

Learning Achievement of Elementary School Students of Ichhawar Block of Madhya Pradesh A Trends Analysis

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Abstract

This paper is based on the results of NCERT's longitudinal study being conducted since 2017–18 Ichhawar block of Sehore district, Madhya Pradesh. The paper compiles data on the learning achievement of elementary school level students from three research reports of the same title 'Implementing Interventions at the School Stage: Learning Levels of Elementary School Students in Ichhawar Block', brought out by the Regional Institute of Education in the years 2017–18; 2018–19 and 2019–20. The levels of learning outcomes of 43,084 children (Classes III to VIII) of Ichhawar block, assessed through National Achievement Survey (NAS) tools developed by NCERT, are subjected to cluster-wise analysis of the trend of growth/change in learning levels of students in basic school subjects, as a result of various training-based interventions provided by NCERT during these years. The analysis revealed an overall incremental growth in the rate of learning achievement of both primary as well as upper primary school children in all the basic school subjects, viz., environmental studies, mathematics, science, social science and language, across 10 education clusters of the block. These results imply that further training of teachers need to be undertaken after identification of the training needs in different subjects as well as cross-cutting areas, keeping in view the philosophy of India's National Education Policy 2020.

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INTRODUCTION

The National Council of Educational Research and Training (NCERT) decided in the year 2017 to undertake an in-depth and longitudinal study, with a rural block as unit of the study, with the broad objectives to: (i) implement various interventions brought out by the council from time to time, e.g., innovative practices, learning resources, educational kits, supplementary readers, training packages, research tools; and (ii) assess their impacts on the attainment of learning outcomes. For this purpose, a rural block, Ichhawar of Sehore district, Madhya Pradesh, was chosen in consultation with the Department of School Education, Madhya Pradesh; and Regional Institute of Education, Bhopal, was designated as the nodal implementing agency. The project was launched in the academic session 2017–18 and a baseline assessment of students' learning levels in basic school subjects were done the using National Achievement Survey (NAS) tools developed by NCERT. On the basis of the results of this survey, various interventions, including training of teachers, block level functionaries and school heads, were provided in the academic session 2018–19 and a survey of learning level was made using the same NAS tools towards the end of the session.

For this study, all the elementary level children across 10 education clusters of Ichhawar block, constituted the subjects of the study. The major findings, as derived from comparison of the results of baseline assessment survey conducted in the academic session, 2017–18 and achievement survey conducted in the academic session 2018–19, revealed the growth in the rate of learning achievement of both primary and upper primary level children in all the basic school subjects in the year 2018–19, as compared to that of the year 2017–18. An achievement survey was also conducted towards the end of academic session 2019–2020 using the National Achievement Survey (NAS) tools used in the previous years, i.e., 2017–18 and 2018–19. This paper provides a comparative picture of learning levels of students in basic school subjects in respect of the academic sessions 2017–18, 2018–19 and 2019–2020, depicting the trend of learning levels of elementary level children (Classes III–VIII) in these years.

OBJECTIVE

The objective of the study is—to study the cluster-wise learning achievement of the boy and girl students of Ichhawar Block studying in different classes from Class III to VIII for individual subjects of language,

mathematics, EVS, science and social studies for the years 2017–18, 2018–19 and 2019–2020.

METHODOLOGY

Since the study seeks to analyse the impact of various programmes, learning resources, innovations brought out, from time to time, by the NCERT to improve the quality of education and teacher education in the adopted Ichhawar block of Sehore District, Madhya Pradesh. The major interventions provided in the block, *inter alia*, include: orientation of teachers on Art Integrated Learning (AIL) approach, use of science and mathematics kits, use of ICT in teaching-learning process; supply of computers; on-site academic support to teachers and members of School Management Committee. The National Achievement Survey (NAS) tests developed for Classes III to VIII developed by Education Survey Division, NCERT, was used at the beginning of the academic session 2017–18 for the purpose of baseline assessment; and the same tools were used for the purpose of assessment of learning outcomes in the years 2018–19 and 2019–20. The sample for this analytical study constituted all the elementary level children in 290 schools (190 primary and 100 upper primary schools) across 10 educational clusters of Ichhawar block, viz. Ichhawar, Semli Jadeed, Bhaukhedi, Dhamanda, Ramnagar,

Brijesh Nagar, Dewadiya, Balondiya, Kheri and Veerpur Dem. The year-wise sample of students, whose learning outcomes are analysed are 16,819 for the year 2017–18; 14,491 for the year 2018–19; and 11,774 for the year 2019–20. The data collected through the National Achievement Survey (NAS) tests were analysed with the help of SPSS software and presented in tabular form.

