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LEARNING
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Summary of Learning Assessment in Rajasthan

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 Rajasthan

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 students modules provide engaging, hands-on learning experiences in Mathematics, Science, Communicative English and Digital Literacy, integrated with value education and skills relevant to 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 levels. Data was collected from four states: Chhattisgarh, Mizoram, Rajasthan and Telangana using OMR sheets and a digital tool called Open Data Kit (ODK). This summary presents data collected from a sample of 39 schools in Rajasthan (19 schools in Jaipur and 20 in Sirohi). In each of the schools, a sample of 40 students was drawn using a stratified random sampling method. A total of 1,371 students took the learning assessment test.

1] English

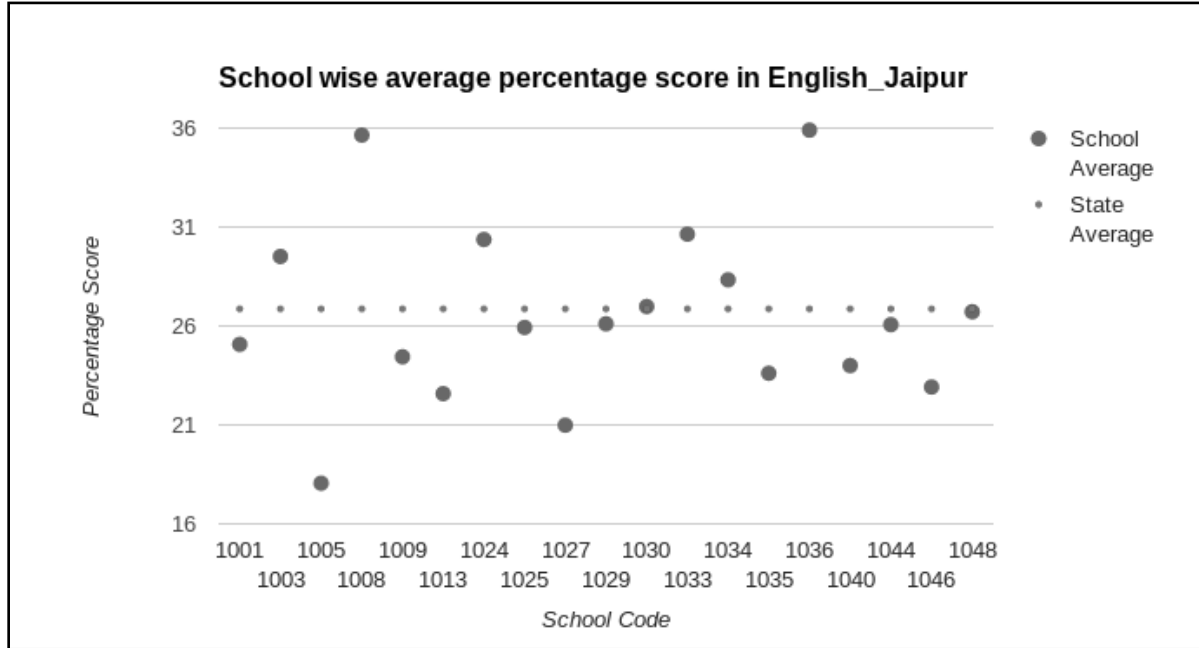
Table 1: Performance in English

| Percentage score in English | | | | | | |
|-----------------------------|----------------|-------------------------|--------------------------|-------|--------------------|--|
| Total no.of schools | No.of students | Lowest Percentage Score | Highest Percentage Score | Mean | Standard Deviation | No.of schools where school average > state average |
| 39 | 1371 | 0 | 77.78 | 26.87 | 14.77 | 21 |

