ONLINE ASSESSMENTS RESULTS

(Capturing Student-Level Question wise Data in a short period)

i. Background

Presently, the state conducts a laborious and time-consuming exercise to digitise student level assessment data, where data entry operators manually feed in the results of examinations into an excel sheet. Given that there are ~6 lakh students in the state, this process takes months (up to two years) to complete and is also prone to data entry error. Moreover, a lot of data is lost due to bad data entry and/or non-compliance of data entry formats.

Consequently, the state has been using insufficient, bad quality and outdated data to make key decisions after a lag of ~2years.

ii. Objective

The objective of the innovation was to increase the speed and accuracy of student-level data collection (SA2 exam results) using technology, without increasing the amount of labour involved and by putting no extra pressure on the system.

iii. How it works? :

- The innovation works on the basis of OMR sheets. Comprehensive OMR sheets were designed and distributed to all schools.
- Detailed instruction sheets and training was given to block officers
- Block officers distributed OMR sheets to teachers in schools
- Teachers recorded the assessment results of students **subject-wise and question-wise** on the OMR sheets.
- Thereafter, block and district officers collected the sheets and deposit them at the state office where they are centrally scanned using an OMR machine.
- The sheets are scanned at the minimum rate of 30 sheets (or higher depending on machine capabilities) per minute, allowing digitisation of student-level question-wise data for at least 450 students in just one minute.
- This data is fed into a software generating analysis instantaneously
- An online assessment dashboard allows the user to view the analysis at different levels – state, district, block, cluster and school. Users can view results by subject or by class.

- The online dashboard features two types of analysis (each containing a subset of four different analyses) grade-wise results and competency-wise results aggregated for whatever level of analysis chosen by the user

iv. Socio-Economic and Technological relevance/ applicability of the Innovation

The state has used simple technology to achieve extraordinary results. OMR sheets are easily printable and distributed. In the absence of comprehensive mobile/computer infrastructure, this model works very well to collect data keeping in mind the hard and difficult context of Himachal Pradesh. The introduction of technology has not created new dependencies, as the sheets can be filled out anywhere, but they are read centrally in the state office.

Additionally, once the data is digitized, an online dashboard has been created to not only view analyses at the state-level and take decisions informed by data, but also to efficiently share the assessment results with the concerned officials and teachers. Moreover, as there are two types of analyses available on the dashboard (grade-wise and competency-wise results), it helps bring the discourse in the education department on 'competencies' (as defined by the NCERT and customized by the HP Education Department) and not just grade-wise results.

The dashboard allows the education officers can take targeted policy decisions while the teachers can modify their classroom teaching based on the class competency status

This end-to-end solution, from data-collection to data analysis and online data dissemination, has been especially designed keeping in mind the socio-economic and geographical requirements of Himachal Pradesh.

v. Cost-effectiveness, efficiency and cost benefits of the Innovation

The state has digitized data for students in 2 months whereas earlier it used to take 2 years to digitise this data. Moreover, the aggregate time of officials saved is also money saved, as state officials (from the block office to the state office level) are freed from the drudgery of manual data entry. Consequently, the state is able to take **timely** corrective action on the basis of accurate student-level data which is a first-time achievement in the entire country. The entire process from form printing to digitization cost the state ~Rs 1.25 per student per subject for 4 lakh students in grades 1-4 and 6-7

vi. Impact of the Innovation in specific field/ Improvement in functioning of existing system

Through this initiative, the state of Himachal Pradesh has become the first state in the entire country to compile, digitise and analyze (including creating an online dashboard)question-wise student-level data (census) of more than **4 lakh students** in

classes 1-4 and 6-7 for **six different subjects** in the record time of 2 months after the end of the examinations.

However, the achievement is not just in terms of time, it is also in terms of quality. Whereas up to 40-50% data was not used earlier, the error rate of data basis OMR forms is less than 5%. Consequently, the state is now capturing **high-quality student-level data by question and subject** within 2 months after exam. This is a feat that has not been achieved anywhere else in the country, which becomes even more noteworthy given the difficult socio-economic and geographical context of Himachal Pradesh.