RESULTS

The major achievement of the study depict the trend of growth of learning levels of primary and upper primary school children in basic school subjects, viz. language, mathematics, social sciences and EVS for the years 2017–18, 2018–19 and 2019–2020. The cluster-wise learning achievement of the boy and girl students of Ichhawar Block in Classes III to VIII for individual subjects of language, mathematics, EVS, science and social studies for the years 2017–18, 2018–19 and 2019–2020 are given below:

(a) Cluster, Class and Sex-wise Learning Achievement of students in Language Subject

The results pertaining to the clusters, class and sex-wise learning achievement of both boys and girls from Classes III to VIII for language subject for the years 2017–18, 2018–19 and 2019–20, are presented in Table 1.

Table 1
Cluster, Class and Sex-wise Learning Achievement of Students in Language Subject

Cluster	Year	Percentage of Language Achievement											
		III		IV		V		VI		VII		VIII	
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Ichhawar	2017-18	63.2	63.2	61.46	62.88	65.00	66.1	48.59	41.83	58.83	46.52	68.38	69.28
	2018-19	78.46	72.14	70.34	66.47	67.97	72.64	55.42	55.95	69.41	70.44	70.69	82.18
	2019-20	74.19	77.37	74.86	72.66	73.80	64.26	72.09	65.42	58.40	74.87	67.18	61.44
Semli Jadeed	2017-18	61.51	59.07	60.15	59.49	60.09	55.58	48.6	49.56	57.25	66.4	63.7	62.53
	2018-19	75.58	47.70	74.62	73.82	69.13	74.42	56.96	62.76	62.03	65.21	69.13	75.90
	2019-20	70.93	72.01	75.59	78.22	70.20	69.29	58.59	62.70	58.30	60.39	71.82	74.58
Bhaukhedi	2017-18	56.16	58.82	64.76	59.21	64.71	68.05	57.08	56.72	59.01	70.37	65.00	64.54
	2018-19	79.48	82.01	72.63	73.97	73.59	76.23	68.00	64.85	49.50	51.58	73.03	71.01
	2019-20	72.34	64.00	73.94	67.59	70.16	78.10	68.86	65.94	74.19	68.37	76.16	73.49
Dhamanda	2017-18	65.41	73.41	65.45	60.94	66.22	64.7	58.97	62.8	65.82	66.84	79.82	74.29
	2018-19	84.21	76.09	75.57	73.82	71.52	76.31	69.93	67.23	74.72	74.27	77.25	77.98
	2019-20	78.21	75.60	68.86	70.93	73.48	75.90	64.64	68.67	68.26	70.56	78.26	77.27
Ramnagar	2017-18	58.12	52.14	59.86	60.13	57.82	57.51	48.06	46.28	57.32	53.65	66.80	58.51
	2018-19	72.46	70.02	69.11	69.34	75.28	75.57	54.54	55.48	69.33	66.06	63.91	68.00
	2019-20	69.69	66.37	65.85	70.48	73.33	72.70	69.33	69.25	70.35	75.04	58.34	61.31

