



CONNECTED  
LEARNING  
INITIATIVE

Summary of Student Learning Assessment in  
Telangana

Research Brief

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The Connected Learning Initiative (CLIX) is a technology enabled initiative at scale for high school students. The initiative was seeded by Tata Trusts, Mumbai with Tata Institute of Social Sciences, Mumbai and Massachusetts Institute of Technology, Cambridge, as founding partners.

Collaborators: Centre for Education Research & Practice - Jaipur, Mizoram University - Aizawl, Eklavya - Madhya Pradesh, Homi Bhabha Centre for Science Education - Mumbai, National Institute of Advanced Studies - Bengaluru, State Council of Educational Research and Training (SCERT) of Telangana - Hyderabad, Tata Class Edge - Mumbai, Govt. of Rajasthan, Govt. of Mizoram, Govt. of Chhattisgarh and Govt. of Telangana.

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## Student Learning Assessment in Telangana

### Research Brief

The Connected Learning Initiative (CLIX) is a technology enabled initiative at scale for high school students. The initiative is seeded by Tata Trusts with Tata Institute of Social Sciences, Mumbai and Massachusetts Institute of Technology, Cambridge, USA, as founding partners. It aims to provide opportunities for participation in quality education through meaningful integration of technology to high school students from underserved regions. CLIX student modules provide engaging, hands-on learning experiences in Mathematics, Science, Communicative English and Digital Literacy, integrated with value education and skills relevant for the 21st century.

As part of the baseline study, a learning assessment tool was administered to Grade 9 students to assess their understanding and knowledge about Communicative English, Maths and Science. The tool consisted of 9 questions in English, 10 questions in Maths, and 15 questions in Science that were pitched at Grades 6, 8 and 9 level. Data was collected from four states, Chhattisgarh, Mizoram, Rajasthan and Telangana using OMR sheets and a digital tool called Open Data Kit (ODK).

Data was collected from a sample of 75 schools out of the 250 intervention schools in erstwhile Karimnagar, Rangareddy and Warangal districts using a stratified random sampling method. In 2016, after the reorganisation of districts in Telangana, the sample of selected schools fell into 13 new districts: Peddapally, Jagityal, Jangaon, Jayashankar, Karimnagar, Mahabubabad, Medchal, Rangareddy, Siddipet, Siricilla -Rajanna, Vikarabad, Warangal(R), and Warangal(U). Note that two schools, each from erstwhile Warangal and Karimnagar are now in Siddipet district. Table 1 gives the number of schools surveyed in each of these districts. In each of the schools, a sample of 40 students was drawn using a stratified random sampling method. A total of 2,393 students took the learning assessment test across 13 new districts.

**Table 1: Districtwise distribution of sampled schools**

Erstwhile districts	Reorganized districts	No.of schools surveyed
<b>Warangal</b>	Jayashankar	6
	Jangaon	1
	Mahabubabad	4
	Siddipet	1
	Warangal(R)	9
	Warangal(U)	9
<b>Karimnagar</b>	Peddapally	8
	Jagityal	4
	Karimnagar	9
	Siddipet	1
	Siricilla -Rajanna	8

<b>Rangareddy</b>	Rangareddy	11
	Medchal	1
	Vikarabad	3

In this Research Brief, we present findings on student learning assessment test which was administered across the three erstwhile districts of Karimnagar, Rangareddy and Warangal.

## 1] English

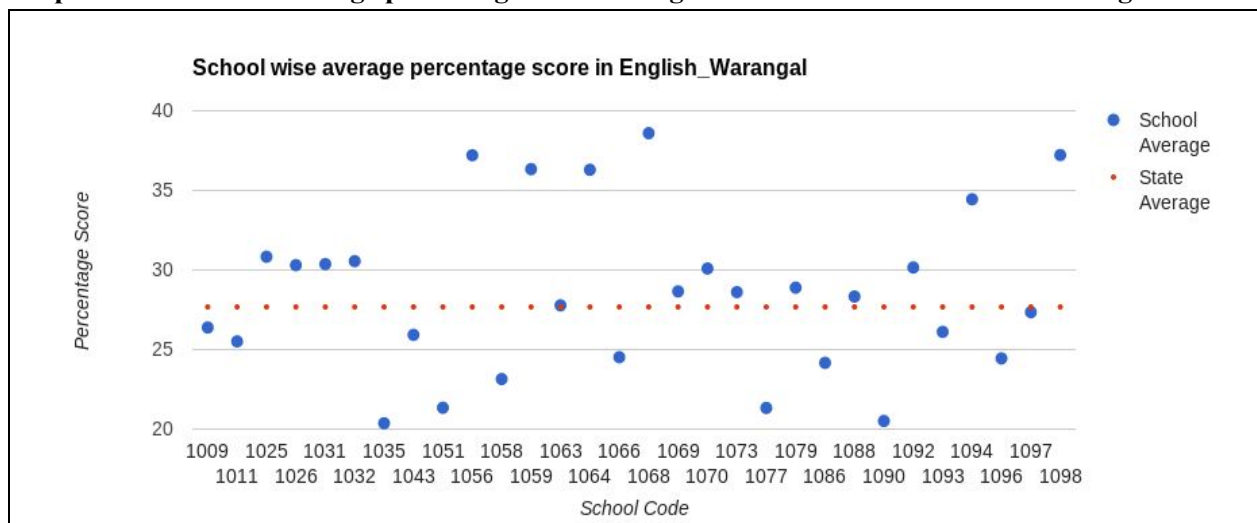
Nine questions on communicative English were asked to the students. The performance on these questions is given below.