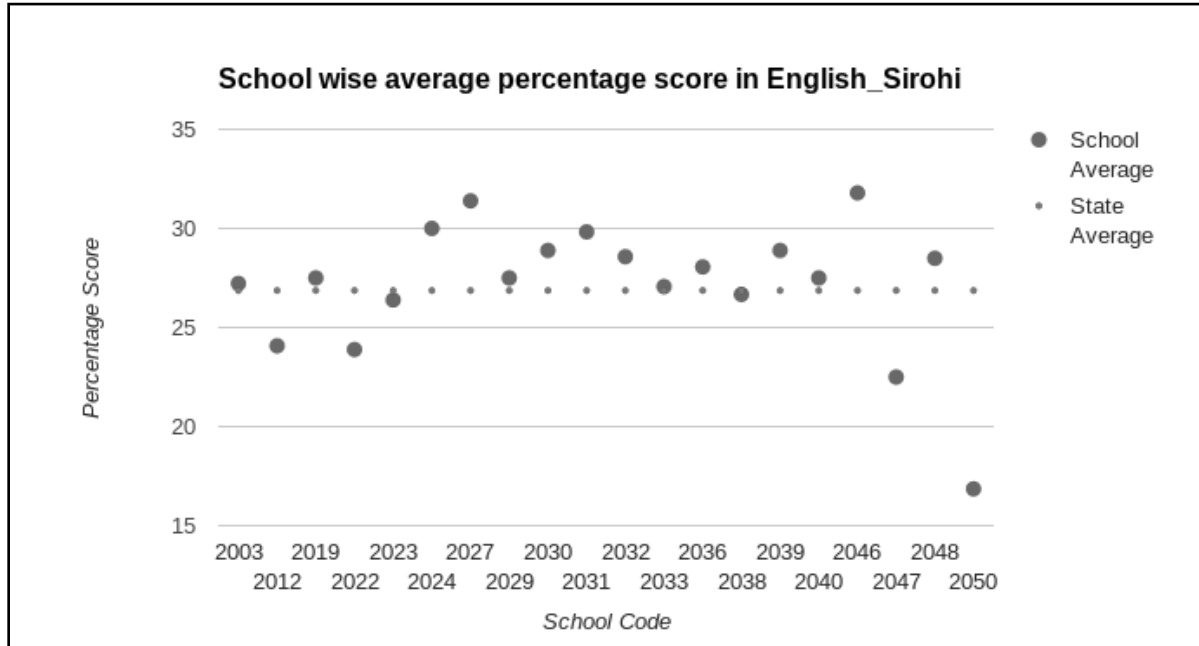
The average percentage score among students in Rajasthan on the English assessment is 26.87% with a standard deviation of 14.77. The lowest score obtained was 0 and the highest score obtained was 77.78%. In 21 schools out of the total 39 schools surveyed, the average score for English was more than the State average score. Of the 19 schools surveyed in Jaipur, the average

percentage scores in 7 schools is better than the state average. In the 20 schools surveyed in Sirohi, the average percentage scores in 14 schools is better than the state average.

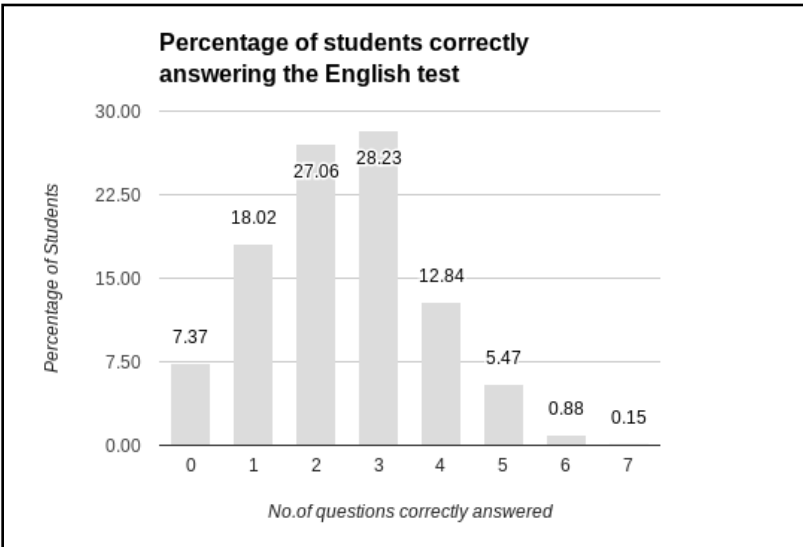
Graph 1: School-wise average percentage score in English for Jaipur



Graph 2: School-wise average percentage score in English for Sirohi



Graph 3: 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 (about 85%) were not able to answer more than 3 questions correctly with 7.37% of the students being unable to answer even one question correctly. About 7% of the students were able to answer between 5 to 7 questions correctly. None of the students were able to answer 8 or 9 questions correctly in the two districts studied.