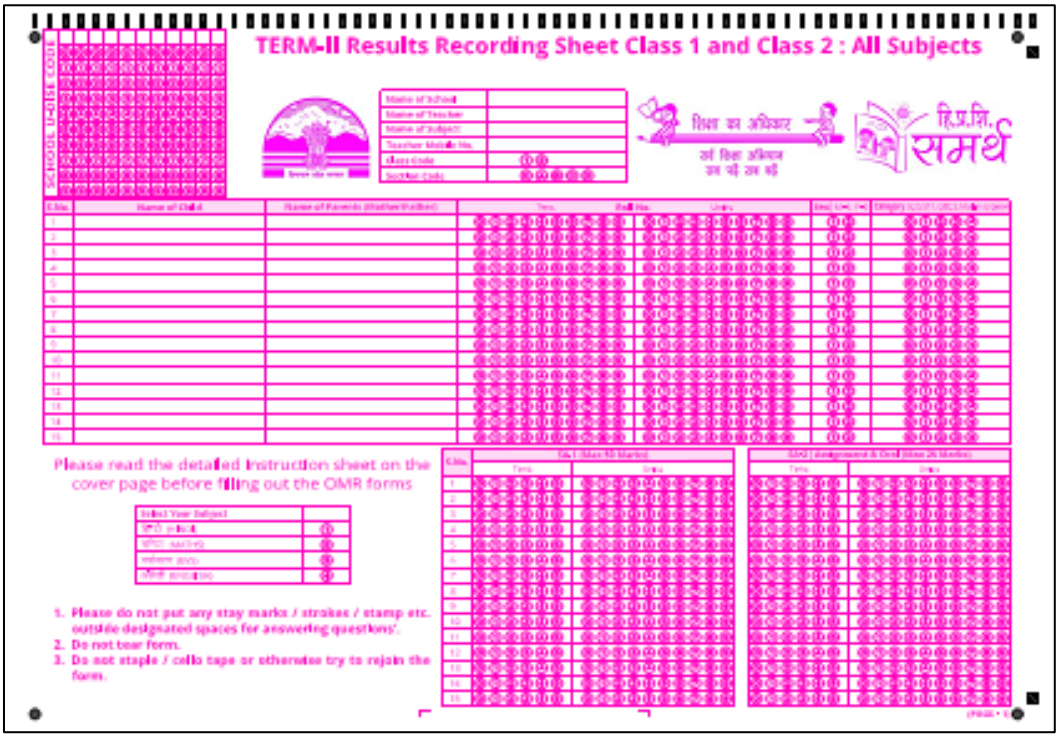
Finally, by using the online dashboard to focus on competency-wise results rather than just on grade-achievement, the education department is changing the discourse to **specific learning outcomes** and, therefore, being better able to track and improve the 'quality' of education in the state

vii. Practicability- compatibility with the existing system and its practicability in implementation