**Table 2: Performance in English**

Percentage score in English							
Total no.of schools	No.of students	Lowest Percentage Score	Highest Percentage Score	Mean	Standard Deviation	No.of schools where average > state average	
75	2393	0	88.89	27.68	16.35	31	

The average percentage score among students in Telangana on the English assessment is 27.68% with a standard deviation of 16.35. The lowest score obtained was 0 and the highest score obtained was 88.89%. In 31 schools out of the total 75 schools surveyed, the average score for English was more than the State average score.

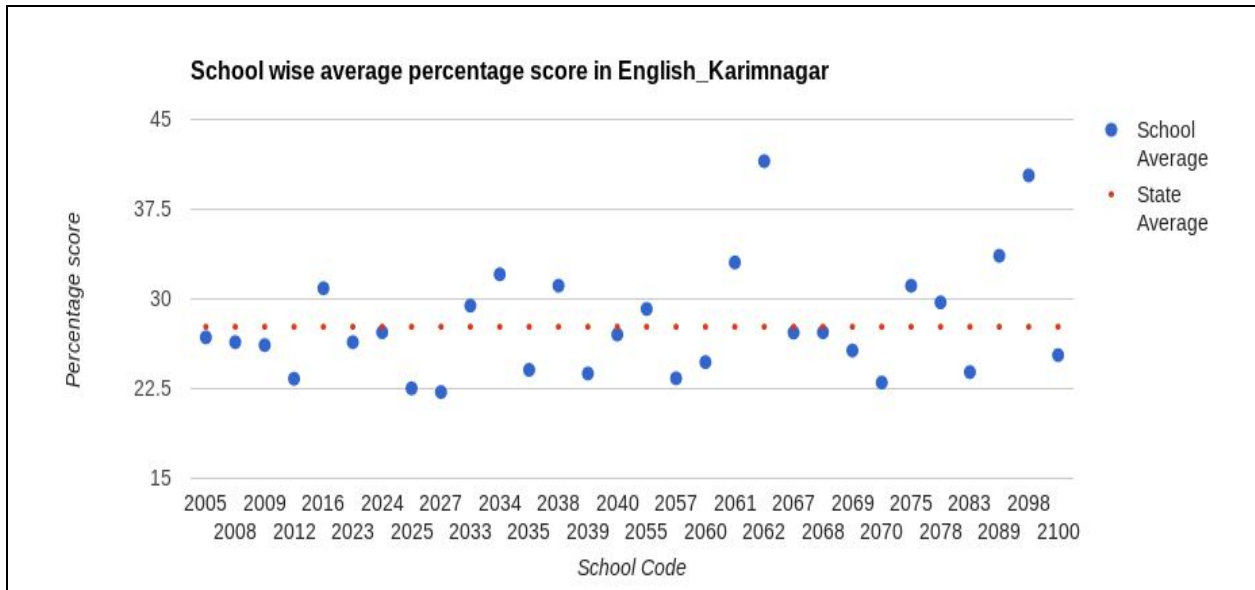
**Graph 1: School-wise average percentage score in English for erstwhile district of Warangal**



Graph 1 shows the school-wise average percentage score in English for erstwhile district of Warangal. Of the 30 schools surveyed in erstwhile Warangal, the average percentage scores in 17 schools was better than the state average. Now these schools are reorganized in the following districts; Jayashankar, Jangaon,

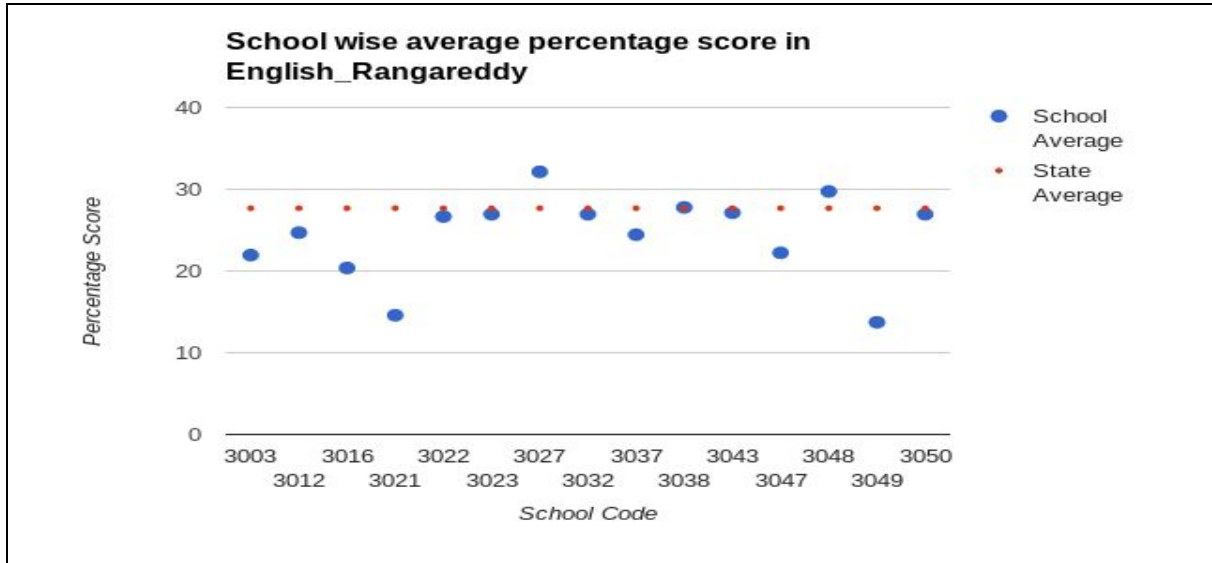
Mahabubabad, Siddipet, Warangal(R) and Warangal(U). Of these, the average percentage score of 2 schools in Jayashankar, 3 schools in Mahabubabad, 7 schools in Warangal(R), 5 schools in Warangal(U) was better than the state average and for one school each in Jangaon and Siddipet, the average percentage score was less than the state average.