The question which was answered correctly by most students was “ I _____ for you since 2:00 pm”. This was correctly answered by 37.29% of the students surveyed by choosing Option 3. Among the incorrect responses, 25.5% of the students chose Option 2.

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

Pick the correct option to fill in the blanks:

I _____ for you since 2:00 pm.

1. waited
2. will be waiting
3. have been waiting
4. was waiting

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 10.88% of the students could answer it correctly by picking Option 4. Among the incorrect responses, 34.79% of the students had selected Option 3.

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

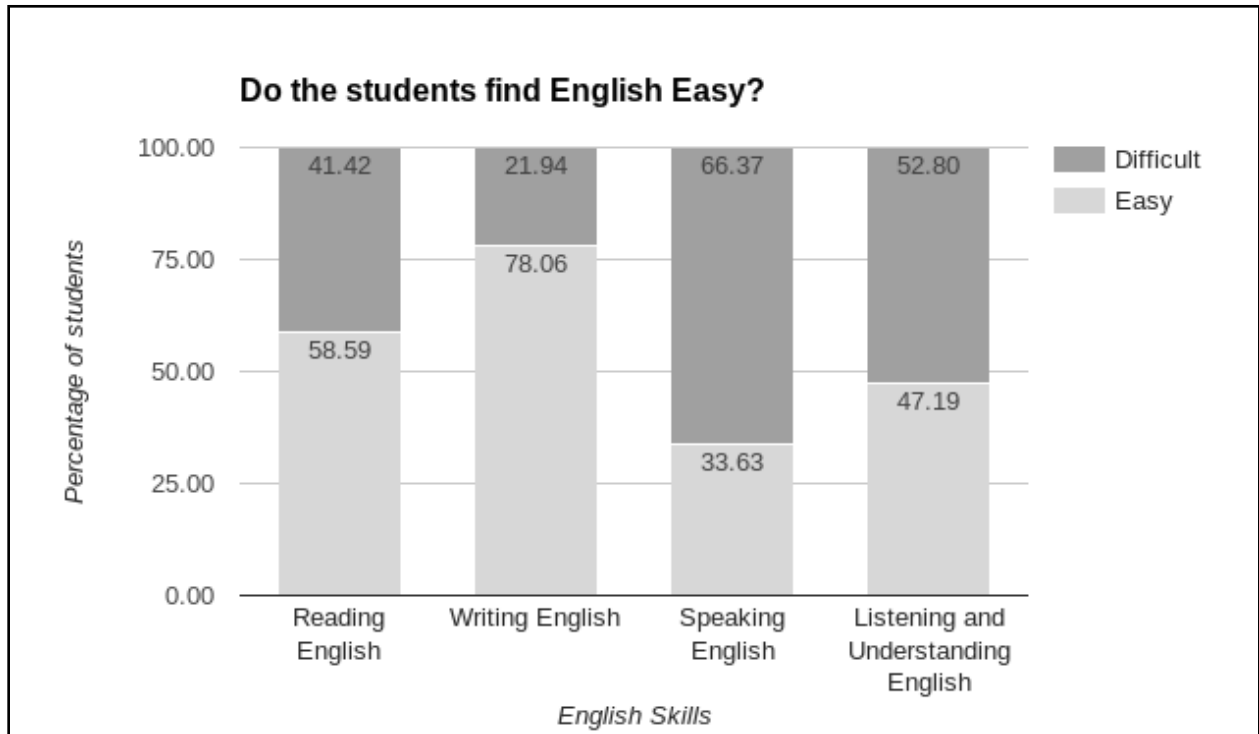
| No | Description of Goods | Model Code | Quantity | Rate | VAT% | VAT Amt. | Amount (Rs.) |
|---|--------------------------------------|--------------|----------|-----------|------|----------|--------------|
| 1 | AC KELVINATOR-LES 52 CDE1 Sr. No. | AC LES52CDE1 | 2 | 15,022.22 | 12.5 | 3,755.56 | 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.

Authorized Signatory

VIDEOCON KENSTAR SANSUI ELECTROLUX KELVINATOR SAMSUNG

Graph 4: Do the students find English easy?



We asked what students find easy in English - reading, writing, speaking or listening and understanding. Most of the students (78%) find writing in English to be easy followed by 58.59% students finding reading in English to be easy. Among the students surveyed, 47.19% find listening and understanding English to be easy. Only one third of students (33.63%) said they find speaking in English to be easy.