Brijesh Nagar	2017-18	60.81	53.56	53.21	53.91	51.47	56.23	58.67	56.87	53.17	52.16	70.26	66.26
	2018-19	63.81	70.24	57.44	60.00	64.48	68.70	59.43	57.70	59.11	66.66	56.85	66.94
	2019-20	66.22	72.67	71.78	76.81	61.57	54.77	65.16	71.63	71.83	78.09	69.33	81.03
Dewadiya	2017-18	62.59	63.62	63.37	65.94	62.22	61.43	54.01	54.92	56.96	62.89	75.42	69.68
	2018-19	61.66	65.83	66.22	67.93	67.29	70.69	52.23	43.30	53.40	51.63	58.11	59.45
	2019-20	75.03	75.01	67.56	68.90	71.75	66.50	57.86	60.71	55.93	57.17	60.75	67.68
Balondiya	2017-18	60.17	61.86	63.15	60.97	63.08	64.99	64.04	67.48	65.52	59.29	69.76	63.58
	2018-19	67.60	63.77	67.50	64.71	68.64	61.06	57.51	62.48	68.33	68.24	66.53	70.58
	2019-20	74.03	73.78	68.37	65.26	72.28	73.57	71.81	69.19	67.95	77.18	70.00	70.99
Kheri	2017-18	67.03	62.98	59.21	60.11	57.93	54.75	60.34	64.17	63.64	61.37	59.84	63.97
	2018-19	69.32	68.70	66.36	65.89	64.62	64.80	54.22	60.28	68.33	66.28	61.44	58.63
	2019-20	68.53	70.67	68.93	67.54	66.82	66.90	57.50	58.90	57.13	72.22	59.74	59.29
Veerpur Dem	2017-18	52.07	49.23	53.33	51.87	48.57	49.39	45.13	42.16	53.98	56.14	55.9	71.37
	2018-19	64.06	76.44	67.60	68.83	66.81	67.16	63.33	63.66	82.05	78.87	68.88	64.25
	2019-20	74.05	76.50	68.80	67.62	66.02	74.30	66.23	69.59	67.42	66.82	88.33	60.04
Overall	2017-18	0.64	59.3	60.07	59.51	59.28	59.93	53.57	53.5	59.16	58.69	67.64	66.38
	2018-19	71.08	70.92	68.59	68.19	69.13	70.45	59.03	58.77	64.55	64.80	66.67	70.29
	2019-20	72.47	72.69	69.68	70.10	69.91	69.40	65.55	66.09	65.41	70.60	68.51	67.91

The results of Table 1 pertaining to the clusters, class and sex-wise learning achievement of students in language subject reveal the following:

- (i) Overall, in Ichhawar block, there is an increase in the percentage of learning achievement of students among boys and girls both, in all the classes in the year 2019–20 as compared to the previous years, except for girls of Class V and VIII (in the year 2019–2020 as compared to 2018–2019) and boys of Class VIII (in the year 2018–2019 as compared to 2017–2018).
- (ii) There is a continual increase in the percentage of learning achievement of Class III students in the case of both boys and girls in Brijesh Nagar, Veerapur Dem and Balondiya clusters, and for girls only in Dewadiya and Kheri clusters in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, such trend is not visible for the whole sample boys and also girls separately.
- (iii) There is a continual increase in the percentage of learning achievement of Class IV students in the case of both boys and girls in the clusters of Ichhawar, Semli Jadeed, Brijesh Nagar, Dewadiya, Balondiya and Kheri; for boys only in the clusters Bhau Khedi and Veerapur Dem, and for girls only in the clusters of Dhamanda and Ramnagar in the year 2019–20, as compared to the previous years. While in all other clusters of Ichhawar block, for the whose sample and also for boys and girls separately.
- (iv) There is a continual increase in the percentage of learning achievement of Class V students in the case of both boys and girls of cluster Kheri; for boys only in the clusters of Ichhawar, Semli Jadeed, Dhamanda, Dewadiya and Balondiya, and for girls only in the clusters of Bhaukhedi and Veerapur in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block for the whose sample and also for boys and girls separately.
- (v) There is a continual increase in the percentage of learning achievement of Class VI students in the case of both boys and girls of Ichhawar, Bhaukhedi, Ramnagar and Veerapur Dem Clusters; only for boys in the cluster Semli of Jadeed and girls in the clusters of Dhamanda and Brijesh Nagar in the year 2019–20, as compared to the previous years. While in the other clusters of Ichhawar block, for the whose sample and also for boys and girls separately.
- (vi) There is a continual increase in the percentage of learning achievement of Class VII students in the case of both boys and girls of Bhaukhedi, Ramnagar and

Brijesh Nagar clusters; for girls only in the clusters of Ichhawar, Balondiya and Kheri in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.

(vii) There is a continual increase in the percentage of learning achievement of Class VIII students in the case of both boys and girls of Bhaukhedi cluster; for boys of Semli Jadeed and Veerpur Dem clusters, and for girls in Balondiya cluster in the

year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, whole sample and also for boys and girls separately.

(b) Cluster, Class and Sex-wise Learning Achievement of Students in Mathematics Subject

The results pertaining to the clusters, class and sex-wise learning achievement of both boys and girls in Classes III to VIII for mathematics subject for the years 2017–18, 2018–19 and 2019–20, are presented in Table 2.

