

Data-Driven Decision Making

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Introduction to Data

Collection of raw facts , figures that represents information related to any domain .

Consider “Data” as a building block of any system in a structured or unstructured way

For example : Learning levels, Attendance, Assessments, Teacher training, School facilities.

Why data matters for Teachers and Administrators

- **Teachers** : Improve teaching and student support.
- **Administrators** : Plan resources, training , interventions through Policy making



NEP 2020 : Emphasis on Data driven decision making

NEP 2020 explicitly take decisions on curriculum, assessment, technology and inclusion to better data and monitoring and moving from input counting to outcome tracking

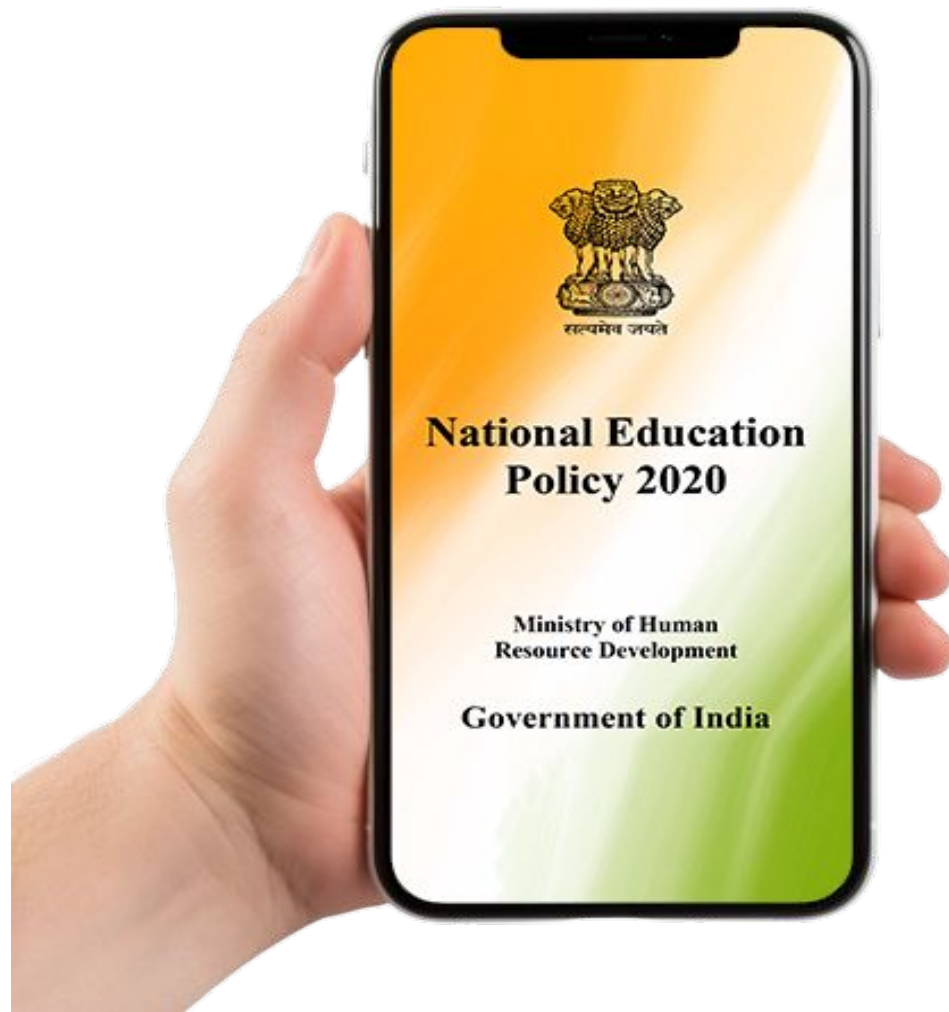
National Education Policy emphasizes on :

Para 11 & 12: Technology-enabled education governance and analytics

Para 23.1–23.3: Emphasis on data systems for planning, monitoring, and policy correction

Para 4.34 – 4.35: Assessment reforms based on learning outcomes

Para 6 & 7: Teacher training and professional development informed by performance data



Shift from Anecdote to Data driven Decision making



Policy Push : NEP 2020 mandates technology use , standardized assessment and evidence and outcome-based policy decision



Transparency & Accountability : Data-driven policies improve transparency by grounding decisions in evidence and increasing government accountability to citizens.



