



**Blueprint for Inclusive Research & Development in Education
(BIRD-E)**

Version 1.0

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Overview	3
Classification	5
Core & Advanced Blueprint	9
Core Blueprint Visual	9
Advanced Blueprint Visual	10
Core Blueprint	11
Population	11
Sub-module: Student Identifier	11
Sub-module: Staff identifier	13
Sub-module: School identifier & descriptors	14
Family & Community	15
Sub-module: Family indicators	15
Identification	16
Sub-module: Academic & non-academic indicators*	16
Sub-module: Behavior**	17
Intervention	18
Sub-module: Intervention identifier	18
Sub-module: Implementation frequency	19
Sub-module: Implementation fidelity	19
Sub-module: Contextual setting	21
Sub-module: Professional learning	21
Sub-module: Implementation results	22
Sub-module: Implementation cost	22
Outcomes	24
Sub-module: Academic & non-academic outcomes*	24

Advanced Blueprint	25
Population	25
Sub-module: Student Identifier	25
Sub-module: Staff identifier	26
Sub-module: School identifier & descriptors	27
Family & Community	29
Sub-module: Family indicators	29
Sub-module: Community indicators	30
Identification	31
Sub-module: Academic & non-academic indicators*	31
Sub-module: Behavior**	32
Intervention	33
Sub-module: Intervention identifier	33
Sub-module: Implementation frequency	33
Sub-module: Implementation fidelity	34
Sub-module: Contextual setting	35
Sub-module: Professional learning	38
Sub-module: Implementation cost	39
Outcomes	40
Sub-module: Academic & non-academic outcomes*	40
Sub-module: Social-emotional learning outcomes	41
Sub-module: Personalized learning	43

Overview

The Blueprint for Inclusive Research and Development in Education, or BIRD-E, is a multi-stakeholder project aimed at bridging the divide that currently exists between research and practice in education. BIRD-E wants to make research accessible to all stakeholders in education, as well as creating a shared language and framework to improve interventions and outcomes in education and move the sector forward. Using the seminal and innovative practices from the healthcare sector, BIRD-E aims to organize the research and development in education by standardizing articulation of data needs across learning domains, facilitating equitable participation from all types of evidence generators in the research process and making research accessible for critical decision making among practitioners.

The Blueprint is an open-source framework that aims to modernize the education research and development infrastructure through a common, research based language and shared understanding to:

- bridge the divide that exists between research and practice in K-12 data ecosystem
- engage all types of stakeholders in inclusive, accessible and robust generation and use of research
- include all types of research to be part of the mainstream research base by standardizing design, collection, and reporting
- answer the most pressing question of what works, for whom, and how well
- design a learning system within the R&D infrastructures that evolves with research and its usability in the community

The Blueprint contains a list of critical data elements spanning the K-12 spectrum including early childhood. The Blueprint summarizes key elements to represent education data needs at a higher level to improve articulation of data needs, and allows practitioners to be part of an inclusive research and development process in collaboration with the research community. Through the Blueprint and its toolkit, the stakeholders will be able to:

- Design a well formulated research question to create a robust research design
- Identify and articulate elements needed to complete the research
- Report findings in standardized format using keywords and essential elements

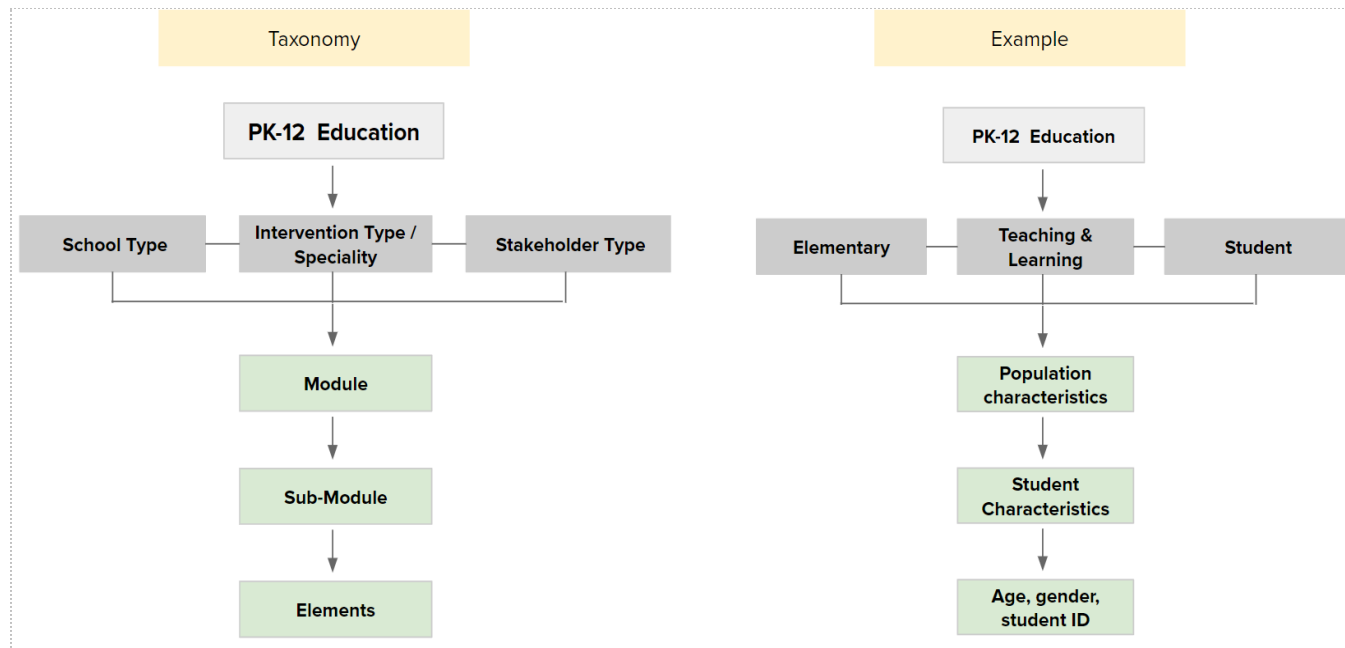
In the long term, the Blueprint will allow for a wide set of resources to be meta-tagged for considerations into research practice and data to be captured for digestible data profiles. Ultimately, it democratizes research and makes it consumable by researchers and practitioners.

It is also important to understand the main functions and uses of the Blueprint and what it is not designed to do. Figure below shows the main distinction from other efforts in the education ecosystem.

What it is not?	What it is!
<ul style="list-style-type: none"> • A standard or technical specification on HOW to collect data <i>but...</i> 	<ul style="list-style-type: none"> • WHAT to collect in context of your research hypothesis
<ul style="list-style-type: none"> • A compendium of all possible variables / elements within the domains of education <i>but...</i> 	<ul style="list-style-type: none"> • a critical and relevant list of elements specifically focussed on assessing impact of interventions on teaching and learning and student outcomes
<ul style="list-style-type: none"> • A granular compilation or representation of all heterogeneous data that exist in the school system <i>but...</i> 	<ul style="list-style-type: none"> • a translational layer between practitioners and research community to identify and articulate the data needs at the level that is understood by researchers and can be filtered down to the informatician(s)

Classification

The Blueprint is organized using a taxonomy classification as shown in the figure below.