Table 2
Cluster, Class and Sex-wise Learning Achievement of Students in Mathematics Subject

Cluster	Year	Percentage of mathematics achievement											
		III		IV		V		VI		VII		VIII	
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Ichhawar	2017-18	57.7	46.5	58.5	66.7	50.8	53.8	40.4	32.7	47.6	39.2	35.4	36.2
	2018-19	56.1	53.2	58.8	56.7	57.2	51.5	48.0	48.9	66.3	61.2	58.2	54.0
	2019-20	63.6	68.7	53.3	55.7	73.2	67.2	54.6	52.6	44.0	66.7	52.0	50.2
Semli Jadeed	2017-18	48.3	50.3	51.8	45.9	46.5	46.1	36.6	34.4	45.7	45.9	32.3	32.5
	2018-19	57.6	56.8	62.8	63.9	59.4	59.0	54.2	55.0	58.9	65.7	52.3	55.6
	2019-20	67.1	61.1	71.1	64.6	69.8	61.1	56.4	58.9	58.3	60.4	53.3	61.0
Bhaukhedi	2017-18	45.4	48.5	63.1	64.6	59.3	60.1	54.3	50.9	47.9	59.8	37.8	35.7
	2018-19	73.5	71.0	67.3	64.9	62.9	64.3	68.7	63.6	46.4	47.8	53.6	51.8
	2019-20	66.6	58.9	76.0	72.0	71.7	72.7	62.3	54.7	74.2	68.4	60.9	53.3
Dhamanda	2017-18	60.3	63.2	67.0	55.8	57.0	52.8	52.5	56.4	62.5	60.3	47.5	48.1
	2018-19	66.1	63.7	71.5	66.6	66.2	66.9	58.7	57.3	61.6	59.4	36.6	39.3
	2019-20	71.8	69.3	68.5	69.4	69.4	69.0	53.9	57.8	59.3	64.8	42.8	39.0
Ramnagar	2017-18	55.9	46.7	46.1	45.7	46.5	44.6	35.6	31.6	44.2	38.2	33.2	28.9
	2018-19	55.7	53.3	58.4	58.4	56.9	61.3	53.7	52.1	50.0	58.9	34.3	32.8
	2019-20	61.1	53.6	51.8	58.9	62.3	64.7	65.2	70.5	54.7	51.8	32.3	37.1
Brijesh Nagar	2017-18	51.0	48.2	48.9	45.7	42.0	42.0	43.3	46.9	46.1	42.9	38.5	35.5
	2018-19	48.5	52.0	60.0	54.3	53.9	53.8	66.7	53.5	51.5	56.2	32.3	41.8
	2019-20	64.2	67.9	68.4	70.9	54.8	59.2	48.2	52.6	72.7	80.3	54.3	61.0

Dewadiya	2017-18	54.1	55.5	49.5	50.6	48.6	45.8	48.8	50.3	41.2	49.1	30.1	30.6
	2018-19	56.0	56.7	59.1	63.7	55.5	55.7	43.7	33.3	41.4	38.4	26.6	26.5
	2019-20	65.3	64.3	72.1	75.1	65.3	60.7	49.6	59.5	61.6	63.8	45.1	51.3
Balondiya	2017-18	53.8	51.4	60.3	61.2	43.3	42.5	50.5	57.0	56.0	52.3	33.7	31.9
	2018-19	56.3	55.8	57.1	58.9	52.5	47.1	50.5	59.4	54.9	48.4	38.9	41.4
	2019-20	65.9	66.3	68.1	67.5	59.2	58.6	59.0	55.2	63.2	63.4	51.2	52.6
Kheri	2017-18	61.2	55.7	51.3	51.1	38.8	39.8	44.9	49.0	45.5	41.5	33.7	38.9
	2018-19	62.2	58.1	60.0	60.3	51.8	53.3	48.3	56.0	50.2	50.4	39.6	41.3
	2019-20	59.9	62.1	65.4	62.3	61.8	57.8	55.9	62.1	58.3	71.3	51.1	50.2
Veerpur Dem	2017-18	41.3	35.9	44.9	41.0	37.9	33.3	35.0	40.4	40.7	42.7	31.8	35.1
	2018-19	54.6	57.9	58.8	56.3	54.7	52.6	64.4	64.2	69.9	69.0	40.4	40.7
	2019-20	63.1	64.0	63.4	61.6	55.7	58.4	58.9	63.3	74.4	59.9	66.3	57.9
Overall	2017-18	52.8	49.8	53.6	52.4	45.8	45.5	42.9	43.6	47.8	46.1	34.9	34.9
	2018-19	58.6	57.7	61.4	60.4	56.8	56.5	55.3	53.5	53.9	54.0	40.9	42.8
	2019-20	64.7	63.7	65.4	65.9	63.4	61.1	57.0	58.8	62.4	63.6	49.8	49.7