**Graph 2: School-wise average percentage score in English for erstwhile district of Karimnagar**



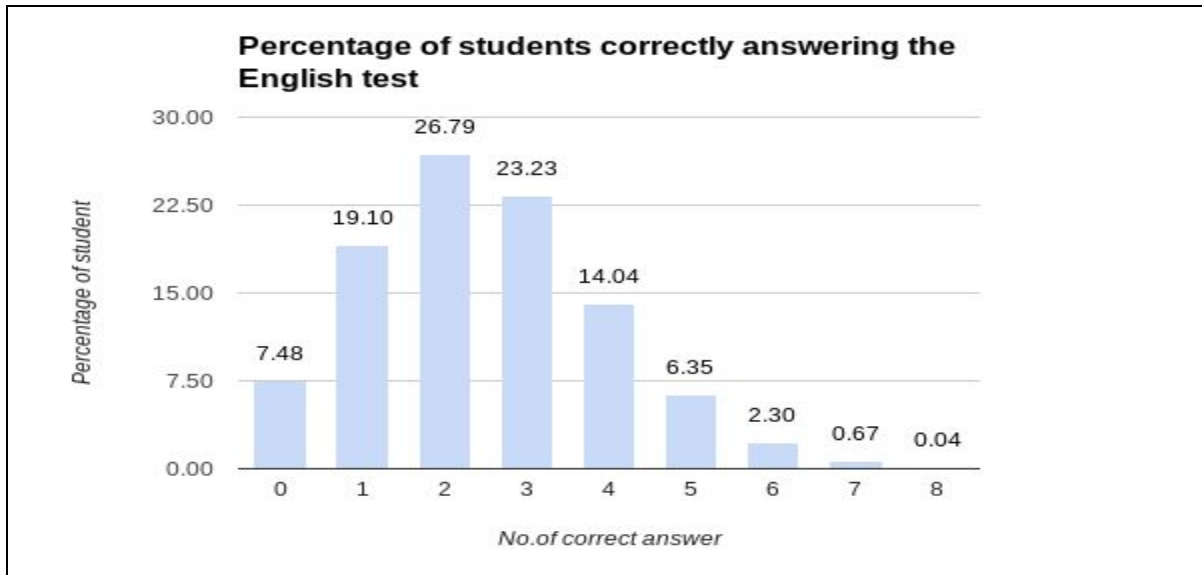
Graph 2 shows the school-wise average percentage score in English for erstwhile district of Karimnagar. Of the 30 schools surveyed in erstwhile Karimnagar, the average percentage scores in 11 schools was better than the state average. Now these schools are reorganized in the following districts; Peddapally, Jagityal, Karimnagar, Siddipet and Siricilla-Rajanna. Of these, the average percentage score of 5 schools in Peddapally, 3 schools in Karimnagar, 3 schools in Siricilla-Rajanna was better than the state average and for one school in Siddipet and all 4 schools in Jagityal the average percentage score was less than the state average.

**Graph 3: School-wise average percentage score in English for erstwhile district of Rangareddy**



Graph 3 shows school-wise average percentage score in English for erstwhile district of Rangareddy. In the 15 schools surveyed, the average percentage scores in 3 schools was better than the state average. Now these schools are reorganized in the following districts; Rangareddy, Medchal, and Vikarabad. Of these, the average percentage score of 2 schools in Rangareddy, 1 school in Medchal was better than the state average and for all 3 schools in Vikarabad the average percentage score was less than the state average.

**Graph 4: Percentage of students correctly answering the English test**



Nine questions were asked to the students as part of the learning assessment test to gauge the reading and writing levels of the students before the intervention. A majority of the students (90%) were not able to answer more than 4 questions correctly with 7.48% of the students being unable to answer even one

question correctly. About 10% of the students were able to answer between 5 to 7 questions correctly. None of the students were able to answer all questions correctly in the three districts studied.

The question which was answered correctly by most students was “ City life is different \_\_\_\_\_ village life”. This was correctly answered by 40.55% of the students surveyed by choosing Option 2. Among the incorrect responses, 28.62% of the students chose Option 3.

**Box 1: The question with highest percentage of students giving correct answer (English Test)**

Pick the correct option to fill in the blanks:  
 City life is different \_\_\_\_\_ village life.  
 1. than  
 2. from  
 3. to  
 4. then

The question which was answered correctly by the least number of students required them to refer to a bill and answer the product that a customer could buy from the shop. Only 16.57% of the students could answer it correctly by picking Option 4. Among the incorrect responses, 32.04% of the students had selected Option 2 and 24% had selected Option 1.

**Box 2: The question with lowest percentage of students giving correct answer (English Test)**

Which of these products can a customer buy in this shop?  
 1. Onida TV  
 2. Hitachi fridge  
 3. Dell laptop  
 4. Electrolux washing machine