The classification divides the entire Blueprint into modules, sub-modules and elements.

- **Module:** A module is an organizing component or category for the data collection.
- **Sub-module:** A module making up part of a larger module.
- **Element:** An element is the most formalized, granular form of data for the sub-module. These have specific attributes or properties that can be collected using quantitative and qualitative methods.

The modules in the Blueprint are

- **Population**
- **Family & community**
- **Identification**
- **Intervention**
- **Outcomes**

Each module has a number of sub-modules and associated elements in the Blueprint. All elements are collected at the student level and are aggregated up to the class, grade, school or district level. Table below provides a conceptual definition of each of the modules and sub-modules.

Module	Sub-module	Definition
Population		Population is a group of people that the research evaluation studies want to draw conclusions on. It can also mean a group containing elements of anything to be studied, such as objects, events, organizations, interventions and services, people in the education ecosystem etc.
	Student identifier	The sub-module is a compilation of all the elements used for identification and record-keeping purposes by schools, social services, or other agencies to refer to a student to understand the student population effectively.
	Staff identifier	The sub-module is a compilation of all the elements used for identification and record-keeping purposes by schools, social services, or other agencies to refer to a staff to understand the staff population effectively.
	School identifier & descriptor	The sub-module is a compilation of all the elements used for identification and record-keeping purposes by schools, social services, or other agencies to refer to a school to understand the school systems effectively.
Family & community		Critical attributes of family and community of the student that has a direct or indirect impact on students outcomes.
	Family indicators	Critical attributes of parents or family of the student that has a direct or indirect impact on students outcomes.
	Community indicators	Critical attributes of community of the student that has a direct or indirect impact on students outcomes.

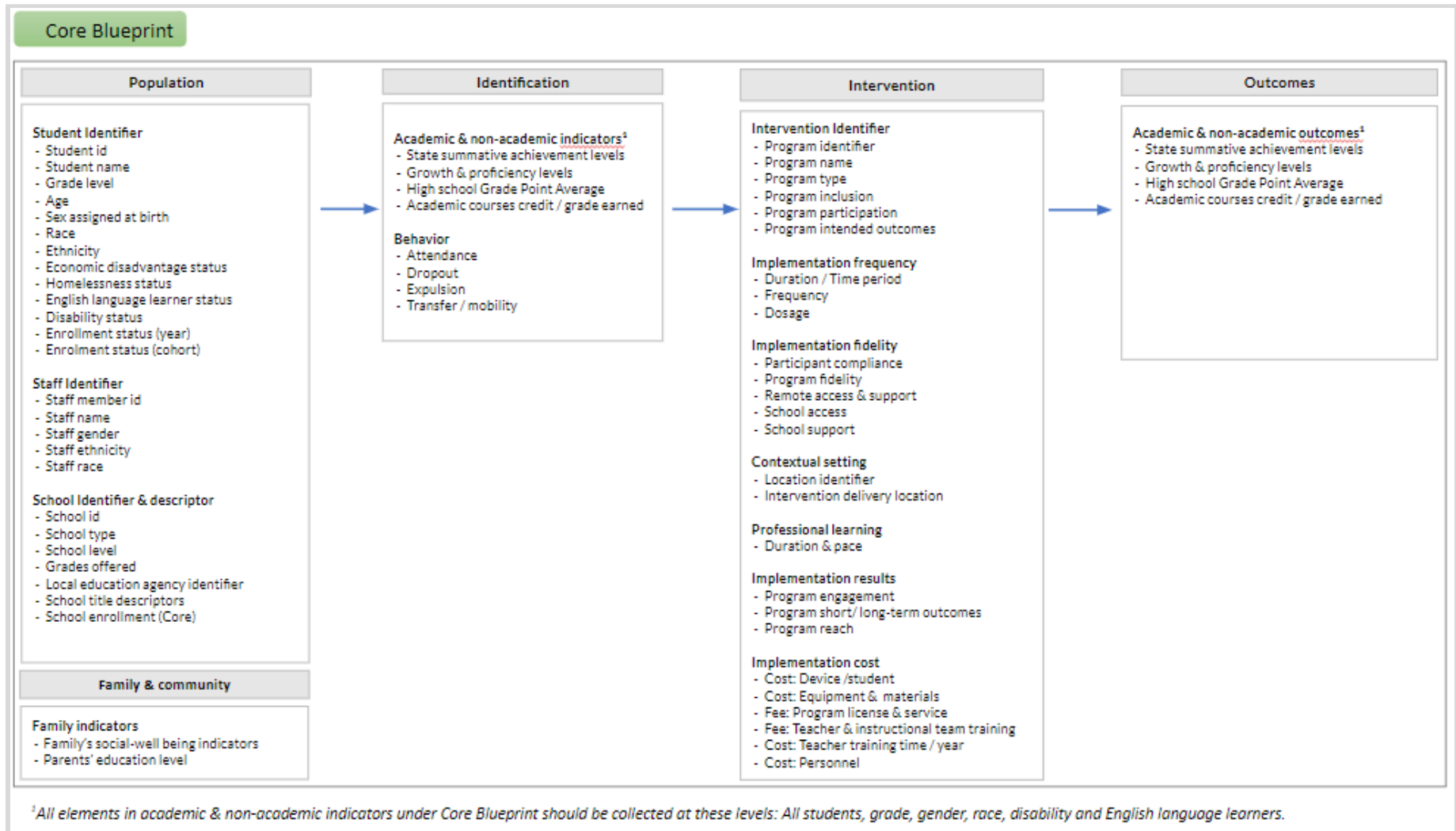
Identification	Critical attributes that support identification and selection of interventions and supports for students to improve their outcomes overall.	
	Academic & non-academic indicators	Academic and non-academic data for the student group to identify the supports and intervention services needed by the students in a given learning setting.
	Behavior	Critical attributes regarding behavior among the student population in a school system.
Intervention	Critical attributes of the interventions that influence the success of the interventions.	
	Intervention identifier	Critical attributes of the intervention to identify its key aspects for implementation.
	Implementation frequency	Frequency of implementation of an intervention in a given setting.
	Implementation fidelity	Fidelity and compliance with the intended or original implementation protocols of an intervention
	Contextual setting	Contextual settings are the parts, features, attributes, or characteristics of a program that research suggests influence its success when implemented effectively.
	Professional learning	Opportunities of professional learning among stakeholders for effective implementation of intervention in a given setting.
	Implementation results	Quantitative and qualitative feedback about the progress and quality of implementation.
	Implementation cost	Costs of the intervention and costs associated with implementing the intervention including investment, supply, and opportunity costs.
Outcome	Student outcomes refers to the desired learning objectives or standards that schools and teachers want students to achieve, the educational, societal, and life effects that result from students being educated.	
	Academic and non-academic outcomes	Academic and non-academic data for the student group to identify the supports and intervention services needed by the students in a given learning setting.