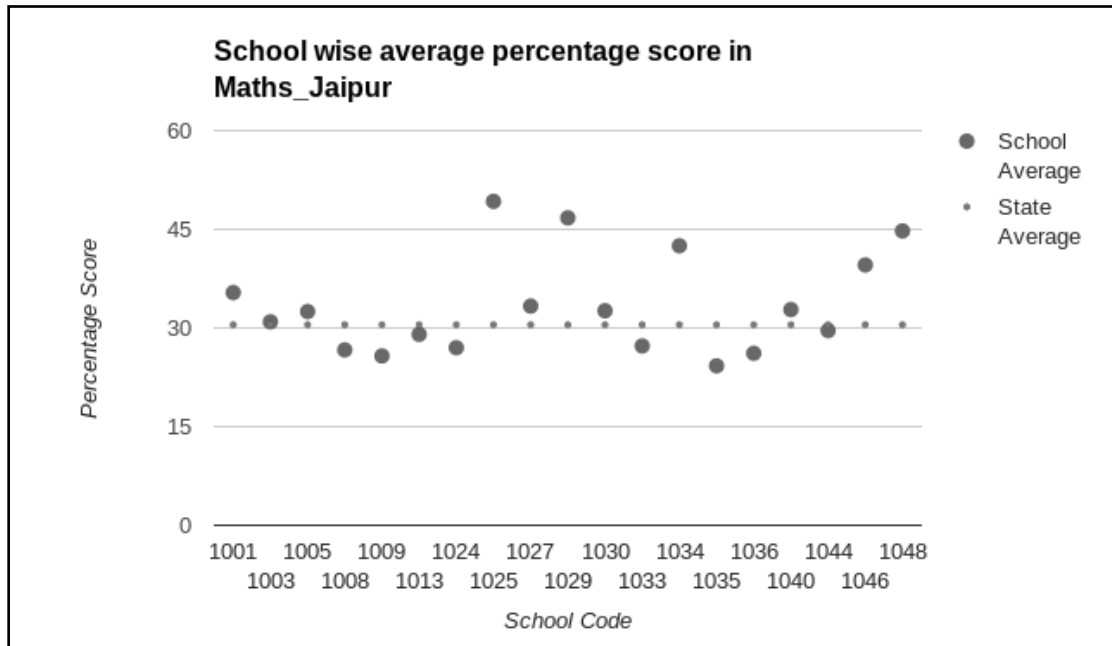
2] Maths

Table 2: Performance in Maths

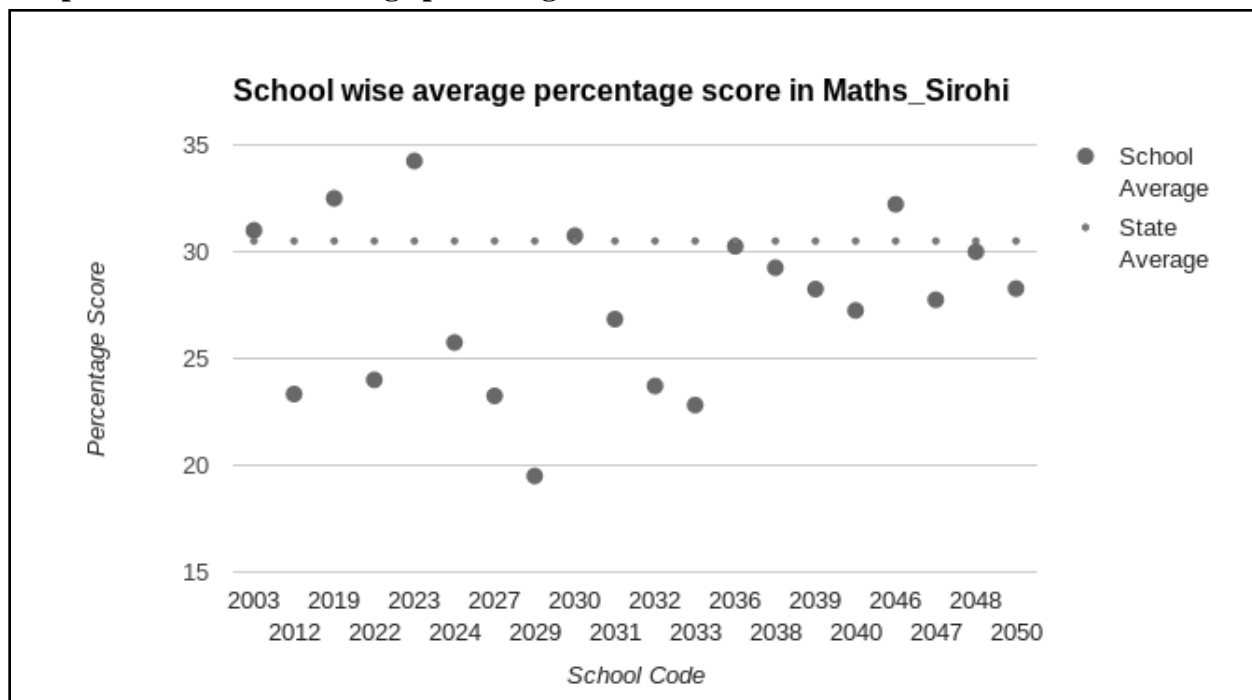
| Percentage score in Maths | | | | | | |
|---------------------------|----------------|-------------------------|--------------------------|-------|--------------------|--|
| Total no.of schools | No.of students | Lowest Percentage Score | Highest Percentage Score | Mean | Standard Deviation | No.of schools where school average > state average |
| 39 | 1371 | 0 | 90 | 30.50 | 17.88 | 16 |