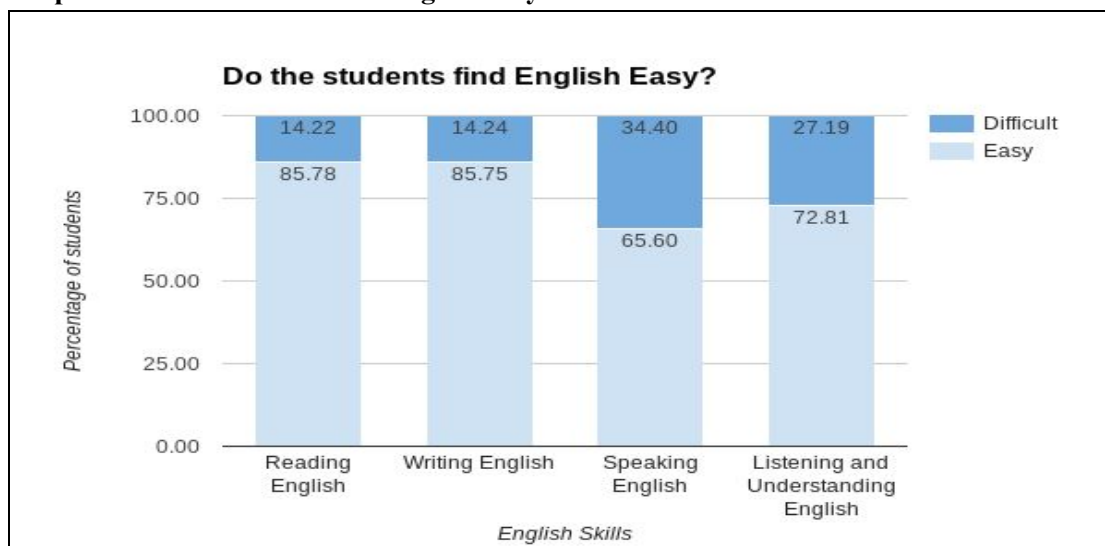
No	Description of Goods	Model Code	Quantity	Rate	VAT%	VAT Amt.	Amount (Rs.)
1	AC KELVINATOR-LES 52 CDE1 Sr. No.	AC LESS2CDE1	2	15,022.22	12.5	3,755.56	33,800.00
2	STABILISER – KS40A13L Sr.No.	KS40A13L	2	2,800.00	12.5	700.00	6,300.00
In Words: Rs. Forty Thousand One Hundred Only						4,455.56	40,100.00

All products are serviced by the company service centre.  
 Goods once sold will not be taken back or exchanged.  
 Warranty, etc. are given by the company only.  
 E & O.E.

Authorised Signatory

**VIDEOCON KENSTAR SANSUI ELECTROLUX KELVINATOR SAMSUNG**

**Graph 5: Do the students find English easy?**



We asked what students find easy in English - reading, writing, speaking or listening and understanding English. Most of the students (86%) find writing in English and reading in English to be easy followed by 72.81% students finding listening and understanding English to be easy. Only 65.60% said they found speaking in English to be easy.

## 2] Maths

Ten questions on Maths were asked in the learning assessment survey. The performance of the students is given below.

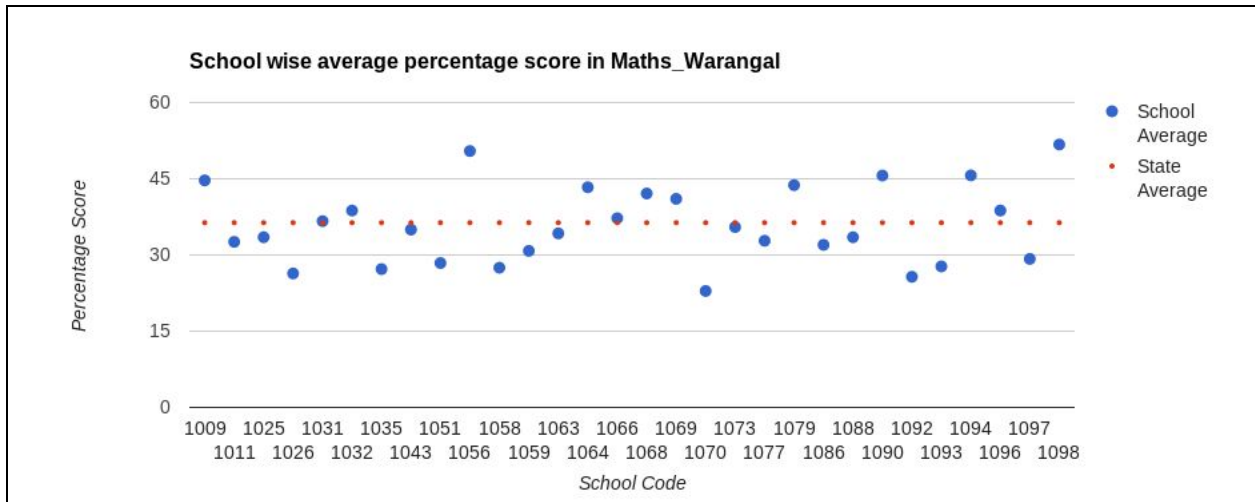
**Table 3: Performance in Maths**

Percentage score in Maths							
Total no.of schools	No.of students	Lowest Percentage Score	Highest Percentage Score	Mean	Standard Deviation	No.of schools where average > state average	
75	2393	0	100	36.36	20.22	34	

The average percentage score among students in Telangana on the Maths assessment is 36.36% with a standard deviation of 20.22. The lowest score obtained was 0 and the highest score obtained was 100%. In 34 schools out of the total 75 schools surveyed, the average score for Maths was more than the State average score.