The results of Table 2 pertaining to the clusters, class and sex-wise learning achievement of students in mathematics subject for the years 2017–18, 2018–19 and 2019–20, reveal the following:

- (i) Overall, in Ichhawar block, there is an increase in the percentage of learning achievement of students among boys and girls both, in all the classes in the year 2019–20 as compared to the previous years.
- (ii) There is a continual increase in the percentage of learning achievement of Class III students in the case of both boys and girls in the Veerpur Dem, Dhamanda, Dewadiya, Balondiya and Semli Jadeed clusters; for boys only in the cluster of Bhau Khedi and for girls in the Ichhawar, Ramnagar, Brijesh Nagar and Kheri clusters in the year 2019–20; as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.
- (iii) There is a continual increase in the percentage of learning achievement of Class IV students in the case of both boys and girls in Semli Jadeed, Bhau Khedi, Brijesh Nagar, Dewadiya and Kheri clusters, and for girls only in the clusters of Dhamanda and Ramnagar in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.
- (iv) There is a continual increase in the percentage of learning achievement of Class V students for both boys and girls in all the clusters except only in the case of girls of Ichhawar cluster in the year 2019–20, as compared to the previous years.
- (v) There is a continual increase in the percentage of learning achievement of Class VI students in the case of both boys and girls of Ichhawar, Semli Jadeed, Ramnagar and Kheri clusters, and for girls only in Dhamanda cluster in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.
- (vi) There is a continual increase in the percentage of learning achievement of Class VII students in the case of both boys and girls of Brijesh Nagar and Kheri clusters; for boys only in Ramnagar and Dewadiya clusters, and for girls only in Ichhawar and Veerpur Dem clusters in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.
- (vii) There is a continual increase in the percentage of learning achievement of Class VIII students in the case of both boys and girls, in Semli Jadeed,

Bhaukhedi, Balondiya, Kheri and Veerpur Dem clusters, and for girls only in Ramnagar and Brijesh Nagar clusters in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.

(c) Cluster, Class and Sex-wise Learning Achievement of Students in EVS Subject

The results pertaining to the clusters, class and sex-wise learning achievement of both boys and girls in Classes III to V for EVS subject for the years 2017–18, 2018–19 and 2019–20 are presented in Table 3.

Table 3
Cluster, Class and Sex-wise Learning Achievement of Students in EVS Subject

Cluster	Year	Percentage of EVS achievement					
		III		IV		V	
		Boys	Girls	Boys	Girls	Boys	Girls
Ichhawar	2017–18	55.73	54.61	53.33	55.72	66.44	68.16
	2018–19	65.47	66.78	55.78	53.42	65.79	65.89
	2019–20	68.27	71.26	53.19	54.88	69.88	62.84
Semli Jadeed	2017–18	56.09	58.35	53.10	47.85	57.78	58.88
	2018–19	72.72	75.29	65.80	65.39	69.24	72.93
	2019–20	76.00	73.07	59.90	58.90	68.68	72.52
Bhaukhedi	2017–18	53.33	56.55	51.85	50.35	72.18	73.59
	2018–19	83.41	84.72	67.10	67.14	75.81	73.67
	2019–20	77.37	73.00	68.10	63.96	69.39	77.02
Dhamanda	2017–18	65.59	68.97	57.63	53.73	66.22	67.09
	2018–19	82.52	80.22	64.20	60.21	68.98	71.38
	2019–20	78.59	78.09	59.53	61.57	70.95	74.65
Ramnagar	2017–18	56.06	53.10	47.03	45.12	55.79	55.82
	2018–19	64.20	65.12	59.85	61.04	69.08	71.55
	2019–20	69.21	67.50	51.14	56.50	64.34	66.80
Brijesh Nagar	2017–18	52.74	51.88	45.42	43.88	48.95	52.52
	2018–19	58.95	65.26	53.49	48.93	63.42	66.17
	2019–20	68.05	73.51	64.98	66.73	62.03	53.16
Dewadiya	2017–18	56.32	56.7	53.26	54.67	62.48	58.15
	2018–19	66.66	67.83	56.80	58.65	65.56	68.31
	2019–20	76.54	74.79	72.73	71.44	70.91	68.83
Balondiya	2017–18	63.22	61.96	55.73	56.62	57.43	56.93
	2018–19	66.35	62.74	55.43	55.98	65.10	58.64
	2019–20	69.93	68.37	65.26	63.24	70.37	72.50