The average percentage score among students in Rajasthan on the Maths assessment is 30.50% with a standard deviation of 17.88. The lowest score obtained was 0 and the highest score obtained was 90%. In 16 schools out of the total 39 schools surveyed, the average score for Maths was more than the state average score. Of the 19 schools surveyed in Jaipur, the average percentage scores in 11 schools was better than the state average. In the 20 schools surveyed in Sirohi, the average percentage scores in 5 schools was better than the state average.

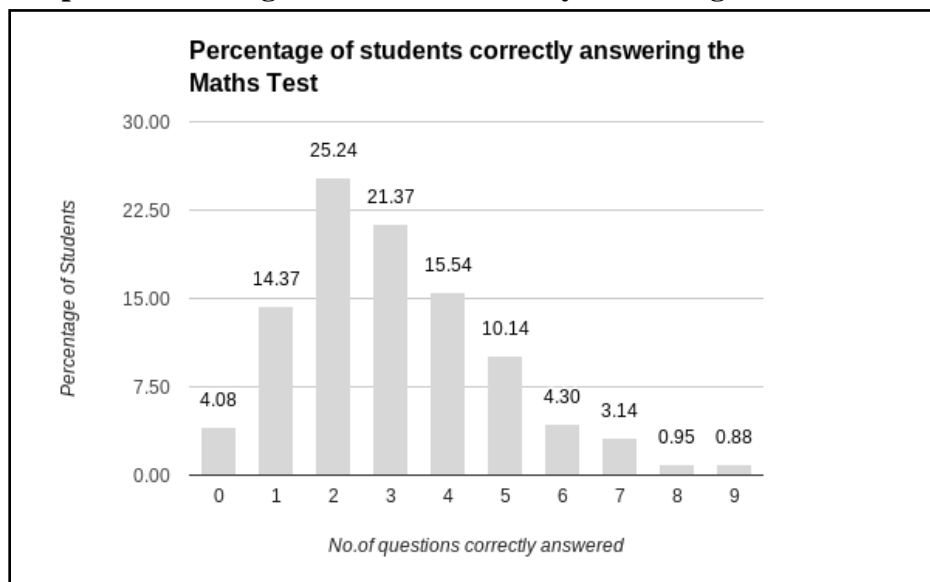
Graph 5: School-wise average percentage score in Maths for Jaipur



Graph 6: School-wise average percentage score in Maths for Sirohi



Graph 7: Percentage of students correctly answering the Maths test

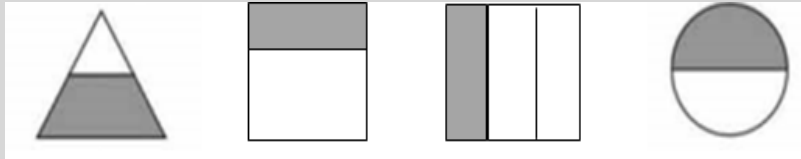


Ten questions were asked to the students as part of the learning assessment test to gauge their understanding of Maths. A majority of the students (about 65%) were not able to answer more than 3 questions correctly with 4.08% of the students being unable to answer even one question correctly. About 5% of the students were able to answer between 7 to 9 questions correctly. None of the students were able to answer all 10 questions correctly in the two districts studied.