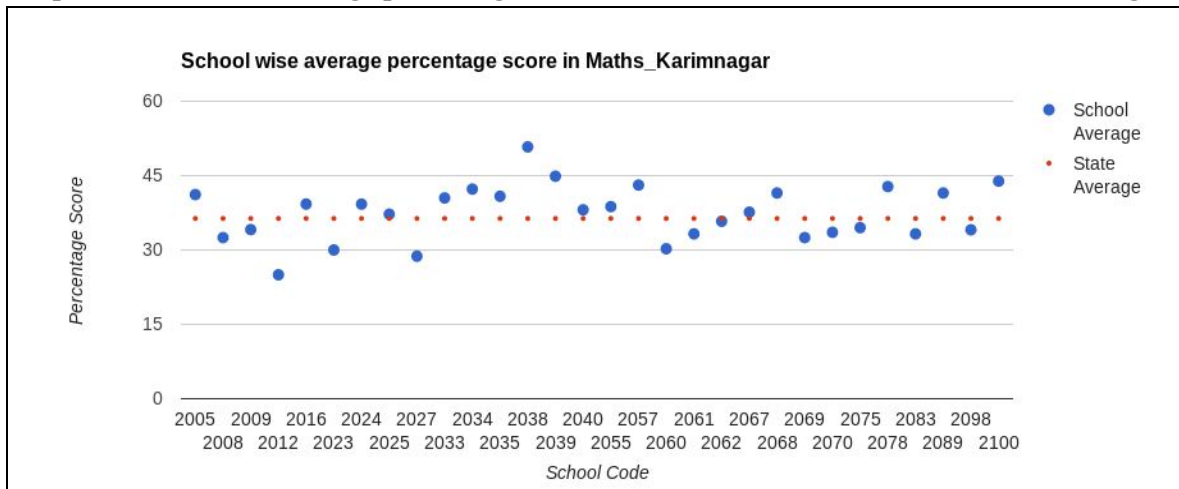


**Graph 6: School-wise average percentage score in Maths for erstwhile district of Warangal**



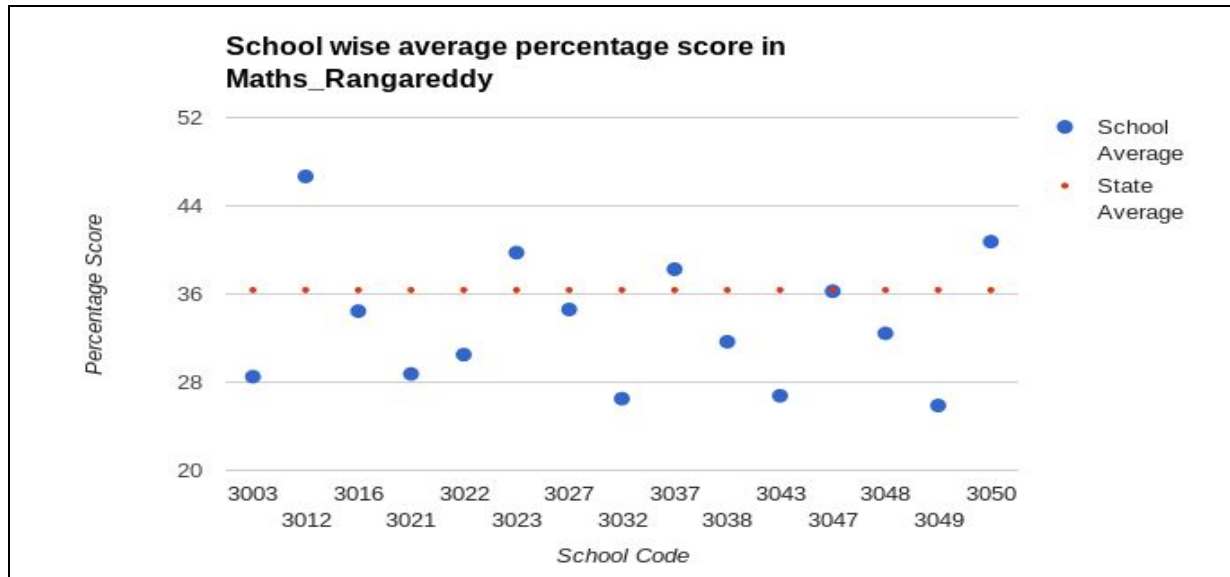
Graph 6 shows the school-wise average percentage score in Maths for erstwhile district of Warangal. Of the 30 schools surveyed, the average percentage scores in 13 schools was better than the state average. Now these schools are reorganized in the following districts; Jayashankar, Jangaon, Mahabubabad, Siddipet, Warangal(R) and Warangal(U). Of these, the average percentage score of 2 schools in Jayashankar, 1 school in Jangaon, 2 schools in Mahabubabad, 5 schools in Warangal(R), 3 schools in Warangal(U) were better than the state average and for one school in Siddipet the average percentage score was less than the state average.