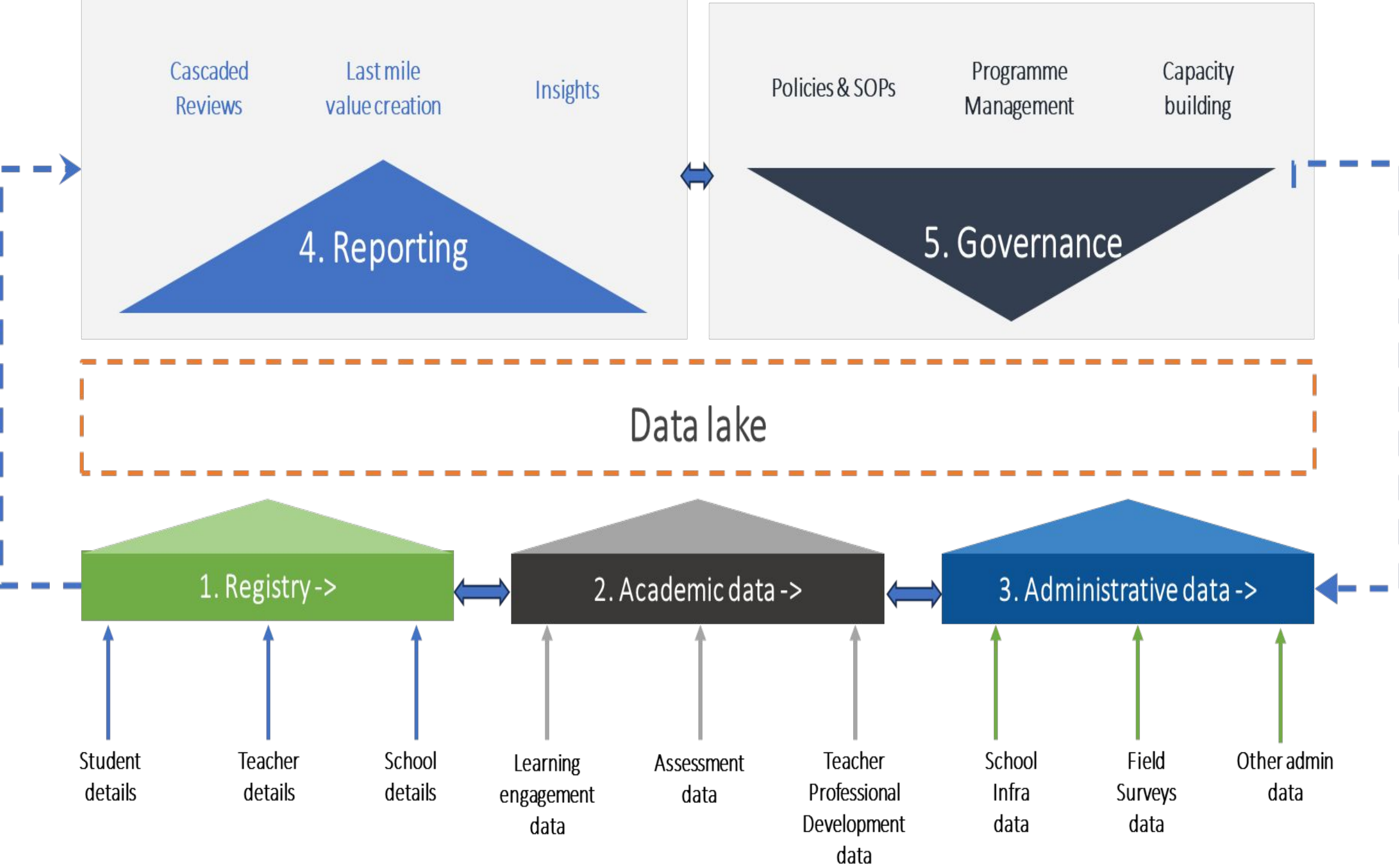
Adaptive Crisis Response : Real-time data enables governments to respond swiftly , from reactive to Proactive approach.



Availability of Longitudinal data : Data capturing through digital solutions providing end to end data points .



Data-driven decision-making process in Education (1/2)



Data Collection

Data reporting relevant data to inform educational decisions

Analysis

Assessing data to uncover trends and insights for action.

