hence the mean scores of attitudes towards online mode of teaching between rural and urban teachers differ significantly and urban teachers have more favorable attitude than their counterpart rural teachers. This result coincides precisely with previous findings.<sup>24</sup>

### 7.4 Testing of Hypothesis 4

It is expressed from the Table 5 that the 't'-value for undergraduate and postgraduate teachers is greater than the table value for  $df=310$  and hence the pairs are significant at 0.01 level. In view of this base,  $H_04$  is rejected. Hence the mean scores of attitudes towards online mode of teaching between undergraduate and postgraduate teachers differ significantly and postgraduate teachers show more interest in online mode of teaching.

### 7.5 Testing of Hypothesis 5

It is revealed from the Table 5 that the 't'-value for married and unmarried teachers is less than the table value and hence the pairs are not statistically significant and  $H_05$  is not rejected. Thus, married and unmarried teachers possess equal extent of attitude towards online mode of teaching.

### 7.6 Testing of Hypothesis 6

It is asserted from the Table 5 that the 't'-value for Arts and Science teachers is less than the table value and pairs are not significant. Hence  $H_06$  is not rejected. Thus, equal attitudes are possessed by the teachers teaching the Arts and Science subjects in online modes.

### 7.7 Testing of Hypothesis 7

It is expressed from the Table 5 that the 't'-value for teachers belonging to below 40 years and above 40 years age group is greater than the table value for  $df=310$  and the pairs are significant at 0.05 level. Hence  $H_07$  is rejected and the mean scores of attitudes towards online mode of teaching of teachers of below 40 years are greater than that of above 40 years age group.

### 7.8 Testing of Hypothesis 8

The objective was to compare the mean scores of attitudes towards online mode of teaching among high school teachers having different levels of teaching experience (5-10 years, 10-20 years and greater than 20 years) and for the testing of the hypothesis data were analyzed with the help of one-way ANOVA, the result of which is displayed in Table 7.

**Table 7:** Summary of one-way ANOVA of attitude towards online mode of teaching with respect to teaching experience



Sources of variance	df	SS	MSS	F-value	Remark
Teaching Experience	2	2996.69	1498.35	5.396	Significant at 0.05 level
Error	309	85807.61	277.69		
Total	311	88804.30			

From the table 8, it is evident that F-value is 5.396 which is significant at 0.05 level with  $df=2/309$  and it shows that the mean scores of attitudes towards online mode of teaching with respect to teaching experience differ significantly. Thus, the null hypothesis  $H_0$  is rejected. In order to know which experienced group had significantly higher mean score of attitudes, the data were further analyzed with the help of Duncan Multiple Range Test and the results are given in Table 8.

**Table 8:** Teaching experience-wise M, N and significance of difference among mean scores of Attitudes towards online mode of teaching

Teaching Experience	M	N	10-20 years	>20 years
5-10 years	122.15	82	Not significant	Significant at 0.05 level
10-20 years	121.06	169		Significant at 0.05 level
>20 years	113.69	61		

From the Table 8, it can be seen that mean scores of attitudes of teachers having teaching experience between 5-10 years and greater than 20 years differ significantly and the teachers having less teaching experience are found to have more favorable attitude towards online mode of teaching. Moreover, the teachers having experience between 10-20 years and greater than 20 years are found to have significant difference in the attitudes towards online mode of teaching and more experienced teachers possess lower attitude as compared to their counterpart less experienced teachers and the result is consistent with previous studies.<sup>27,24</sup>