Kheri	2017–18	65.64	58.1	54.91	51.4	50.74	51.21
	2018–19	69.56	69.54	58.69	56.69	60.52	58.41
	2019–20	65.42	69.38	62.39	60.38	68.27	66.96
Veerpur Dem	2017–18	43.85	41.13	46.92	42.47	48.23	44.09
	2018–19	60.16	68.44	54.26	54.50	58.66	59.60
	2019–20	67.09	65.60	59.87	60.10	65.19	70.94
Overall	2017–18	57.18	55.69	51.86	50.26	57.34	58.11
	2018–19	69.15	70.00	59.17	58.23	66.52	66.37
	2019–20	71.15	70.95	61.50	61.96	68.11	67.99

The results of Table 3 pertaining to the clusters, class and sex-wise (boys and girls) learning achievement of students in EVS subject for the years 2017–18, 2018–19 and 2019–20 reveal the following:

- (i) Overall, in Ichhawar block, there is a continual increase in the percentage of learning achievement of students among boys and girls both in all the classes in the year 2019–20 as compared to the previous years.
- (ii) There is a continual increase in the percentage of learning achievement of Class III students in the case of both boys and girls in Ichhawar, Ramnagar, Brijesh Nagar, Dewadiya and Balondiya clusters; for boys only in Semli Jadeed and Veerpur Dem clusters in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.
- (iii) There is continual increase in the percentage of learning achievement of Class IV students in the case of both boys and girls in Dewadiya, Kheri and Veerpur

Dem clusters; for boys only in Bhaukhedi cluster, and for girls only in Dhamanda and Brijesh Nagar clusters in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.

- (iv) There is a continual increase in the percentage of learning achievement of Class V students in the case of both boys and girls in Dhamanda, Dewadiya, Balondiya, Kheri and Veerpur Dem clusters; for girls only in Bhaukhedi cluster in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.

(d) Cluster, Class and Sex-wise Learning Achievement of Students in Science Subject

The results pertaining to the clusters, class and sex-wise (boys and girls) in Classes VI to VIII for science subject for the years 2017–18, 2018–19 and 2019–20 are presented in Table 4.

Table 4
Cluster, Class and Sex-wise Learning Achievement of Students
in Science Subject

Cluster	Year	Class-wise Percentage of achievement in Science Subject					
		VI		VII		VIII	
		Boys	Girls	Boys	Girls	Boys	Girls
Ichhawar	2017-18	41.92	35.93	42.12	37.14	40.40	40.81
	2018-19	48.00	50.56	47.91	60.75	48.68	56.05
	2019-20	46.41	56.00	47.80	54.10	51.00	48.19
Semli Jadeed	2017-18	33.00	31.77	32.31	36.80	34.32	36.80
	2018-19	46.30	47.69	54.12	63.75	42.02	49.90
	2019-20	50.52	47.50	44.31	50.0	61.63	59.68
Bhaukhedi	2017-18	49.36	52.43	40.00	46.67	44.83	50.63
	2018-19	57.42	55.39	41.06	43.37	46.29	52.13
	2019-20	48.07	47.38	56.19	56.60	55.80	57.14
Dhamanda	2017-18	42.48	46.97	48.81	48.29	47.93	51.27
	2018-19	52.46	52.70	44.11	42.38	39.93	46.97
	2019-20	39.86	39.67	39.80	45.80	41.15	38.12
Ramnagar	2017-18	32.90	31.40	42.54	36.22	33.20	29.11
	2018-19	39.88	42.15	39.94	41.14	33.40	36.58
	2019-20	55.71	52.62	45.00	47.80	39.80	43.39
Brijesh Nagar	2017-18	36.47	37.20	35.58	35.20	40.00	33.54
	2018-19	52.12	44.01	40.80	43.87	38.62	42.31
	2019-20	43.50	54.18	37.46	41.00	41.94	43.73
Dewadiya	2017-18	38.95	41.49	38.91	42.00	36.46	40.97
	2018-19	40.54	32.59	35.83	30.40	29.31	26.32
	2019-20	52.26	60.71	41.70	43.06	42.57	42.42
Balondiya	2017-18	47.89	49.86	42.96	40.00	47.06	44.09
	2018-19	48.11	52.30	40.68	38.61	38.21	43.05
	2019-20	51.11	48.44	46.20	49.11	47.51	45.15
Kheri	2017-18	37.41	43.59	42.49	36.29	36.51	37.44
	2018-19	39.10	40.07	41.08	41.53	33.09	33.24
	2019-20	46.52	46.00	42.00	45.71	45.40	43.24
Veerpur Dem	2017-18	37.9	37.65	34.62	37.12	37.01	44.81
	2018-19	45.40	48.44	59.89	53.64	42.02	38.51
	2019-20	63.00	58.43	58.80	52.42	54.80	47.80
Overall	2017-18	38.80	39.53	40.09	39.12	39.12	40.55
	2018-19	46.57	46.15	43.33	44.42	39.13	43.22
	2019-20	50.48	51.08	46.22	48.60	46.90	46.05