	Social-emotional learning	Critical elements of social emotional learning (SEL) that helps students of all ages to better comprehend their emotions, to feel those emotions fully, and demonstrate empathy for others. The methodology used in SEL help create frameworks to achieve their goals, and build positive relationships with others.
	Personalized learning	Personalized learning is an approach to learning and teaching built upon the idea that every student’s learning experience can and should be holistic and tailored to fit and empower that student as an individual. Centering learners’ educational experiences around their specific needs, strengths, and interests, personalized learning fundamentally inverts the traditional “one-size-fits-all” classroom model. ¹

¹https://leapinnovations.org/wp-content/uploads/2022/01/LLF_Expanded_with_Strategies_12-2021.pdf

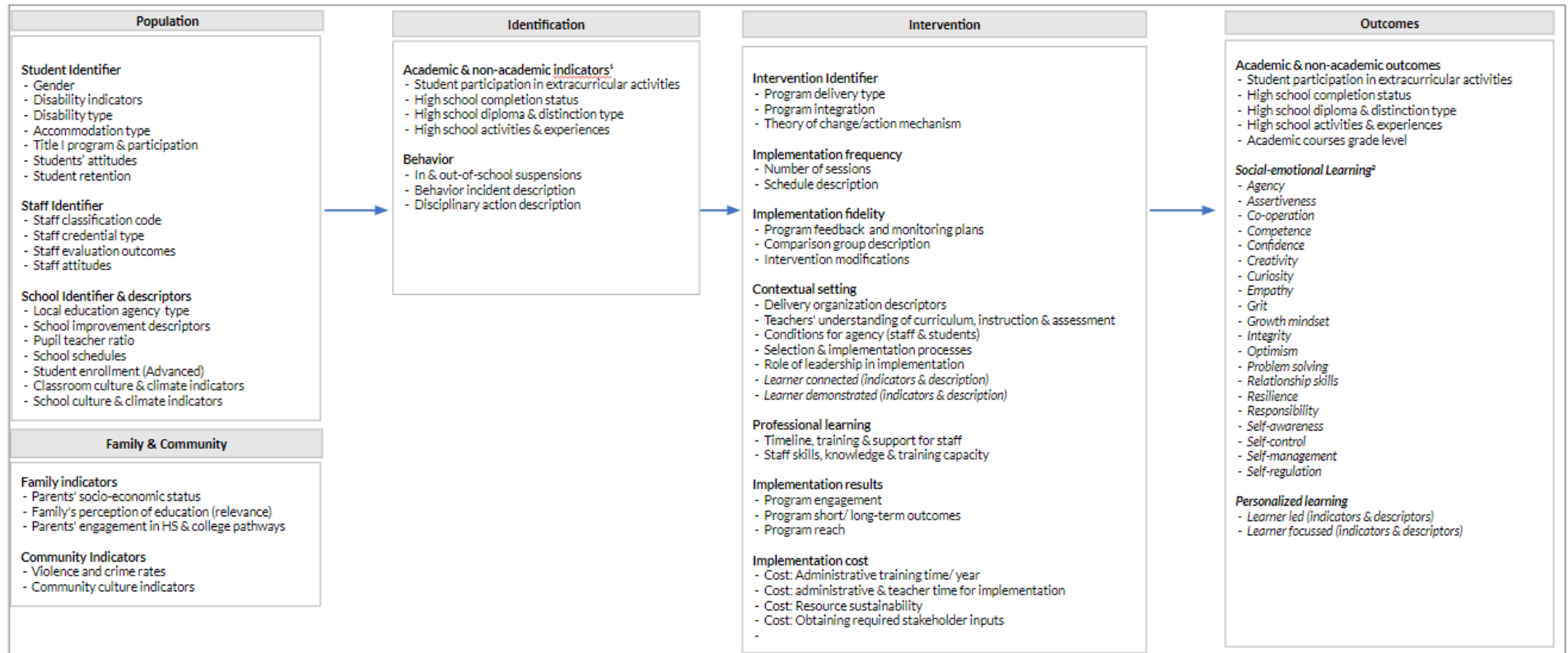
Core & Advanced Blueprint

Core Blueprint Visual



Advanced Blueprint Visual

Advanced Blueprint



¹All elements in academic & non-academic indicators under Core Blueprint should be collected at these levels: All students, grade, gender, race, disability and English language learners.

²Italicised elements are "Draft" and under review by the specialized expert group and will be finalized by the next update release of the Blueprint.

Core Blueprint

A. Population

Status: Core Blueprint	
Module: Population	Sub-module: Student Identifier
Element	Definition
Student ID	A unique number or alphanumeric code assigned to a student by a school, school system, a state, or other agency or entity.
Student name	Name of the student (including first, middle, and last name)
Grade level	The grade level or primary instructional level at which a student enters and receives services in a school or an educational institution during a given academic session.
Age	Birth Date & birth year
Sex assigned at birth	The concept describes the biological traits that distinguish the males and females of a species.
Race	A person has origins in one of the racial groups. It includes American Indian, Black, White, Asian, Native pacific islander, or any other race as indicated in the school system.
Ethnicity	A person has origins and maintains cultural identification. Combines American Indian, Asian, Black/African American, Native Hawaiian, white, demographic race two or more races, Hispanic and Latino.
Economic disadvantage status	An indication that the student met the State criteria for classification as having an economic disadvantage.
Homelessness status	Children and youth who lack a fixed, regular, and adequate nighttime residence. Homeless children and youth include 1) children and youth who are sharing the housing of other persons due to loss of housing, economic hardship, or a similar reason; are living in motels, hotels, trailer parks, or camping grounds due to the lack of alternative adequate accommodations; are living in emergency or transitional shelters; are abandoned in hospitals,

	<p>or are awaiting foster care placement; 2) children and youth who have a primary nighttime residence that is a public or private place not designed for or originally used as regular sleeping accommodation for human beings; or 3) children and youths who are living in cars, parks, public spaces, abandoned buildings, substandard housing, bus or train stations, or similar settings. 4) migratory children who qualify as homeless because the children are living in circumstances described above.</p>
English learner (EL) status	<p>In coordination with the state's definition based on Section 8101(20) of the ESEA, as amended by the ESSA, the term 'English learner', when used with respect to an individual, means an individual: (A) who is aged 3 through 21; (B) who is enrolled or preparing to enroll in an elementary school or a secondary school; (C) (i) who was not born in the United States or whose native languages are languages other than English; (ii) (I) who is a Native American or Alaska Native, or a native resident of the outlying areas; and (II) who comes from an environment where a language other than English has had a significant impact on the individual's level of English language proficiency; or (iii) who is migratory, whose native language is a language other than English, and who come from an environment where a language other than English is dominant; and (D) whose difficulties in speaking, reading, writing, or understanding the English language may be sufficient to deny the individual (i) the ability to meet the challenging State academic standards; (ii) the ability to successfully achieve in classrooms where the language of instruction is English; or (iii) the opportunity to participate fully in society.</p> <p>Data for this element includes students who are former ELL students and have transitioned out of the ELL program, information on the dominant language spoken in the home. ELL / LEP start date in a school system, data of eligibility for EL services, ELL/LE reclassification dates, dates of Reclassified to Fluent English Proficient (RFEP), language pathways and associated programs in school systems, indicators of participation in various language immersion or biliteracy pathways and other information as collected by the school systems.</p>
Disability status	<p>An indication of whether a person is classified as disabled under the Americans with Disability Act (ADA). It includes status (yes/no) data of special education status and whether a student is receiving special education services (or has an Individualized Education Plan (IEP)).</p>
Enrollment status (year)	<p>An indication as to whether a student's name was, is or will be officially registered on the rolls of a school or schools. This element includes information on active or inactive status, leave code, withdrawn status , and other classification codes used by the district to collect enrollment information.</p>