## 8. Result and discussions

Analysis of data showed that 83.97% ( $n=262$ ) of high school teachers of Purulia possess favorable attitude towards online mode of teaching, so the teachers are willing enough to cope up with the abrupt change in the educational paradigm as well as they are ready to teach in virtual base which contradicts the previous findings<sup>38</sup> that teachers are not well prepared to teach online in this sudden change. Both the male and female teachers possess attitudes towards online mode of teaching to the same extent. So, all the high school teachers of Purulia district irrespective of gender are trying to communicate with their learners through the online modes to vivify the learning environment. Again, the teachers living in urban area in Purulia have significantly higher attitude compared to their counterpart rural teachers. This is due to the fact that internet connectivity and other urban facilities required for online mode of teaching are readily available to them and rural teachers are deprived of these essential facilities. The postgraduate teachers of this district keep significantly higher attitudes towards online mode of teaching compared to the undergraduate teachers and they will engage themselves more interestingly in the virtual mode of teaching for the benefit of the learners during this educational crisis period. Analysis revealed that in spite of having busy schedule and more responsibilities in post marital life, all the married high school teachers of the district have alike attitudes towards online mode of teaching with unmarried teachers which is a conducive indication to the virtual mode of teaching-learning environment. Though it is more tenacious to deliver lessons relating to science subjects through the virtual platforms, all the high school teachers in the district teaching science and arts subjects possess similar attitudes to the online mode of teaching

which is a lucrative direction to meet the demand of the learners during the pandemic ambience. High school teachers belonging to the junior age group have more favorable attitudes compared to their counterpart of senior age group and this may be due to fact that senior and aged teachers face more hazards in delivering their lessons through virtual platforms and they are less accustomed in utilizing ICT skills whereas younger teachers are more enthusiastic and tech-savvy in tackling the virtual platforms. Similar logic is applicable to the attitude of teachers having different levels of teaching experience. Senior and experienced teachers have lower attitude whereas junior and less experienced teachers are equipped with emergent ICT skills and are more enterprising so they possess more favorable attitude towards online mode of teaching by employing themselves in the virtual base for the benefit of learners amidst pandemic environment.

## 9. Conclusion

The COVID-19 pandemic has fetched a vivid shudder in almost all spheres of life across the globe. In light of the afore-said discussions it may be concluded that in spite of being a so-called backward district in West Bengal, a greater percentage of the high school teachers in the Purulia district possess favorable attitude towards online mode of teaching. They are trying to engage their learners through the online modes and executing all the assigned responsibilities entrusted to them only through the virtual bases which will establish an incandescent vindication in the entire nation amidst this educational crisis. All the stakeholders should come forward to combat the unprecedented circumstances for sustainable augmentation of teaching-learning environment in online modes in order to foster learning through virtual platforms to meet the emerging trends of the nation with a paradigm shift from 'brick' to 'click' in the educational scenario.

## References

- [1]. Patel, J. (2018). Role of Teachers in Nation Building. *International Journal of Trend in Scientific Research and Development (IJTSRD)*, 2(5), 2086-2089
- [2]. Fafunwa A. B (1974). *History of education in Nigeria*. London: George Allen and Unwin Ltd.
- [3]. Daniel, S. J. (2020). Education and the COVID-19 pandemic. *Prospects*, 49, 91–96 <https://doi.org/10.1007/s11125-020-09464-3>
- [4]. Jena, P.K. (2020a). IMPACT OF PANDEMIC COVID-19 ON EDUCATION IN INDIA. *International Journal of Current Research*, 12(7), 12582-12586
- [5]. Jena, P.K. (2020b). ONLINE LEARNING DURING LOCKDOWN PERIOD FOR COVID-19 IN INDIA. *International Journal of Multidisciplinary Educational Research*, 9,5(8), 82-92
- [6]. Singh, S., Roy, D., Sinha, K., Parveen, S., Sharma, G., & Joshi, G. (2020). Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Research*, 293. doi: 10.1016/j.psychres.2020.113429
- [7]. Chowdhury, K., & Mondal, B.C. (2021). Impact of COVID – 19 Pandemic on the Mental Health of Secondary School Teachers. *The Journal of Oriental Research Madras*, MMXXX-XCII-VIII, 48-58
- [8]. Al-Zaidiyeen, N. J., Lai Mei, L., & Fook, F. S. (2010). Teachers' Attitudes and Levels of Technology Use in Classrooms: The Case of Jordan Schools. *International Education Studies*, 3(2)
- [9]. National Education Policy (2020). Ministry of Human Resource Development, Govt. of India
- [10]. Kalanda, K. (2005). Factors influencing college students' attitude towards technology. Unpublished master's dissertation, University of South Africa. Retrieved from <https://core.ac.uk/download/pdf/43165004.pdf>
- [11]. Sangwan, A., Sangwan, A., & Punia, P. (2021). Development and Validation of an Attitude Scale Towards Onlie Teaching and Learning for Higher education Teachers. *TechTrends*, 65, 187-195. <https://doi.org/10.1007/s11528-020-00561-w>
- [12]. Enayati, T., Modanloo, Y., & Kazemi, F. S. M. (2012). Teachers' attitudes towards the use of technology in education. *Journal of Basic and*