Interpretation

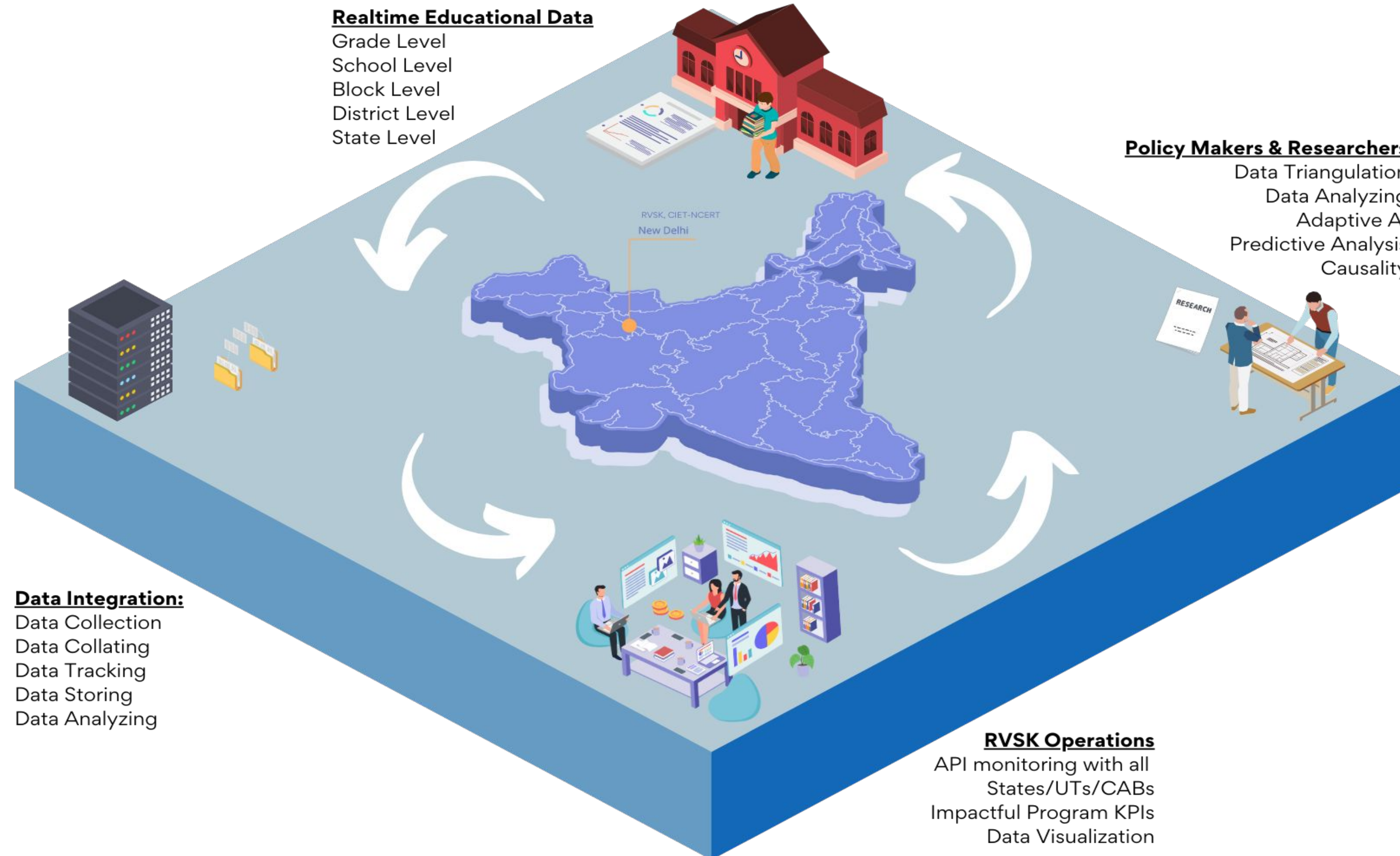
Understanding data implications for better decision-making outcomes.

Action Planning

Developing strategies based on data insights for implementation.



Data-driven decision-making process in Education (2/2)