Enrollment (cohort year)	The school year in which the student entered the baseline group used for computing completion rates (e.g., high school, program).
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Status: Core Blueprint	
Module: Population	Sub-module: Staff identifier
Elements	Definition
Staff identifier (id)	A unique number or alphanumeric code assigned to a staff member by a school, school system, a state, registry, or other agency or entity.
Staff name	Name of the staff member.
Staff gender	<p>“Gender refers to the characteristics of women, men, girls and boys that are socially constructed. This includes norms, behaviours and roles associated with being a woman, man, girl or boy, as well as relationships with each other. As a social construct, gender varies from society to society and can change over time.” - World Health Organization</p> <p>Gender describes how the person identifies themselves and may include different identities which may include (but not limited to) transgender cisgender, agender, bigender and other critical identities as collected by the school or district systems.</p>
Staff race	A person has origins in one of the racial groups. It describes teachers' origins in one of the racial groups. It includes American Indian, Black, White, Asian, Native pacific islander, or any other race as indicated in the school system.
Staff ethnicity	A person has origins and maintains cultural identification. It describes staff origins from one of the groups: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or other Pacific Islander, White, Hispanic or Latino Ethnicity.

Module: Population	Sub-module: School identifier & descriptors
Elements	Definition
School identifier	A unique number or alphanumeric code assigned to a student by a school, school system, a state, or other agency or entity.
School type	The type of education institution as classified by its primary focus. The school types are defined as (but not limited to) regular school, special education schools, career & technical education schools, alternative schools, or reportable programs.
School level	An indication of the level of the education institution. The level of the institution is defined as (but not limited to) adult, all levels, elementary, high school, intermediate, junior high school, middle, early childhood, primary, secondary or postsecondary, and others.
Grades offered	The specific grade or combination of grades offered by an education institution. This element includes quantitative indicators on capacity and number of available student seats as captured by the school system.
Local education agency identifier	A unique number or alphanumeric code assigned to a local education agency by a school system, a state, or other agency or entity.
School Title descriptors	The presence of a Title I program and the type of Title I program offered in the school or district. An indication that a school is designated under state and federal regulations as being eligible for participation in programs authorized by Title I of ESEA as amended. An indication of whether an eligible student applied/requested to receive supplemental educational services under Title I, Part A, Section 1116 of ESEA as amended during the school year. This element aims to collect information on status data - whether a school is Title I or not as well as descriptive indicators to include more information on services provided, supplementary funding and other critical information as collected by the school systems.
School enrollment (Core)	An indication of total student enrollment in a school in a given year or multiple years. The total student enrollment is defined by the total number of students overall and disaggregated by grades offered, gender, race, ethnicity, disability, and English learners.

B. Family & Community

Status: Core Blueprint	
Module: Family & community	Sub-module: Family indicators
Elements	Definition
Family's social well-being	Descriptive and qualitative assessment of friends & family perception of students' social well-being. Data for this element can be collected through the questionnaires and surveys used by NCES (National Center for Education Statistics) NELS (National Education Longitudinal Study) and other questionnaires and surveys.
Parents' education level	Descriptive assessment of parents' highest education level attained through the classification code used by NCES (National Center for Education Statistics) NELS (National Education Longitudinal Study). Data for this element can be collected through questionnaires and surveys.

C. Identification

Status: Core Blueprint	
Module: Identification	Sub-module: Academic & non-academic indicators*
Elements	Definition
State summative achievement levels	For elementary and high school students, who took the state assessments, reading, math, science, and writing scores that they received at the last administration. For High school students who took the SAT/ACT/PSAT, reading, math, and writing scores that they received at last administration. For English learners, this element will measure an indication of proficiency and progress on Annual Measurable Achievement Objectives (AMAO) for limited English proficient (LEP) students under Title III of ESEA. This element focuses on using the state summative achievement levels to identify students for interventions and supports needed. The data should be collected at student level to be aggregated at class, grade and school level.
Growth & proficiency levels	For elementary and high school students, average of the scores at first and last administration during one academic year in a given standardized growth assessment. The percentile for each of these scores from the national growth database for comparative analysis. This element focuses on using the growth and proficiency levels as well as the actual formative assessment scores to identify students for interventions and supports needed. The data should be collected at student level to be aggregated at class, grade and school level.
High School Grade Point Average (GPA)	Grade point average across all quarters of one academic year, on a 4.0 scale. This element includes raw score, scale score, growth, and proficiency percentiles (if applicable). This element focuses on using the high school GPA to identify students for interventions and supports needed. The data should be collected at student level to be aggregated at class, grade and school level.
Academic courses credit/grades earned	The final grade awarded for participation in the course. This element focuses on using the academic courses credit/grades earned to identify students for interventions and supports needed. The data should be collected at student level to be aggregated at class, grade and school level..

**All elements in academic & non-academic indicators under Core Blueprint should be collected at these levels: All students, grade, gender, race, disability, and English learners.*

Module: Identification	Sub-module: Behavior**
Elements	Definition
Attendance	The number of days a student is present when school is in session during a given reporting period/ total no. of days in the reporting period.
Drop-out	Drop-out is defined as whether or not this student dropped out of school in a given school year/ total no of days in a given year.
Expulsion	Expulsion is defined as whether or not a student was expelled during this school year.
Transfer/mobility	Transfers / mobility is defined as the total number of transfers or students' mobility due to disciplinary reasons in a given school year. Data for this element includes status and descriptive indicators such as transfer in district vs. transfer out of district, dropout vs. expelled students and other indicators as collected by the school system.

***All the elements under Behavior are collected at the student level. Depending on the needs of data collection and analysis, student level data can be aggregated to class, grade, school,, district, or local agency level.*

D. Intervention

Status: Core Blueprint	
Module: Intervention	Sub-module: Intervention identifier
Elements	Definition
Program identifier	A unique number or alphanumeric code assigned to a program by a school, school system, a state, or other agency or entity.
Program name	Program name is the name of the program of instruction, training, services or benefits available through federal, state, or local agencies. Precision in the name of intervention enables easy identification of the type of the intervention and facilitates linkages to other reports of the same intervention.
Program type	Program type describes a system outlining instructional or non-instructional activities and procedures designed to accomplish a predetermined educational objective or set of objectives or to provide support services to a person and/or the community.
Program inclusion	Program inclusion is defined as the student group intended for the program and can include all students, a particular sub-group of students or at-risk students based on the (Multi-Tiered System of Supports) MTSS system.
Program participation	Program participation is defined as indicators on program participation percentages that include individualized program goals and type for students participating in the program.
Program intended outcomes	Program intended outcomes is defined as qualitative and quantitative information on the short and long term program outcomes including goal setting, problem solving, action planning for the intended program.

Status: Core Blueprint	
Module: Intervention	Sub-module: Implementation frequency
Elements	Definition
Duration & time period	The length of time and the time period that the intervention is administered to the participants.
Frequency	The number of times that the intervention is administered to the participants.
Dosage	The amount or intensity of the intervention dosage that is administered to the participants. The element focuses on measuring target usage of the intervention (edtech, service or personnel time) as well as identifies and measures target outcomes for intervention implementations.