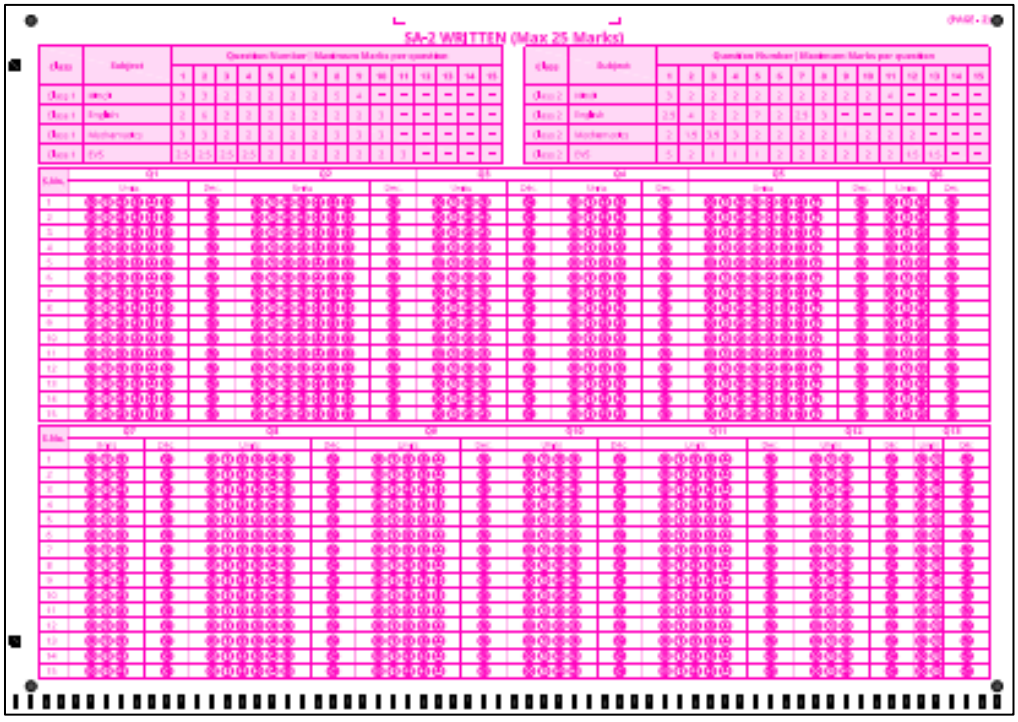
The state has ensured that the assessment capturing formats are similar to Proforma shared with teachers earlier. Instead of data entry, teachers now fill out OMR sheets at the school level. This guarantees that officials do not have to repeat data entry exercises at various levels. Moreover, by distributing the work amongst teachers in every school, there is no pressure on any one point of the administrative system. The state has used the existing system (district to block, block to cluster, and cluster to school) to distribute and collect the OMR forms; therefore ensuring administrative coherence. Its practicability is demonstrated in that data for all schools has been completely digitized and assessment results were made available online in less than 2 months from the examination date.

viii. Additional benefits and future strategy

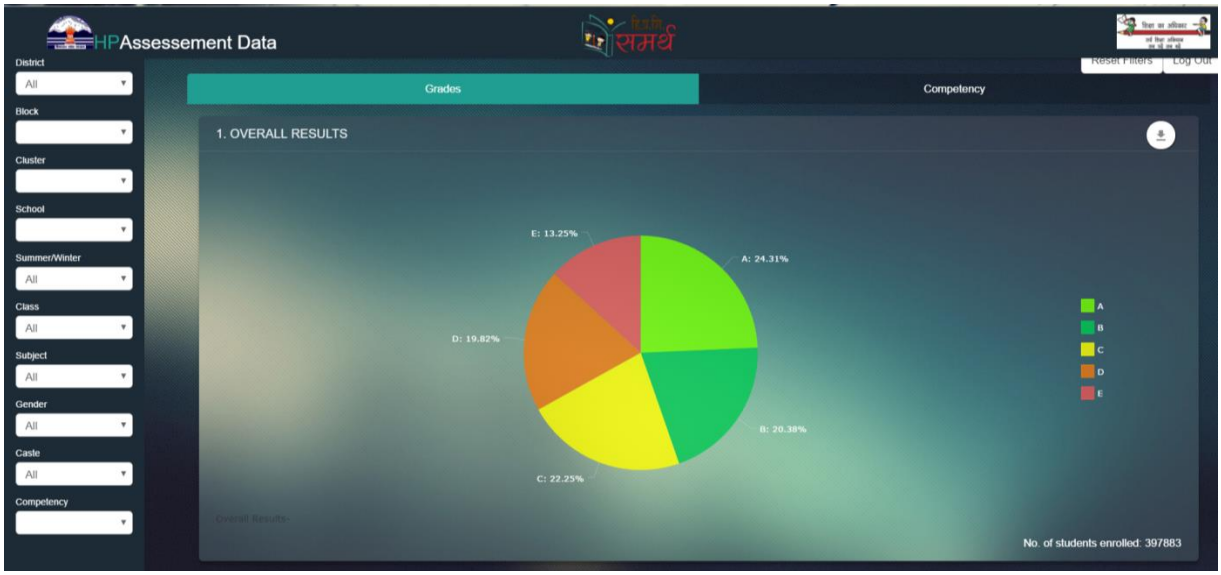
As a result of having **high-quality**, student-level question-wise and subject-wise data in such **a short time**, the state can now take informed decision about a variety of issues ranging from teacher training, to need-based retraining of teachers, to providing targeted remedial classes to students.