The question that was answered correctly by the highest number of students asked them to identify the figure which was shaded half. About 57% of the students answered it correctly (Option 4). Among the incorrect responses, Option 2 was selected by 15.30% students.

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

कौन सी आकृति आधी छायांकित है?



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% 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)

एक कमीज़ जिसकी कीमत 200रु है एक सेल (बिक्री में छूट) में 160रु की कीमत पर उपलब्ध है। कमीज़ पर कितनी छूट है?

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

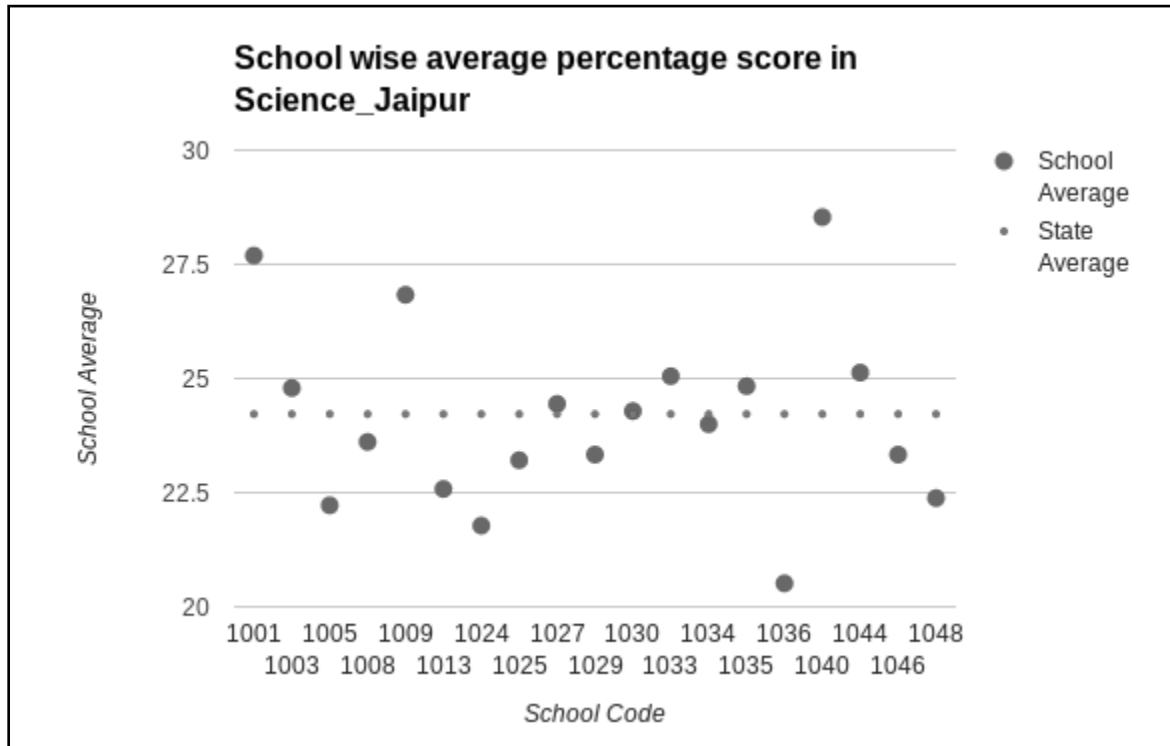
3] Science

Table 3: Performance in Science

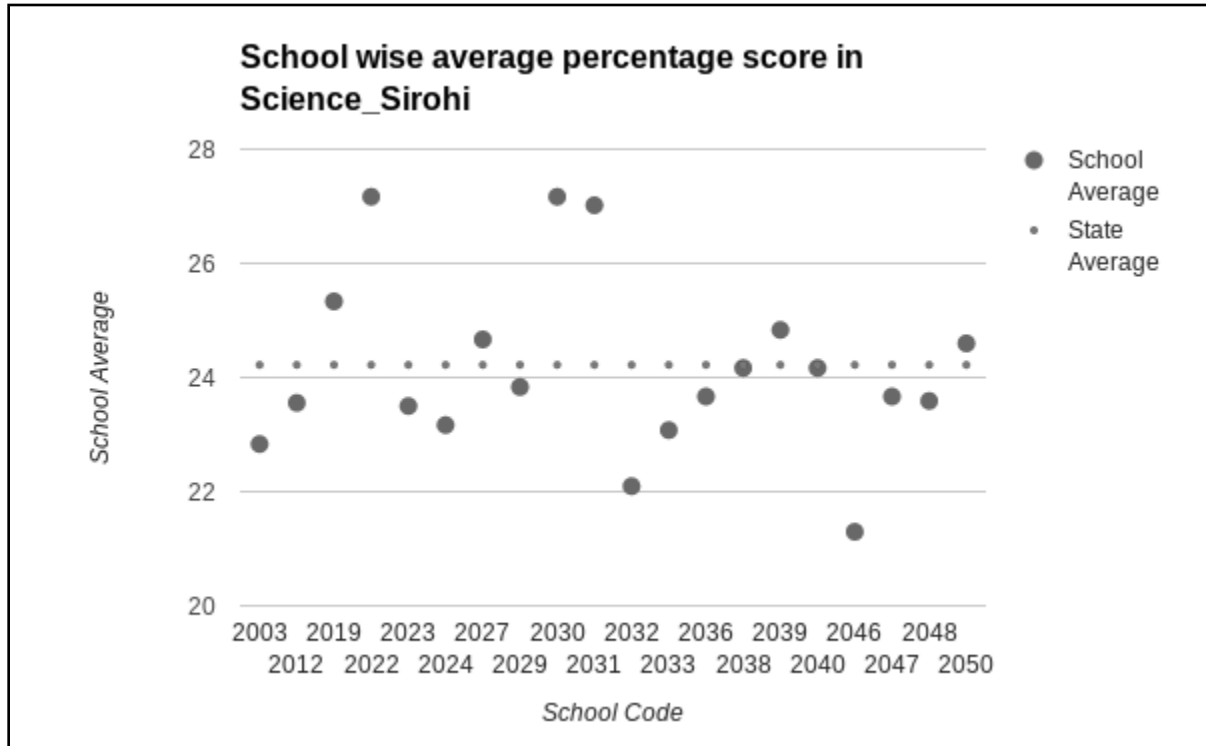
| Percentage score in Science | | | | | | |
|-----------------------------|----------------|-------------------------|--------------------------|-------|--------------------|--|
| Total no.of schools | No.of students | Lowest Percentage Score | Highest Percentage Score | Mean | Standard Deviation | No.of schools where school average > state average |
| 39 | 1371 | 0 | 66.67 | 24.22 | 10.98 | 16 |

The average percentage score among students in Rajasthan on the Science assessment is 24.22% with a standard deviation of 10.98. The lowest score obtained was 0 and the highest score obtained was 66.67%. In 16 schools out of the total 39 schools surveyed, the average score for Science was more than the State average score. Of the 19 schools surveyed in Jaipur, the average percentage scores in 9 schools was better than the state average. In the 20 schools surveyed in Sirohi, the average percentage scores in 7 schools was better than the state average.