The results of Table 4 pertaining to the clusters, class and sex-wise (boys and girls) learning achievement of students in science subject for the years 2017–18, 2018–19 and 2019–20 reveal the following:

- (i) Overall, in Ichhawar block, there is a continual increase in the percentage of learning achievement of students in the subject science among boys and girls both in all the classes in the year 2019–20 as compared to the previous years.
- (ii) There is a continual increase in the percentage of learning achievement of Class VI students in the case of both boys and girls in Ramnagar and Veerpur Dem clusters; for boys in Semli Jadeed, Dewadiya, Balondiya and Kheri clusters, and for girls in Ichhawar and Balondiya clusters in the year 2019–20 as compared to the previous years. While in all other clusters of Ichhawar block, for whole sample and also for boys and girls separately.
- (iii) There is a continual increase in the percentage of learning achievement of Class VII students in the case of boys only in the

cluster of Bhaukhedi and for girls only in the clusters of Ramnagar and Kheri in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.

- (iv) There is a continual increase in the percentage of learning achievement of Class VIII students in the case of both boys and girls in Ramnagar, Bhaukhedi and Semli Jadeed clusters; for boys only in Ichhawar and Veerpur Dem clusters and for girls only in Brijesh Nagar cluster in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.

(e) Cluster, Class and Sex-wise Learning Achievement of Students in Social Science Subject

The results pertaining to the clusters, class and sex-wise (boys and girls) in Classes VI to VIII for social science subject for the years 2017–18, 2018–19 and 2019–20 are presented in Table 5.

Table 5: Cluster, Class and Sex-wise Learning Achievement of Students in Social Science Subject

Cluster	Year	Class-wise Percentage of Achievement in Social Science					
		VI		VII		VIII	
		Boys	Girls	Boys	Girls	Boys	Girls
Ichhawar	2017–18	46.67	42.54	40.00	40.2	43.33	48.79
	2018–19	46.66	55.74	53.91	56.47	51.06	63.41
	2019–20	48.02	56.73	42.44	57.40	51.04	49.36