Data standardization for right Policy decision

Data Uniformity

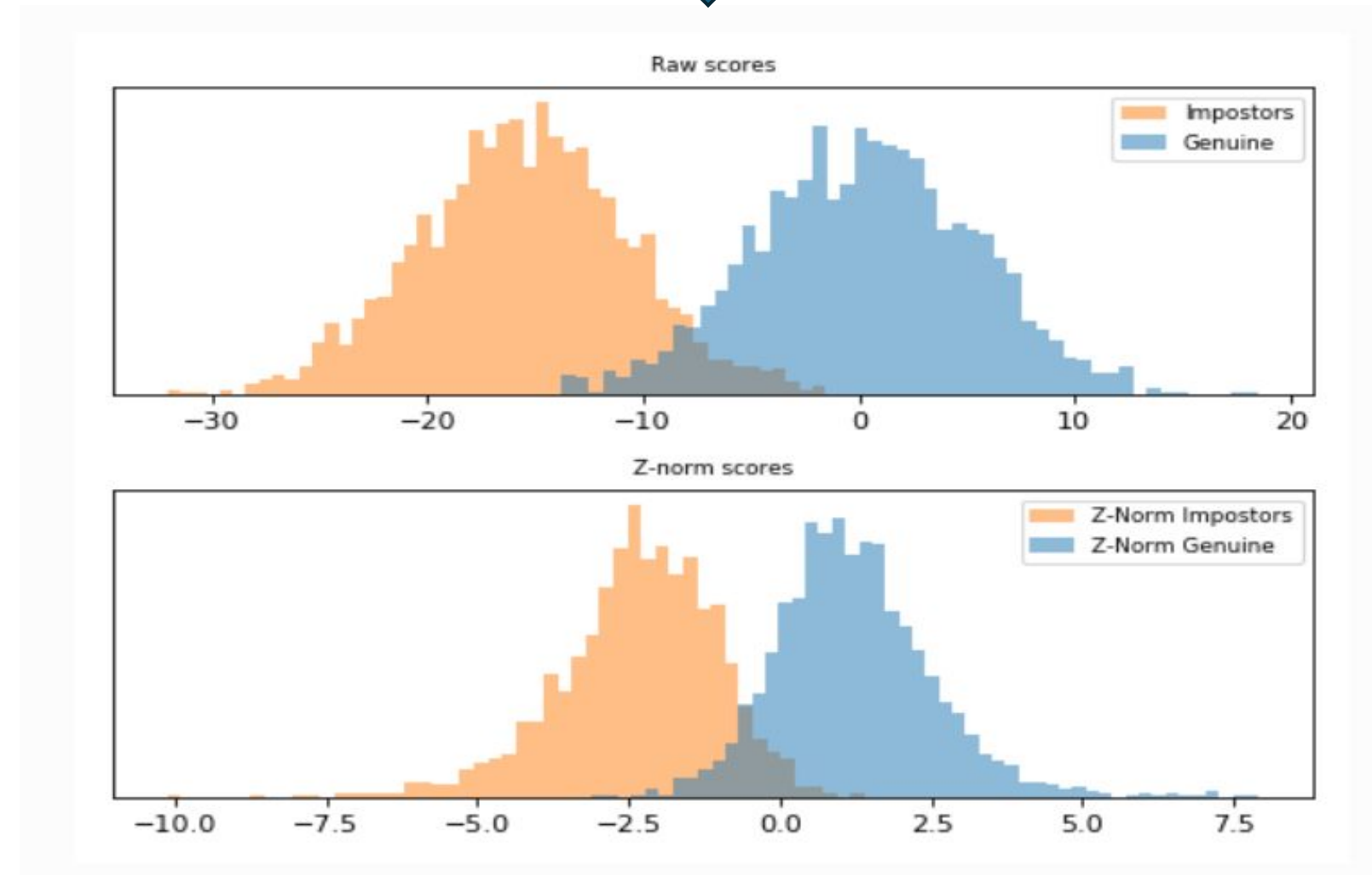
Common understanding of key indicators and related data fields

Data Harmonization

Integration of multiple source data sets for a unified view

Reliable Policy decisions

Accurate and consistent data helps in evidence-based planning



Challenges in the creation of data lake

Data Quality & Standardization issue

Absence of standard data & validation mechanisms further limits comparability across regions and time periods.

Siloed system across departments

Government departments operate independent MIS platforms designed for specific schemes or functions

Limited data literacy

Underutilization of analytical tools and a continued reliance on intuition or precedent.

Resistance to change

Limited trust in advanced technology and its adoption which requires leadership endorsement and trust in data systems



Leveraging Data Analytics & Artificial Intelligence



Predictive Analysis

Based on the historical data reported , forecasting the insights

Policy Simulation

Using data analytic and AI models simulate the policy changes.

Data visualization

Interactive dashboards using analytics for quick decision

Data security & Privacy

Data must be processed lawfully with consent, for a defined purpose, while ensuring data minimization, accuracy, and robust security safeguards, as mandated by the DPDP Act, 2023 and the IT Act, 2000 (SPDI Rules).



❖ **Data Security Importance**

Secure data environments encourage institutions to share accurate information without fear of misuse.

❖ **Data Protection**

Protected and standardized data ensures reliable analytics for effective policy decisions

❖ **Breach Protection**

Data breaches result in public backlash, legal issues, and biased decisions from compromised datasets.



School education data reporting points for decision making

UDISE+

capturing school, student, teacher, infrastructure; validated at block/district/state levels.

01

PM SHRI

Monitoring exemplar schools aligned to NEP 2020.

05

DIKSHA

National digital learning platform with QR-coded textbooks, teacher PD, usage analytics.

02

NIPUN Bharat

tracking of FLN Lakshyas across Balvatika to Grade 3; early-warning for students needing support.