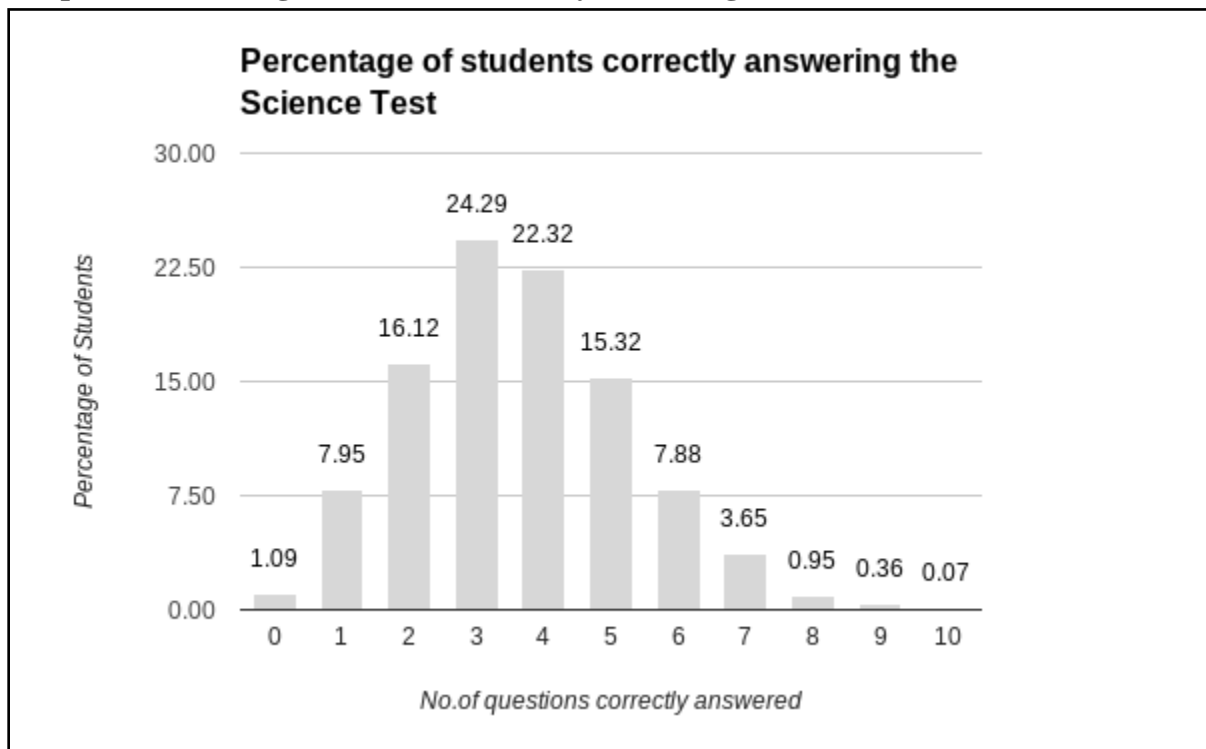
Graph 8: School-wise average percentage score in Science for Jaipur



Graph 9: School-wise average percentage score in Science for Sirohi



Graph 10: Percentage of students correctly answering the Science test

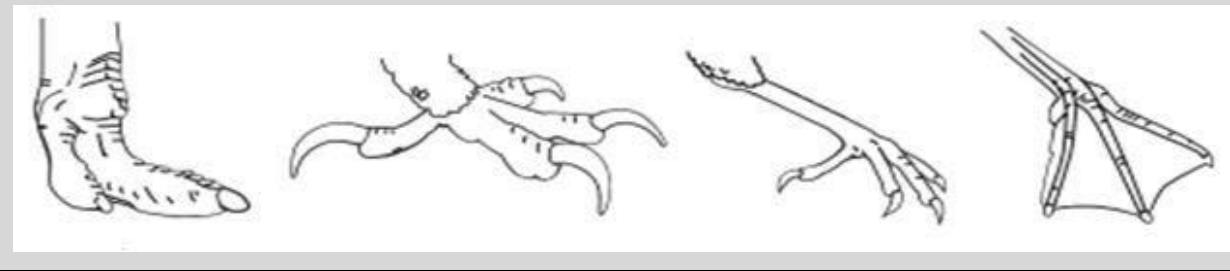


Fifteen questions were asked to the students as part of the learning assessment test to gauge their understanding of science (including physics, chemistry and biology). A majority of the students (about 70%) were not able to answer more than 4 questions correctly with small percentage of 1.09% of the students being unable to answer even one question correctly. About 5% 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 two 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 39% of the students. About a quarter 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)

नीचे पक्षियों के पैर हैं। इनमें से कौन से एक पक्षी के पानी का पक्षी होने की संभावना है?



The question which was answered by the lowest percentage of students was about light. Only 14% of the students answered it correctly (Option 4). A majority of the students (58%) had selected Option 1 which was an incorrect response.

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

रिक्त स्थान भरने के लिए सही विकल्प चुनें: प्रकाश का परावर्तन होता है

1. सभी चमकीले सतहों से
2. सभी समतल सतहों से
3. केवल दर्पण से
4. सभी सतहों से