**Graph 7: School-wise average percentage score in Maths for erstwhile district of Karimnagar**



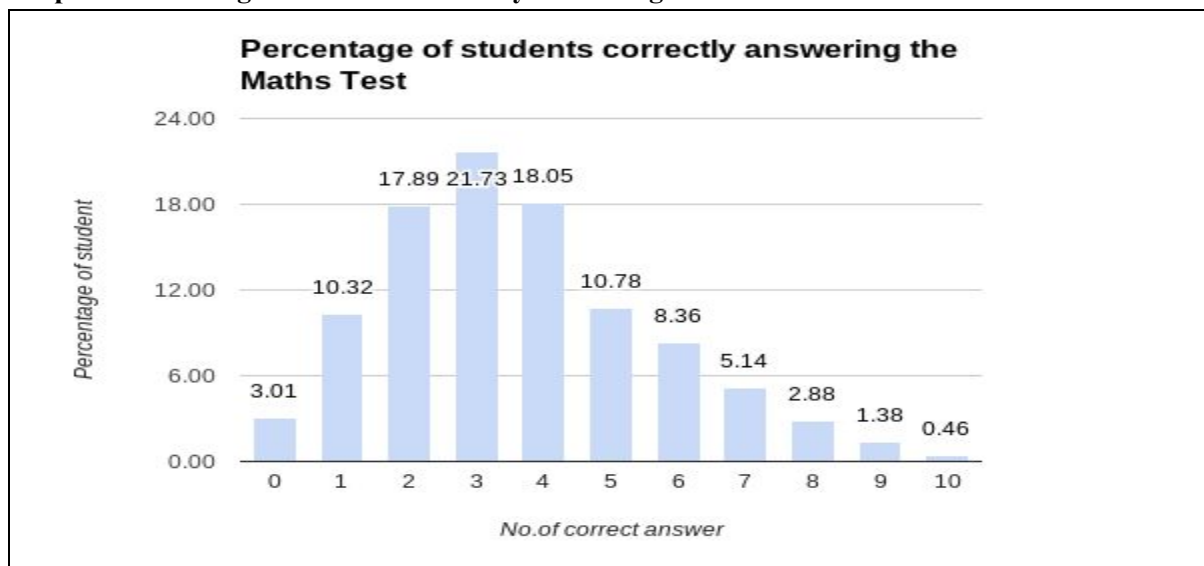
Graph 7 shows the school-wise average percentage score in Maths for erstwhile district of Karimnagar. Of the 30 schools surveyed, the average percentage scores in 17 schools was better than the state average. Now these schools are reorganized in the following districts; Peddapally, Jagityal, Karimnagar, Siddipet and Siricilla-Rajanna. Of these, the average percentage score of 3 schools in Peddapally, 3 schools in Jagityal, 6 schools in Karimnagar, 5 schools in Siricilla -Rajanna was better than the state average and for one school in Siddipet the average percentage scores was less than the state average.

**Graph 8: School-wise average percentage score in Maths for erstwhile district of Rangareddy**



Graph 8 shows the school-wise average percentage score in Maths for erstwhile district of Rangareddy. In the 15 schools surveyed, the average percentage scores in 4 schools was better than the state average. Now these schools are reorganized in the following districts; Rangareddy, Medchal, and Vikarabad. Of these, the average percentage score of 3 schools in Rangareddy, 1 school in Vikarabad was better than the state average and for one school in Medchal the average percentage scores was less than the state average.

**Graph 9: Percentage of students correctly answering the Maths test**



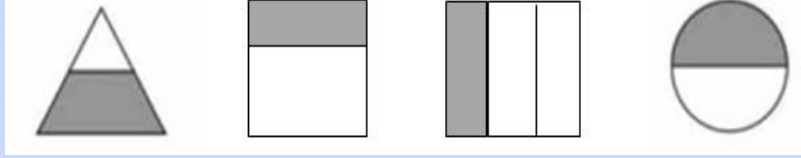
Ten questions were asked to the students as part of the learning assessment test to gauge their understanding of Maths. A majority of the students (77%) were not able to answer more than 4 questions

correctly with 3% of the students being unable to answer even one question correctly. About 10% of the students were able to answer between 7 to 10 questions correctly.

The question that was answered correctly by the highest number of students asked them to identify the figure which was shaded half. About 49.70% of the students answered it correctly (Option 4). Among the incorrect responses, Option 3 was selected by 18.56% students.

**Box 3: The question with highest percentage of students giving correct answer (Maths Test)**

1/2 భాగం కలిగినది ఏది?



The question that was correctly answered by the least number of students required them to calculate the discount on the price of a shirt. About 20.60% of the students answered it correctly (Option 1) and about half of the students had incorrectly answered the question by picking Option 2.

**Box 4: The question with lowest percentage of students giving correct answer (Maths Test)**

ఒక చొక్కా ఖరీదు రూ.200- అది రూ.160- లకు అమ్మకమునకు ఉన్నది. చొక్కాపై తగ్గింపు ఎంత?

1. 20%
2. 40%
3. 60%
4. 80%

### 3] Science

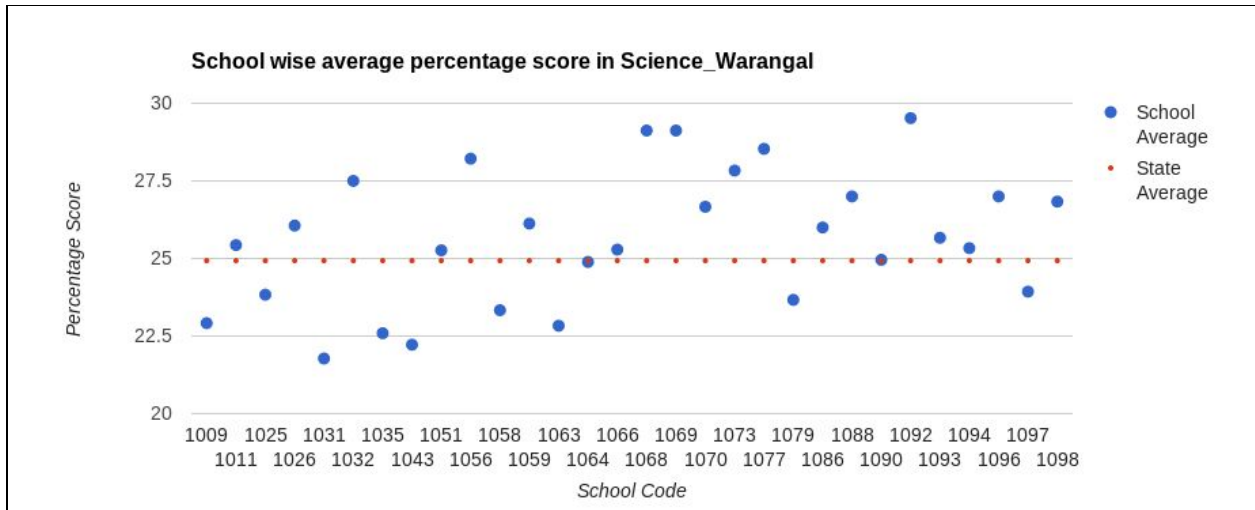
Fifteen questions related to science were asked in the learning assessment survey. The performance of the students is given below.