Semli Jadeed	2017-18	38.29	38.21	30.2	34.2	30.7	33.83
	2018-19	49.81	48.92	40.22	48.00	44.63	52.38
	2019-20	46.00	44.27	40.39	50.00	46.70	45.31
Bhaukhedi	2017-18	54.15	54.01	30.92	40.32	41.17	41.06
	2018-19	58.75	56.87	37.59	43.45	46.74	54.90
	2019-20	62.27	55.18	50.47	53.06	45.60	49.12
Dhamanda	2017-18	47.78	45.08	45.21	38.03	48.65	51.19
	2018-19	57.33	57.92	49.50	46.54	37.93	42.71
	2019-20	44.00	48.15	43.00	47.00	41.80	39.33
Ramnagar	2017-18	36.43	34.11	34.02	31.54	42.2	36.25
	2018-19	42.81	43.90	37.22	36.11	37.39	38.83
	2019-20	52.00	51.29	37.41	35.80	38.34	37.70
Brijesh Nagar	2017-18	45.96	47.27	33.58	35.88	38.01	33.94
	2018-19	55.74	50.17	36.91	42.32	34.55	37.68
	2019-20	46.16	43.04	37.18	35.34	47.00	46.17
Dewadiya	2017-18	42.28	43.64	34.49	39.19	37.28	36.83
	2018-19	31.41	32.29	32.65	29.38	30.42	27.61
	2019-20	61.42	60.26	41.80	46.90	41.00	47.60
Balondiya	2017-18	45.32	49.16	34.48	35.24	47.3	45.38
	2018-19	50.12	53.33	46.95	45.97	39.33	45.64
	2019-20	53.58	54.00	48.32	47.46	56.36	54.50
Kheri	2017-18	43.06	48.97	35.64	32.92	40.16	42.31
	2018-19	41.96	42.60	33.40	34.80	33.81	32.60
	2019-20	40.87	41.39	37.00	44.80	38.42	36.05
Veerpur Dem	2017-18	41.13	38.33	34.19	39.79	34.37	40.44
	2018-19	51.53	50.66	51.79	48.30	42.92	36.11
	2019-20	62.33	63.00	47.24	45.00	54.78	45.30
Overall	2017-18	42.78	42.95	35.48	36.68	39.94	40.79
	2018-19	48.49	48.80	41.80	42.77	39.73	44.33
	2019-20	52.55	53.15	43.00	45.80	46.00	44.33

The results of Table 5 pertaining to the clusters, class and sex-wise (boys and girls) learning achievement of students in social science subject for the years 2017-18, 2018-19 and 2019-20 reveal the following:

(i) Overall, in Ichhwar block, there is a continual increase

in the percentage of learning achievement of students in the social science subject, among boys and girls both in all the classes in the year 2019-20 as compared to the previous years.

(ii) There is a continual increase in the percentage of learning

achievement of Class VI students in the case of both boys and girls in Ramnagar, Balondiya and Veerapur Dem clusters; for boys only in Bhaukhedi cluster, and for girls only in Ichhawar cluster in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.

- (iii) There is a continual increase in the percentage of learning achievement of Class VII students in the case of both boys and girls in Semli Jadeed, Bhaukhedi and Balondiya clusters; for boys only in Ramnagar and Brijesh Nagar clusters, and for girls in Ichhawar, Dhamanda and Kheri clusters in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.
- (iv) There is a continual increase in the percentage of learning achievement of Class VIII boy students in the clusters of Semli Jadeed and Veerapur Dem, and for girls only in Brijesh Nagar and Balondiya clusters in the year 2019–20 as compared to the previous years. While in the other clusters of Ichhawar block, for whole sample and also for boys and girls separately.
- (i) The interventions provided in the form of teacher training during the academic sessions 2017–18, 2018–19 and 2019–20 are successful, and therefore, should be repeated in future.
- (ii) Further training of teachers need to be undertaken after the identification of training needs in different subjects and cross-cutting areas, keeping in view the philosophy of NEP 2020.
- (iii) In Ichhawar cluster, primary level teachers need training in the subjects of EVS and language, while at upper primary level, teachers need training in mathematics, science and social science.
- (iv) In Semli Jaded cluster, there is a need of training the teachers in the subjects EVS and language of at primary level, and in mathematics and social science at upper primary level.
- (v) In Bhaukhedi cluster, there is a need of training the teachers in the EVS subject at primary level, and in science and social science at upper primary level.
- (vi) In Dhamanda cluster, there is a need of training the teachers in the EVS subject at primary level, and for all subjects at upper primary level.
- (vii) In Ramnagar cluster, there is a need of training the teachers in all subjects at primary level, and in mathematics and science at upper primary level.

EDUCATIONAL IMPLICATIONS

Overall cluster-wise implications of analysis for future interventions are:

- (viii) In Brijesh Nagar cluster, there is a need of training the teachers in the EVS subject at primary level, and in science at upper primary level.
- (ix) In Dewadiya cluster, there is a need of training the teachers in the language subject only at both primary and upper primary levels.
- (x) In Balondiya cluster, teachers need training in the EVS subject at primary level; and in science at upper primary level.
- (xi) In Kheri cluster, there is a need of training the teachers in all subjects at primary level; and in science and social science at upper primary level.
- (xii) In Veerpur Dem cluster, training needs to be provided to the teachers in the mathematics subject at both primary as well as upper primary levels.

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