Status: Core Blueprint	
Module: Intervention	Sub-module: Implementation fidelity
Elements	Definition
Participant compliance	Participant/ students compliance, a core component of implementation fidelity, captures compliance with intervention protocols and intended design during implementation. It collects qualitative and quantitative information on proper documentation on appraising internal validity, enabling replication, and conducting dose-response analyses and includes collecting information on all stakeholders involved in implementation including students, staff, instructional coaches and staff, administrators and families.
Program fidelity	Implementation fidelity is defined as the degree to which the interventions are implemented according to design. It collects descriptive and quantitative assessment of the degree to which the program was implemented as prescribed in the original protocol or as intended by program developers. The data should be collected through peer reviews, implementation or supervision data by a team of people and using administrative and electronic record data.
Remote access & support	Remote access and support is critical to implementation fidelity for all interventions being delivered virtually. For remote instruction, it is critical that all students must have a device with reliable internet access outside school. The school provides sufficient tech support to families and students to meet their needs. The element collects qualitative and quantitative data on the availability of reliable internet access outside of school and availability of technology

	<p>support to families and students by the school. The data should be collected through surveys, questionnaires and other qualitative methods.</p>
School access	<p>School access is defined by sufficient access to devices for all students to participate in instruction and adequate internet connectivity. Students who need assistive technology have access to sufficient hardware and software. This element collects quantitative status data on availability of hardware and software for all students in the school and outside of school. For non-technology based interventions, school access is defined by sufficient access to school resources, supplies, access to school staff and other needs as defined by the service to participate in the instructional and non-instructional intervention. This data should be collected through surveys of parents, families and students.</p>
School support	<p>School support is defined by all students having access to technical support staff who are consistently available in classrooms and in remote learning environments to efficiently solve technical issues. This element collects data on whether students have access to technical support staff in the classroom and remote learning environment. It also includes descriptive information on technology, technical requirements, software and hardware requirements for intervention delivery that can be retrieved by the intervention providers. For non-technology based interventions, school support is defined by all students having access to school resources, supplies, access to school staff as well as other needs as defined to participate in instructional or non-instructional intervention. This data should be collected through surveys of parents, families and students.</p>

Status: Core Blueprint	
Module: Intervention	Sub-module: Contextual setting
Elements	Definition
Location id	Location identifiers are defined as description of the location identifiers for the intervention such as country, region, state, city, urbanity etc.
Intervention delivery location	Intervention location delivery is defined as description of the type of location for intervention delivery such as home, school, community center etc. or combinations of locations. Qualitative and quantitative data and information should be collected to understand impact on feasibility or provider or participant adherence which are important aspects for replication.

Status: Core Blueprint	
Module: Intervention	Sub-module: Professional learning
Elements	Definition
Duration & pace	Duration and pace of school's formal professional learning opportunities offers time to reflect and grow and explicitly supports participation in informal learning throughout the year. Data should be collected through quantitative assessment of number of sessions, time period, and pace of learning events in relation to implementation of intervention.

Status: Core Blueprint	
Module: Intervention	Sub-module: Implementation results ²
Elements	Definition
Program engagement	Program engagement is defined by descriptive and quantitative assessment of the degree of engagement in the program by different stakeholders (such as student, staff and other community stakeholders). Qualitative and quantitative methods should be used to collect data on program engagement.
Program reach	Program reach is defined by descriptive and quantitative assessment of the degree to which the program was integrated within a setting. The data should be collected through peer reviews, implementation or supervision data by a team of people and using administrative and electronic record data.
Program outcomes	Program outcomes are described as short and long-term program outcomes including goal setting, problem-solving, action planning. The program outcomes are aligned with the intended implementation design of the intervention and should include qualitative and quantitative outcomes for all students intended to participate in the program.

Status: Core Blueprint	
Module: Intervention	Sub-module: Implementation cost
Elements	Definition
Cost: Devices/student	The element is defined as the cost of the device in a given year. Hourly cost can be calculated by assuming that 100% of devices are used, multiply this by the number of devices and then divide it by the number of typical hours in a school year.
Cost: Equipment & materials	The element is defined by total cost of equipment (hardware) or materials (paper, stationary and other instructional costs) for the program implementation.

²All elements under implementation results are included in the Core Blueprint.

Fees: Program license & service	The element is defined by the price of the software or the program that the school purchases for students. This can be either by total number of students in the program or the price/ student as determined by the school. This price may or may not include the professional development and may have to be collected separately to understand the true cost / price of the program or service.
Fees: Teacher & instructional team training	The element is defined as professional learning fees that are paid to the external agencies for intervention training. This may include any professional learning fees paid out of the program license fee.
Cost: Teacher training time/ year	The element is defined by the training costs that includes multiple ingredients, such as teacher and trainer time, materials, and training space, training costs for replacements if the implementation involves multi-year training.
Cost: Personnel	The element is defined by all personnel costs including teacher time, aide / substitute time for implementation, coaching time and other instructional staff costs that are accounted for by calculating the cost / student per year in a typical school year.

E. Outcomes

Status: Core Blueprint	
Module: Outcomes	Sub-module: Academic & non-academic outcomes*
Elements	Definition
State summative achievement levels	For elementary and high school students, who took the state assessments, reading, math, science, and writing scores that they received at the last administration. For High school students who took the SAT/ACT/PSAT, reading, math, and writing scores that they received at last administration. For English learners, this element will measure an indication of proficiency and progress on Annual Measurable Achievement Objectives (AMAO) for limited English proficient (LEP) students under Title III of ESEA. The data should be collected at student level to be aggregated at class, grade and school level if needed.
Growth & proficiency levels	For elementary and high school students, average of the scores at first and last administration during one academic year in a given standardized growth assessment. The percentile for each of these scores from the national growth database for comparative analysis. The data should be collected at student level to be aggregated at class, grade and school level if needed.
High School Grade Point Average (GPA)	Grade point average across all quarters of one academic year, on a 4.0 scale. This element includes raw score, scale score, growth, and proficiency percentiles (if applicable). The data should be collected at student level to be aggregated at class, grade and school level if needed.
Academic courses credit/grades earned	The final grade awarded for participation in the course. The data should be collected at student level to be aggregated at class, grade and school level if needed.