**Table 4: Performance in Science**

Percentage score in Science						
Total no.of schools	No.of students	Lowest Percentage Score	Highest Percentage Score	Mean	Standard Deviation	No.of schools where school average > state average
75	2393	0	66.67	24.93	10.50	41

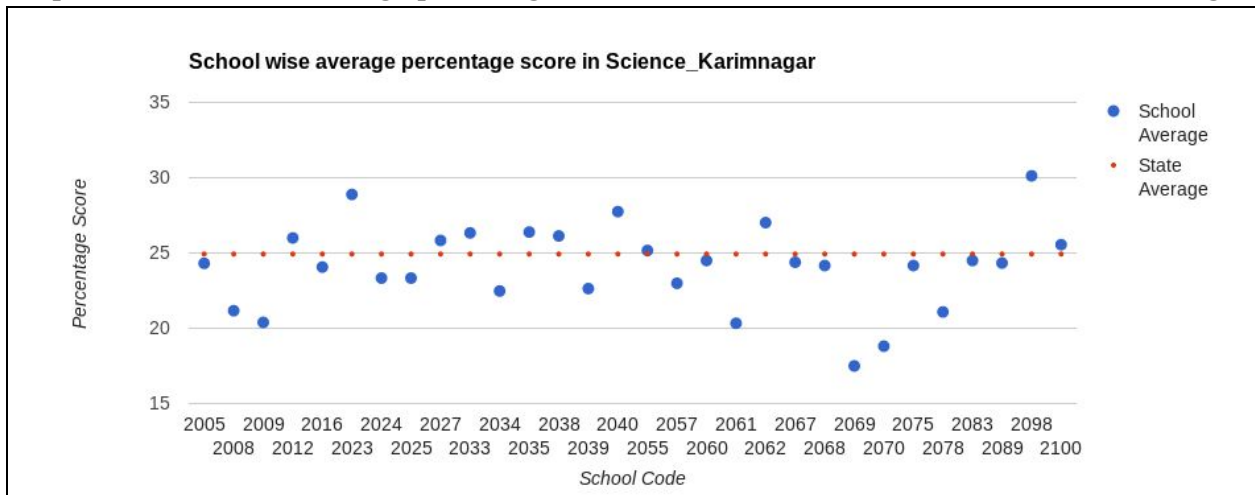
The average percentage score among students in Telangana on the Science assessment is 24.93% with a standard deviation of 10.50. The lowest score obtained was 0 and the highest score obtained was 66.67%. In 41 schools out of the total 75 schools surveyed, the average score for Science was more than the State average score.

**Graph 10: School-wise average percentage score in Science for erstwhile district of Warangal**



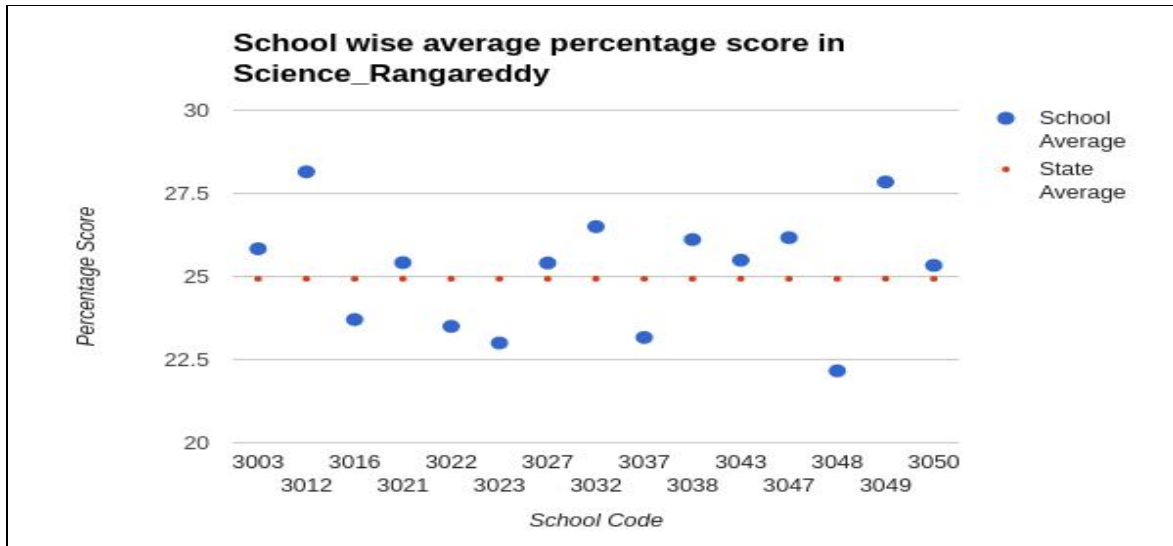
Graph 10 shows the school-wise average percentage score in Science for erstwhile district of Warangal. Of the 30 schools, the average percentage score in 20 schools was better than the state average. Now these schools are reorganized in the following districts; Jayashankar, Jangaon, Mahabubabad, Siddipet, Warangal(R) and Warangal(U). Of these, the average percentage score of 4 schools in Jayashankar, 1 school in Jangaon, 2 schools in Mahabubabad, 1 school in Siddipet, 7 schools in Warangal(R), 5 schools in Warangal(U) was better than the state average.