06

National Achievement Survey

large-scale assessment (Classes 3,5,8,10) for system-level learning outcomes.

03

NISHTHA

integrated teacher training/CPD program aligned to NEP 2020

07

Performance Grading Index

performance grading for States/UTs and districts, aligned to NEP 2020 indicators.

04

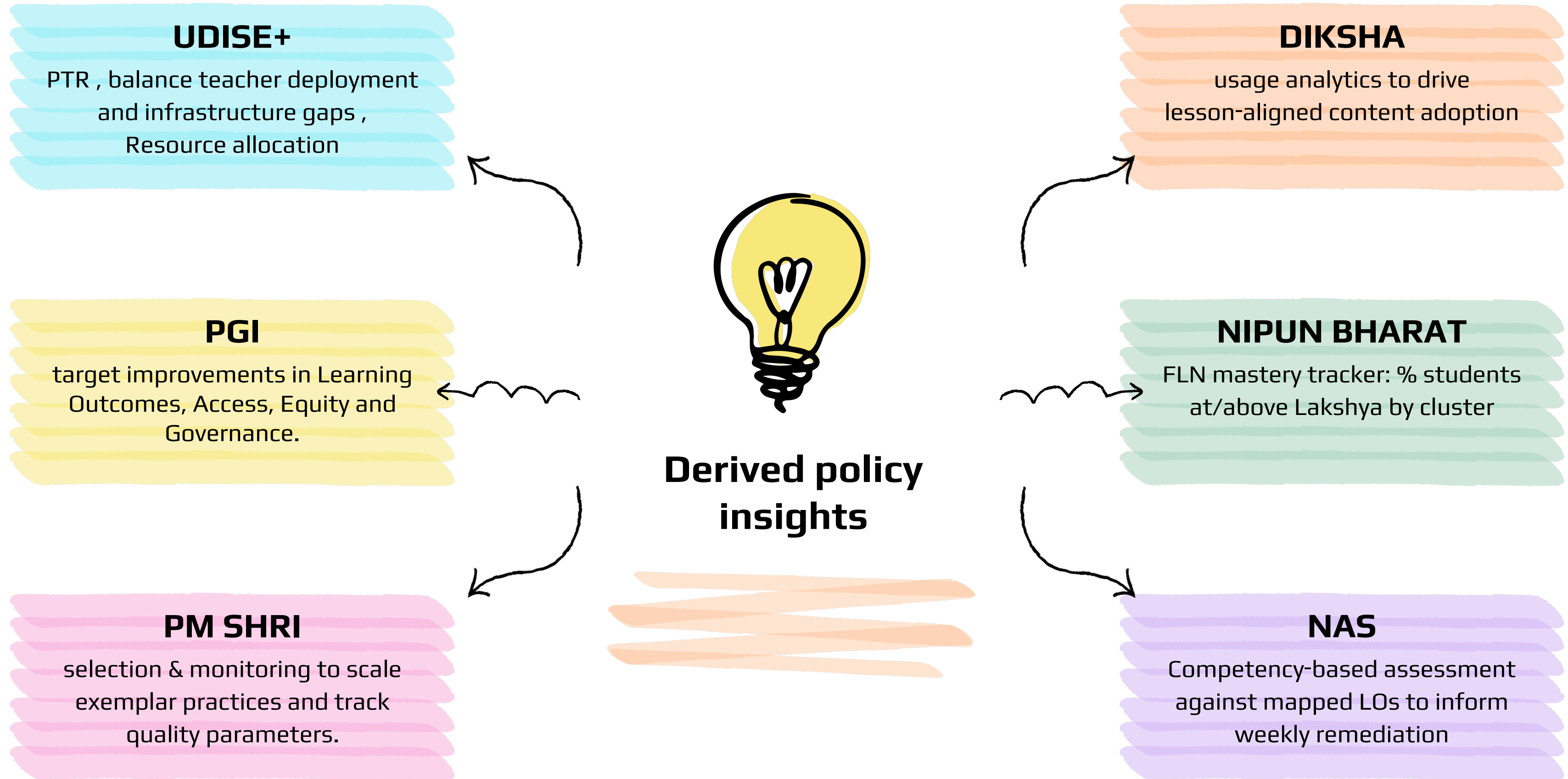
PM POSHAN

provides one hot cooked meal to Balvatika (pre-primary) and Classes I–VIII in Government/Govt-aided schools.

08

Key data categories
Student,
Teacher, School

Data driven decision making for School Education



“The power of data lies in how we use it i.e; responsibly,
inclusively and with purpose”



Thank you