**All elements in academic & non-academic indicators under Core Blueprint should be collected at these levels: All students, grade, gender, race, disability, and English learners.*

Advanced Blueprint

A. Population

Status: Advanced Blueprint	
Module: Population	Sub-module: Student Identifier
Elements	Definition
Gender	<p>“Gender refers to the characteristics of women, men, girls and boys that are socially constructed. This includes norms, behaviours and roles associated with being a woman, man, girl or boy, as well as relationships with each other. As a social construct, gender varies from society to society and can change over time.” - World Health Organization</p> <p>Gender describes how the person identifies themselves and may include different identities which may include (but not limited to) transgender cisgender, agender, bigender and other critical identities as collected by the school or district systems.</p>
Disability indicator	<p>A person having an intellectual disability; hearing impairment, including deafness, speech or language impairment, visual impairment, including blindness, serious emotional disturbance (hereafter referred to as emotional disturbance), orthopedic impairment, autism, traumatic brain injury, developmental delay, other health impairment, specific learning disability, deaf-blindness, or multiple disabilities and who, by reason thereof, receive special education and related services under the Individuals with Disabilities Education Act (IDEA) according to an Individualized Education Program (IEP), Individual Family Service Plan (IFSP), or service plan.</p>
Disability type	<p>Disability types describe the codes that identify the set of disability conditions.</p>
Accommodation type	<p>Accommodation type is defined as specific accommodation necessary for assessment or instruction. The element should be collected as a status (yes/no) indicator of whether a student receives a particular type of accommodation as well as descriptive information on the individualized accommodation received.</p>
Title I program & participation	<p>An indication that the student participates in and is served by a schoolwide program (SWP) under Title I of ESEA, Part A, Sections 1114.</p>

Student attitudes	Students' attitudes and beliefs about school are defined by perception and engagement in academic subjects, measures of safety, sense of belonging, engagement, motivation, and adult support to talk about problems. For high school students, it includes perception about the relevance of college as a good return on investment. Perception about academic subjects includes quantitative measures of students' self-efficacy, interest, effort, and utility of the subjects. Relevance of college is defined by students' perception of college as a good return on investment, expected earnings by different diplomas, and degrees. These measures should be collected through surveys and questionnaires.
Student retention	Student retention is defined by number of students retained in specified grade, disaggregated by by grade in K-12, race, sex, disability-IDEA, disability-504 only, ELL

Status: Advanced Blueprint	
Module: Population	Sub-module: Staff identifier
Elements	Definition
Staff classification code	The titles of employment, official status, or rank of education staff.
Staff credential type	An indication of the category of teaching and non-teaching credential a person holds such as certification, endorsement, Licensure, registration. Includes overall percentage to describe total teachers meeting state licensing / certification requirements (percentage).
Staff evaluation outcome	The result of an assessment of a person's performance during an academic year.
Staff attitudes	Staff attitudes are defined by perceptions and expectations from all types of staff in the school and the principal. It includes indicators that measure agreement between teachers and instructional staff on approach to teaching and learning and whether they engage in productive collaborations, seek guidance on interventions, and share resources. It measures trust and instructional staff, teacher trust on administrators and whether they are open and honest to each other and supported with accountability to deliver on expectations. These measures can be collected by teachers, students, parents, and administrative questionnaires.

Module: Population	Sub-module: School identifier & descriptors
Elements	Definition
Local education agency type	The classification of education agencies within the geographic boundaries of a state according to the level of administrative and operational control. The definition includes (but is not limited to) 1) regular not in supervisory union 2) regular in supervisory union 3) supervisory union 4) Specialized Public School District 5)Service Agency 6)State Operated Agency 7) State-Operated Agency 8) Federal Operated Agency 9) Federal Operated Agency 10) Independent Charter District.
School improvement descriptors	An indication of the improvement stage of the school and indicators associated with it. This includes status (yes/no) indicators and more descriptive indicators of the improvement stage of the school.
Pupil-teacher ratio	Number of students per teacher in school disaggregated by grade and class.
School schedules	A description or identification of the calendar including a unique number assigned by a school district to a school calendar.
School enrollment (Advanced)	An indication of total student membership in a school in a given year or multiple years. The total student enrollment is defined by the total number of students disaggregated by gifted and talented students, early childhood programs, after-school programs, summer school programs, students in alternative education systems or any other student groups in the school as collected by the school system.
Classroom culture and climate	Climate is perception-based, while culture is grounded in shared values and beliefs. In this sense, the climate is how people feel in the school, and culture is a deeper sense of how people act in the school ³ . Classroom culture and climate describes the assessment of classroom climate and culture based on classroom observations that can be collected by surveys, questionnaires adopted by the school or district.

³https://k12engagement.unl.edu/strategy-briefs/School%20Climate%20&%20Culture%20-6-16_1.pdf

School culture and climate	<p>School climate refers to the school's effects on students, including teaching practices, diversity, and the relationships among administrators, teachers, parents, and students. School culture refers to the way teachers and other staff members work together and the set of beliefs, values, and assumptions they share⁴. School culture and climate describes the assessment of school climate and culture (outside of classrooms) based on observations in school areas other than classrooms that can be collected by surveys and questionnaires adopted by the school or district. It can also include community perception of the school's climate, teachers' self-efficacy, collective responsibility, building a professional learning community, and other appropriate measures.</p>
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⁴<http://www1.ascd.org/research-a-topic/school-culture-and-climate-resources.aspx>

B. Family & Community

Status: Advanced Blueprint	
Module: Family and community	Sub-module: Family indicators
Elements	Definition
Parents' socio-economic status	Qualitative and quantitative indicators of family composition, parents' income, siblings & dependents. Data can be collected through the questionnaires and surveys used by NCES (National Center for Education Statistics) NELS (National Education Longitudinal Study). This includes detailed information on multiple different indicators of economic status (example: eligibility for other public assistance such as TANF, SNAP, public housing Head Start).
Family's perception of education (relevance)	Descriptive and qualitative assessment of friends & family perception of students' education and its relevance beyond school. Data for this element can be collected through the questionnaires and surveys used by NCES (National Center for Education Statistics) NELS (National Education Longitudinal Study).
Parents' engagement in High school & college pathways	Descriptive and quantitative indicators of parents' engagement in pathways to High School and college and different pathways for sourcing financial aid options. Data can be collected through the parent questionnaires and surveys used by NCES (National Center for Education Statistics) NELS (National Education Longitudinal Study).

Module: Family and community		Sub-module: Community indicators	
Elements	Definition		
Violence & crime	A crime rate ⁵ describes the number of crimes reported to law enforcement agencies per 100,000 total population. A crime rate is calculated by dividing the number of reported crimes by the total population. This element measures violence and crime rates based on standardized national data sources.		
Community culture	Assessment of community culture is based on observations by school leaders, teachers, and other stakeholders such as community members and organizations in the community. This element measures qualitative indicators for community culture and can be collected through surveys and questionnaires.		

⁵<https://oag.ca.gov/sites/all/files/agweb/pdfs/cjsc/prof10/formulas.pdf>

C. Identification

Status: Advanced Blueprint	
Module: Identification	Sub-module: Academic & non-academic indicators*
Elements	Definition
Student participation in extracurricular activities	For elementary and high school students, the element describes student participation in extracurricular activities that document the overall student outcomes for students. The element includes measures and descriptive indicators to collect information on student participation in an academic year and can be collected through surveys, electronic data records and student information systems.
High School completion	An indication of whether the school or district met the High School Graduation Rate requirement in accordance with state definition for the purposes of determining annual yearly progress.
High school diplomas & distinction type	The type of diploma/credential that is awarded to a person in recognition of his/her completion of the curricular requirements. Type of degree/ certificate/ diploma/ GED/ high school diploma. The distinction of the diploma or credential that is awarded to a student in recognition of their completion of the curricular requirements.
High school activities and experiences	For high school students, description of different high school activities and experiences that document the overall success outcomes for students. The element includes measures and descriptive indicators to collect information on activities and experiences as experienced by the high school students and collected by the school system. It includes qualitative information and description of leadership, advocacy or community service among students. The data can be collected through surveys, electronic data records and student information systems.