**Graph 11: School-wise average percentage score in Science for erstwhile district of Karimnagar**



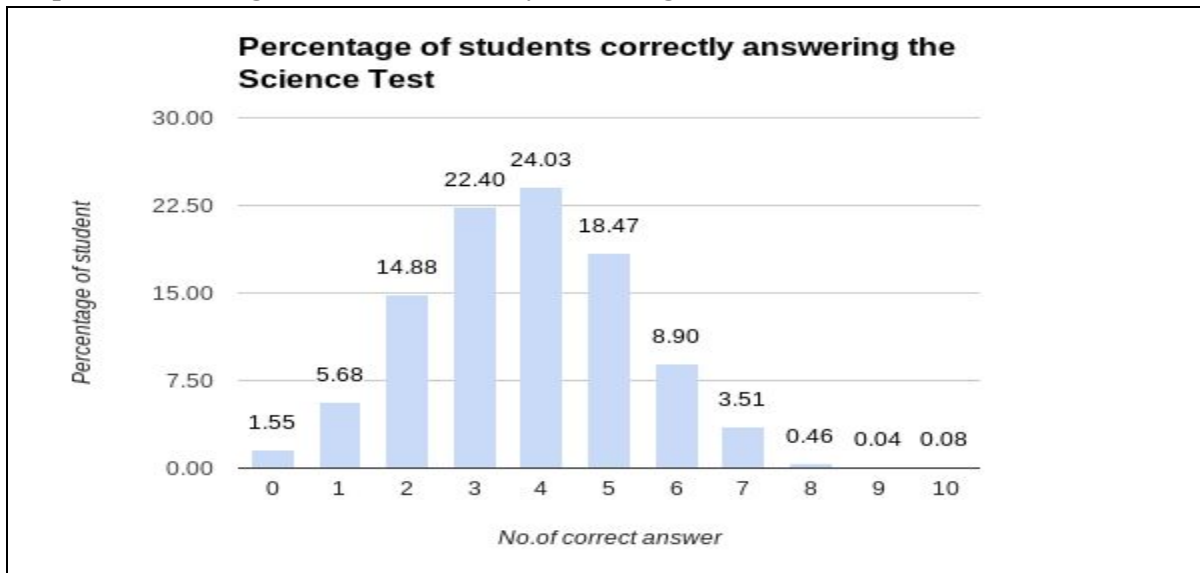
Graph 11 shows the school-wise average percentage score in Science for erstwhile district of Karimnagar. Of the 30 schools surveyed, the average percentage scores in 11 schools was better than the state average. Now these schools are reorganized in the following districts; Peddapally, Jagityal, Karimnagar, Siddipet and Siricilla-Rajanna. Of these, the average percentage score of 3 schools in Peddapally, 2 schools in Jagityal, 5 schools in Karimnagar, 1 schools in Siricilla -Rajanna was better than the state average and for one school from Siddipet the average percentage score was less than the state average.

**Graph 12: School-wise average percentage score in Science for erstwhile district of Rangareddy**



Graph 12 shows the school-wise average percentage score in Science in erstwhile district of Rangareddy. In the 15 schools surveyed, the average percentage score in 10 schools was better than the state average. Now these schools are reorganized in the following districts; Rangareddy, Medchal, and Vikarabad. Of these, the average percentage score of 7 schools in Rangareddy, 1 school in Medchal and 2 schools in Vikarabad was better than the state average.

**Graph 13: Percentage of students correctly answering the Science test**

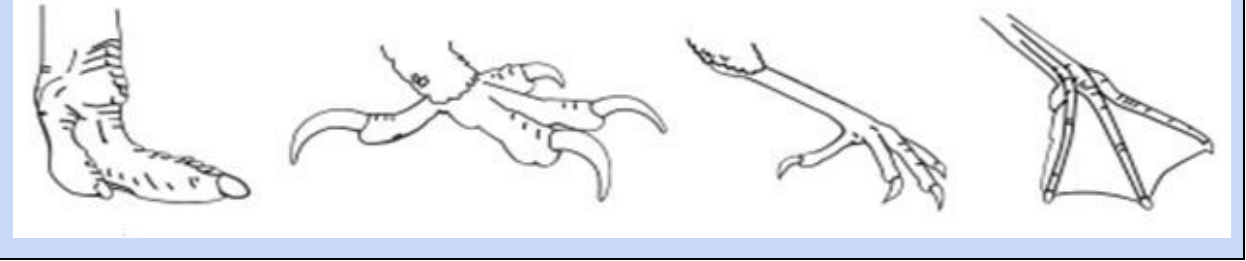


Fifteen questions were asked to the students as part of the learning assessment test to gauge their understanding of science (including physics, chemistry and biology). A majority of the students (71.59%) were not able to answer more than 4 questions correctly with small percentage of 1.55% of the students being unable to answer even one question correctly. About 4% of the students were able to answer between 7 to 10 questions correctly. None of the students were able to answer more than 10 questions correctly in the three districts studied.

The question which was correctly answered by most of the students asked them to select the feet of aquatic birds. The correct Option 4 was selected by 60.21% of the students. About 16% of the students had picked Option 3 which was an incorrect response.

**Box 5: The question with highest percentage of students giving correct answer (Science Test)**

కింద పక్షుల పాదాలున్నాయి. వీటిలో నీటి పక్షి యొక్క పాదం ఏది?



The question which was answered by the lowest percentage of students was about sound. Only 10.87% of the students answered it correctly (Option 4). About a quarter of the students (39.04%) had selected Option 1 which was an incorrect response.

**Box 6: The question with lowest percentage of students giving correct answer (Science Test)**

ఖాళీని పూరించడానికి సరైన ఎంపిక చేయండి. ధ్వని దీని ద్వారా ప్రయాణించదు

1. ఘనపదార్థాలు
2. ద్రవపదార్థాలు
3. గాలి
4. శూన్యం