OMR Form - Part 1



OMR Form - Part 2



View of Online Assessment Dashboard (overall assessment results)

View of Overall Class-Learning Achievement Analysis by Districts

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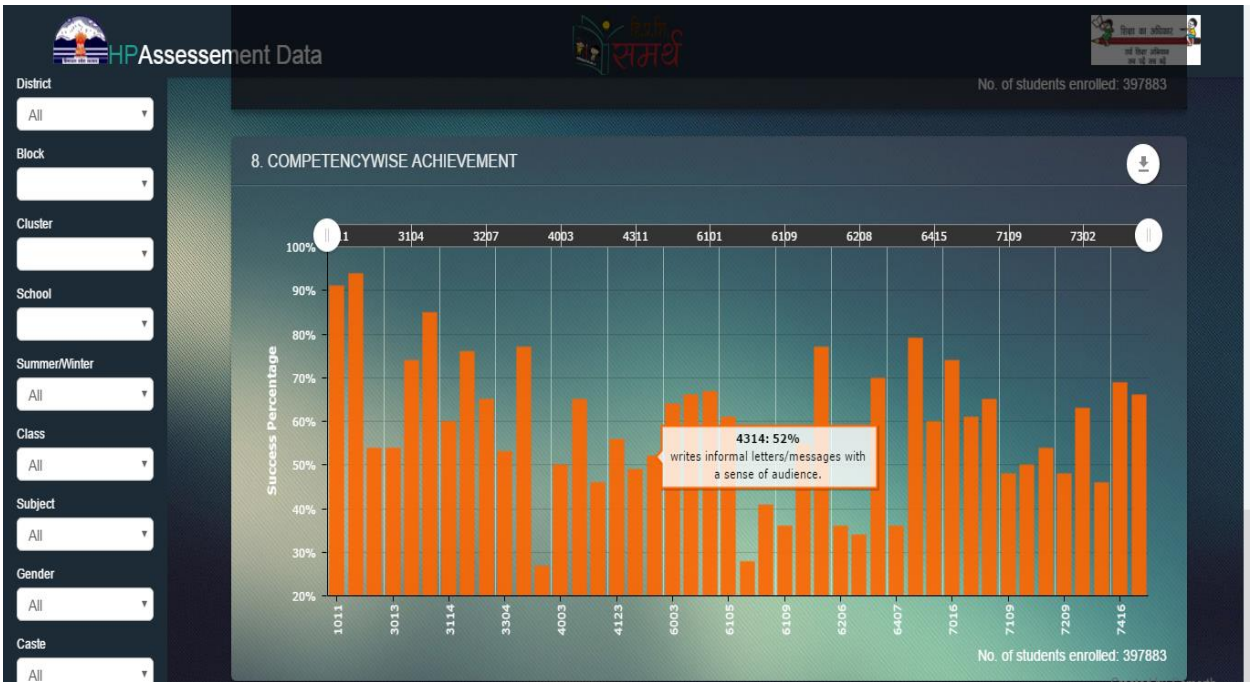

View of Competency-wise Achievement
(including pop-out box showing specific competency achievement)