* All academic & non-academic indicators under Core Blueprint should be collected at these levels: all students, grade, gender, race, disability, and English language learners. In the Advanced Blueprint, these elements should also be collected for other important subgroups such as gifted and talented, early childhood programs, after-school programs, summer school programs, and other student groups in the school systems.

Module: Identification	Sub-module: Behavior**
Elements	Definition
In-out-of school suspension	The element describes the number of in-school suspensions and out-of-school suspensions. In-school suspensions are defined as the number of days of in-school suspension/ total no. of days in a school year. Out-of-school suspension is defined by the number of days of out-of-school suspension/total no. of days in a given school year.
Behavior incident description	Behavior incident description collects descriptive information on disciplinary incidents and behavior type by using categories of behavior coded for use in describing an incident.
Disciplinary action description	Disciplinary action description collects data on the type of disciplinary action taken based on the disciplinary reason, the reason why the student was disciplined and its description as well as the length, in school days, of the disciplinary action.

***All the elements under Behavior are collected at the student level. Depending on the needs of data collection and analysis, student level data can be rolled up to classroom level, grade level, school level, district, or local education agency level.*

D. Intervention

Status: Advanced Blueprint	
Module: Intervention	Sub-module: Intervention identifier
Elements	Definition
Program delivery type	Program delivery type describes information on delivery mode for the program. This can be face to face, digital, individual or group or personalized or combination of modes, who initiated the contact, whether session was interactive and any other delivery features considered essential or likely to influence outcomes.
Program integration	Program integration describes qualitative and quantitative information on integration of program practices in mainstream learning models of the class, grade or school system.
Theory of change/ action mechanism	The program's theory of change / action mechanism describes information on theory of change, rationale, mechanisms of actions of the implemented program. The element allows understanding of which elements are essential rather than optional or incidental and can be directly linked to effect on outcomes. It describes the known or supposed mechanism of action of the active components of the intervention.

Status: Advanced Blueprint	
Module: Intervention	Sub-module: Implementation frequency
Elements	Definition
Number of sessions	Number of sessions is defined as the number of sessions for different sets of participants if the intervention is delivered multiple times across a time period.
Schedule description	Schedule description describes information on intervention implementation and their associated schedules for different sets of participants, if the intervention is delivered multiple times across a time period.

Module: Intervention	Sub-module: Implementation fidelity
Elements	Definition
Program feedback & monitoring plans	<p>Program feedback and monitoring plans are defined by program implementation feedback and monitoring protocols such as behavior feedback, outcome behavior feedback, social supports (practical or emotional) and if there were any physical or social environment restructuring. The element is critical in understanding implementation fidelity and should be collected through surveys and questionnaires for all involved stakeholders in the program. Qualitative and quantitative information should be collected for physical and social-environment restructuring.</p>
Comparison group description	<p>Comparison group description is critical for assessment of implementation fidelity and is defined as key services received by comparison group or control group. In case no alternative intervention or service is provided, description about activities performed and services received during the time of intervention should be captured, qualitatively and quantitatively, to understand the true impacts of the intervention. Data should be collected through qualitative and quantitative methods as decided by the school systems or research design partners.</p>
Intervention modifications	<p>Intervention modifications are defined by what was modified, why and when modifications occurred, and how the modified interventions differed from the original protocol. The participant's preference, skills or situation should be included with a brief rationale and guide for tailoring including any variables/ constructs used for participant assessment. This should include any decision points, rules or decisional materials used. It includes descriptive information on structures and processes by which school engages in monitoring, adapting, improving and institutionalizing the intervention. This element can be collected through qualitative and quantitative methods as decided by the school systems or research design partners.</p>

Status: Advanced Blueprint	
Module: Intervention	Sub-module: Contextual setting
Elements	Definition
Delivery organization descriptors	Delivery organizations descriptors are defined as description of type & distinctive characteristics of the intervention delivery organization and their corresponding service environment.
Teachers' understanding of curriculum, instruction & assessment	Teachers' understanding of curriculum, instruction and assessment is important for implementation of intervention and understanding pedagogical context leads to better student outcomes overall. Teachers can apply their understanding of content and pedagogy to create lesson plans and learning environments that are effective, accessible and culturally relevant. Data should include qualitative assessment of teachers' understanding and should be collected through peer evaluation, observations and self-evaluation.
Conditions for agency	All teachers have an ability to exercise agency as well as have opportunities to participate in decisions regarding interventions. Teachers and leaders share responsibility for instructional decisions. A more advanced element may include students' being involved and having the ability to exercise agency and participate in decisions made around interventions and supports. Data in this element can be collected qualitative and quantitatively through surveys and questionnaires.
Selection & implementation processes	<p>In the context of the selection process of intervention, the school follows a process for implementing new interventions with teachers and solicits substantive feedback from students and families on implementation. The process of implementation is appropriate across the school and stakeholders understand their role in implementation.</p> <p>While evaluating new interventions, the school uses evidence of the effectiveness and other educators' experiences with the interventions. Leaders establish explicit processes for selecting and implementing new interventions as well as clearly identify roles and responsibilities for stakeholders in the selection and implementation processes (e.g., leaders, teachers, families). Indicators to measure the process of technology implementation for appropriateness and understanding of stakeholders' role in implementation.</p>

<p>Role of leadership in implementation</p>	<p>Role of leadership in implementation of intervention is defined by leaders’ continuous engagement and communication with a range of stakeholders and setting expectations, systems and support for teachers and students for use of intervention to impact student outcomes. Leaders of the school communicate specific expectations for use and impact of interventions and consider teachers and students’ ability and comfort while setting expectations. Leaders should establish continuous engagement and communication through multiple channels regarding the purpose of intervention use to a range of stakeholders and how intervention supports instructional goals and students needs. Based on stakeholder feedback, leaders take action to improve implementations and encourage new approaches for implementations. Qualitative and quantitative methods should be used to collect information on these constructs.</p>
<p>Learner connected (description & indicators)</p>	<p>Learner connected is a core component of personalized learning where Learning transcends location in relevant and valued ways, connected to families, educators, communities, and networks. Learners collaborate with peers, family, educators, and others. Learners cultivate meaningful relationships. Learners advance opportunities through connections. Learners engage in real-world experiences to develop: academic skills and knowledge, community and civic engagement, and workplace experience. Learners earn valued recognition for all learning, regardless of where and when it happens.</p> <p>These connections take shape in a myriad of ways in peer-learning teams, internships, and community projects that create opportunities for new experiences, relationships and networks. Programmatically it can be supplemented by better student transitions, small social skills groups, school, classroom and crisis intervention committees. Core data and descriptive indicators include whole class review, individual student review, community partnerships, family connections and record keeping. These elements can be captured through quantifiable tools, templates, surveys and observations.</p>