- Applied Scientific Research, 2(11), 010958–010963
- [13]. Draude, B., & Brace, S. (1999). Assessing the impact of technology on teaching and learning: Student perspectives.
- [14]. Salmon, G. (2011). *E-moderating: the key to teaching and learning online* (3rd ed.). New York, NY: Routledge.
- [15]. Costley, K. C. (2014). *The positive effects of technology on teaching and student learning*. Arkansas Tech University.
- [16]. Tynan, B., Ryan, Y., & Lamont-Mills. (2015). Examining Workload models in online and blended teaching. *British Journal of Educational Technology*, 46(1), 5-15.
- [17]. Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. *The International Review of Research in Open and Distributed Learning*, 12(3), 80-97. <https://doi.org/10.19173/irrodl.v12i3.890>
- [18]. Liaw, S.S., Huang, H.M., & Chen, G. D. (2007). Surveying instructor and learner attitudes toward e-learning. *Computers & Education*, 49(4), 1066-1080. <https://doi.org/10.1016/j.compedu.2006.01.001>
- [19]. Van Raaij, E.M., & Schepers, J. J. L. (2008). The acceptance and use of a virtual learning environment in China. *Computers and Education*, 50(3), 838–852.
- [20]. Wasserman, E., & Migdal, R. (2019). Professional development: Teachers' attitudes in online and traditional training course. *Online Learning*, 23(1), 132–143. <https://doi.org/10.24059/olj.v23i1.1299>.
- [21]. Inan, F.A., & Lowther, D.L. (2010). Factors affecting technology integration in k-12 classrooms: A path model. *Educational technology research and development*, 58 (2), 137-154.
- [22]. Karaca, F., Can, G., & Yildirim, S. (2013) Technology utilisation in elementary schools in Turkey's capital: a case study. *Educational Studies*, 39(5), 552-567. DOI:10.1080/03055698.2013.807726
- [23]. Lateef, A. R., & Alaba, S. O. (2013). Influence of gender and attitude of pre-service teachers towards on-line instruction in a selected university in South-Western Nigeria. *Asian Social Science*, 9(4), 84.
- [24]. Gururaja, C.S. (2021, June 8-10). Teacher's Attitude towards Online Teaching [Paper Presentation]. *New Education Policy: A Quality Enhancer for Inculcation of Human Values in Higher Education Institutions*, Chennai
- [25]. Nasser, R. & Abouchedid, K. (2000). The state of history teaching in private-run confessional schools in Lebanon: Implication for national integration. *Mediterranean Journal of Educational Studies*, 5, 67-82.
- [26]. Onasanya, S.A., Shehu, R.A., Oduwaiye, R.O., Shehu, L.A. (2010). Higher institutions lecturers' attitude towards integration of ICT into teaching and research in Nigeria. *Res. J. Inf. Technology*, 2, 1–10.
- [27]. Kar. S. (2020). Teachers' Attitude towards Online Teaching (E-learning) during Covid-19 Lockdown. *Journal of Information and Computational Science*, 10(8), 351-358.
- [28]. Uzunboylu, H. (2007). Teacher attitudes toward online education following an online inservice program. *International Journal on E-learning*, 6(2), 267–277.
- [29]. Roy, S. S. & Jana N.C. (2015). Changing Pattern and Spatio-Sectoral Distribution of Workforce: A Case of Purulia District in West Bengal, India. *European Scientific Journal*, 11(32), 376-388
- [30]. Patra, U. K., Gayak, J., Khan, K.R., Karim, SK., Halder, S., Sen, A., & Paul, G. (2021). A COMPARATIVE STUDY OF TRIBAL EDUCATION DEVELOPMENT IN INDIA: WITH SPECIAL REFERENCES TO PURULIA DISTRICT, WEST BENGAL. *Journal of Critical Reviews*, 8(1), 110-121.
- [31]. Akaslan, D., & Law, E. L. (2011). Measuring teachers' readiness for e-learning in higher education institutions associated with the subject of electricity in Turkey. In 2011 IEEE Global Engineering Education Conference (EDUCON) (pp. 481-490). IEEE.
- [32]. Krishnakumar, R., & Rajesh, K. M. (2011). Attitude of teachers of higher education towards E-learning. *Journal of Education and Practice*, 2(4), 48–53.

- [33]. Suri, G., & Sharma, S. (2016). Investigation of Teacher's attitude towards e-learning-a case study of Panjab University, Chandigarh, India. *Gian Jyoti E-Journal*, 6(3), 1–10.
- [34]. Hussain, I., Hussain, I., & Ramzan, M. (2019). Prospects of Virtual Education in Pakistan: Opportunities and Challenges. *Journal of Research in Social Sciences*, 7(1), 149-163.
- [35]. Reimers, F., Schleicher, A., Saavedra, J., & Tuominen, S. (2020). Supporting the continuation of teaching and learning during the COVID-19 Pandemic. *Oecd*, 1(1), 1-38
- [36]. Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. *Online Submission*, 2(1), 45-51.
- [37]. Glass, C. R. (2017). Self-expression, social roles, and faculty members' attitudes towards online teaching. *Innovative Higher Education*, 42(3), 239-252.
- [38]. Kim, K. J., & Bonk, C. J. (2006). The future of online teaching and learning in higher education. *Educause quarterly*, 29(4), 22-30.
- [39]. Sokal, L., Trudel, L. E., & Babb, J. (2020). Canadian teachers' attitudes toward change, efficacy, and burnout during the COVID-19 pandemic. *International Journal of Educational Research Open*, 100016.
- [40]. Khine, M. S. (2001). Attitudes toward computers among teacher education students in Brunei Darussalam. *International Journal of Instructional Media*, 28(2), 147-153.
- [41]. Kumar, P., & Kumar, A. (2003). Effect of Web-based Project on Preservice and Inservice Teachers' Attitude toward Computers and Their Technology Skills. *Journal of Computing in Teacher Education*, 19(3), 87-92
- [42]. Keeton, M.T. (2004). Best Online Instructional Practices: Report of Phase I of an Ongoing Study, *Journal of Asynchronous Learning Networks*, 8, (2), 75 -100.
- [43]. Gasaymeh, A.M.M. (2009). A study of faculty attitudes toward internet-based distance education: A survey of two Jordanian public universities (Unpublished doctoral dissertation). Ohio University. USA.
- [44]. Graff, M. (2003). Cognitive style and attitudes towards online learning and assessment methods. *Electronic Journal of e-Learning Methods*, 1(1), 21–28.
- [45]. Meelissen, R. M., & Drent, M. (2008). Gender difference in computer attitudes: Does the school matter? *Computers in Human Behaviour*, 24(3), 969–985. <https://doi.org/10.1016/j.chb.2007.03.001>
- [46]. Javier, C. (2020). The Shift towards New Teaching Modality: Examining the Attitude and Technological Competence among Language Teachers teaching Filipino. *Asian ESP*, 16(2.1), 210-244.
- [47]. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334.