Learner demonstrated (description & indicators)	<p>Learner demonstrated is a core component of personalized learning where learners can progress at their own pace based on demonstrated mastery. Learners begin at a challenging level appropriate to their prior knowledge and learning needs. Learners receive feedback on effort, process, and mastery throughout every learning experience. Learners advance or go deeper upon demonstration of mastery. Learners demonstrate learning in multiple ways. Learners receive recognition based on demonstrated mastery, not time.</p> <p>There are multiple strategies under these constructs and can be measured using qualitative and quantitative methods. Some examples of the data or information collected are: evidence of use of data review to set goals frequently, assessment of groupings, activities, and other avenues to most suitable learning format, use of learner profile to connect prior knowledge with new content, design short and long-term learning expectations, use of mini-lessons or independent work to establish baseline, use of learning menus and vertical alignment of activities, demonstrate mastery through multiple types of assessments, differentiated pace for learners, use of digital platforms to capture multiple forms of learning, use of a competency map to show competence of a skills, set clear expectations, use of an organized system to track evidence of learning. These elements can be captured through quantifiable tools, templates, surveys and observations.</p>
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Module: Intervention	Sub-module: Professional learning
Elements	Definition
Timeline, training and support for staff	<p>Timeline, training and support for staff is defined by indicators to measure effectiveness of time and professional learning to learn and integrate new interventions as well as provides an achievable timeline for implementation. Description of any support provided to those implementing the program such as training, resources, manuals, toolkits, ongoing coaching, peer learning communities and any financial incentives to facilitate implementation. This also includes training for site leadership for implementation and oversight. Data should be collected through quantitative and qualitative methods.</p>
Staff skills, knowledge and training capacity	<p>The element focuses on description of the staff skills, knowledge and program training capacity needed for the intervention implementation and the variation between intended and actual implementation of the program. Qualitative and quantitative methods through surveys and questionnaires will be used to collect data for this element.</p>

Module: Intervention	Sub-module: Implementation cost
Elements	Definition
Cost: Administrative training time/ year	The element is defined by training costs that include multiple ingredients, such as administrative as well as the trainer time, materials, and training space, training costs for replacements if the implementation involves multi-year training.
Cost: Administrative and teacher time for implementation	The element is defined by administrative and teacher time calculated for administrative service managers, teachers and instructional staff for elementary and secondary schools by determining the price/hour plus the fringe benefit rate. The teacher time is quantified in a given academic year by including salaries, expected hours of work and any overtime hours used for the implementation.
Fees: Resource sustainability	The element is defined as multiple indicators to measure sufficiency of financial resources and human support sources to sustain intervention implementations over time. The data should be collected through financial statements, budget documents and other electronic data records.
Cost: Obtaining required stakeholder inputs	The element is defined as the required stakeholder input needed from parents, families, communities and other critical stakeholders on selection, implementation and use of interventions. The cost can be determined by stakeholders' time at minimum wage. If there is a lot of diversity in wages, average wage/hour for different skill groups should be assessed.

E. Outcomes

Status: Advance Blueprint	
Module: Outcomes	Sub-module: Academic & non-academic outcomes*
Elements	Definition
Student participation in extracurricular activities	For elementary and high school students, the element describes student participation in extracurricular activities that document the overall student outcomes for students. The element includes measures and descriptive indicators to collect information on student participation in an academic year and can be collected through surveys, electronic data records and student information systems.
High school completion status	An indication of whether the school or district met the High School Graduation Rate requirement in accordance with state definition for the purposes of determining annual yearly progress.
High school diploma & distinction type	The type of diploma/credential that is awarded to a person in recognition of his/her completion of the curricular requirements. Type of degree/ certificate/ diploma/ GED/ high school diploma. The distinction of the diploma or credential that is awarded to a student in recognition of their completion of the curricular requirements.
High school activities & experiences	For high school students, description of different high school activities and experiences that document the overall success outcomes for students. This element can include measures and descriptive indicators to collect information on activities and experiences as experienced by the high school students and collected by the school system. For elementary and high school students, description on leadership, advocacy or community service among students.
Academic courses grade level	The level of work which is reflected in the credits associated with the academic course being described or the level of the typical individual taking the academic course.

**All elements in academic & non-academic indicators under Core Blueprint should be collected at these levels: All students, grade, gender, race, disability, and English learners.*

Module: Outcomes	Sub-module: Social-emotional learning outcomes
Elements	Definition
Agency	Agency is defined as the ability to clarify one’s intentions and goals, identify necessary actions to achieve those goals, and use available resources to accomplish them.
Assertiveness	Assertiveness is defined as influencing others and preferring to be in charge in social interactions and group activities.
Competence	Competence is defined as a positive view of one’s actions in specific areas, including social, academic, cognitive, health, and vocational. Social competence refers to interpersonal skills (e.g., conflict resolution). Cognitive competence refers to cognitive abilities (e.g., decision making). Academic competence refers to school performance as shown, in part, by school grades, attendance, and test scores. Health competence involves using nutrition, exercise, and rest to keep oneself fit. Vocational competence involves work habits and explorations of career choices. Effective entrepreneurial skills may be one instance of vocational competence.
Confidence	Confidence is defined as and includes beliefs and feelings about one’s abilities generally and in specific contexts. These beliefs have been referred to as self-efficacy or efficacy beliefs. Confidence also includes a realistic self-concept and positive feelings towards the self, often labeled self-esteem or self-confidence. In adolescence, it is an important component of identity development based on a positive sense of self and one’s direction and future in the world. Self-relevant constructs have been linked to low levels of Neuroticism.
Cooperation	Cooperation is defined as utilizing interpersonal and communication skills to work with others toward achieving a common goal.
Creativity	Creativity is defined as creating a product or applying a process that is novel and productive.
Curiosity	Curiosity is defined as the desire to engage and understand the world, interest in a wide variety of things and preference for a complete understanding of a complex topic or problem.
Empathy	Empathy is defined as the ability to understand others' feelings, take on their perspective, and demonstrate an appropriate emotional response.
Grit	Grit is defined as working toward a goal, despite difficulty or delays in achieving success.

Growth mindset	Growth mindset is understanding that intelligence can be developed and one can get smarter with hardwork and practice.
Integrity	Integrity is defined as presenting oneself in a genuine way; taking responsibility for one's feelings and actions.
Optimism	Optimism is defined as demonstrating optimism about future outcomes and working to shape that future.
Problem-solving	Problem solving is defined as self-reflective and rational examination and judgment are used to solve a problem, make a decision/choice, and/or learn something new through considering multiple perspectives and recognizing potential biases.
Relationship skills	Relationship skills is defined as the ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups. The ability to communicate clearly, listen well, cooperate with others, resist inappropriate social pressure, negotiate conflict constructively, and seek and offer help when needed.
Resilience	Resilience is defined as the ability to steer through serious life challenges and find ways to bounce back and to thrive.
Responsibility	Responsibility is defined as the ability to make constructive choices about personal behavior and social interactions based on ethical standards, safety concerns, and social norms. The realistic evaluation of consequences of various actions, and a consideration of the well-being of oneself and others.
Self-awareness	Self-awareness is defined as an understanding of one's own ever-changing self, including one's emotions, strengths, weaknesses, skills, passions, abilities, biases, privileges, impact on others, and more.
Self-control	Self-control is defined as constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person.
Self-management	Self-management is defined as a process in which learners take the initiative in planning, implementing, and evaluating their own learning needs and outcomes, with or without the help of others.
Self-regulation	Self-regulation is defined as regulation of attention, emotion, and executive functions for the purposes of goal-directed actions.

Module: Outcomes	Sub-module: Personalized learning
Elements	Definition
<p>Learner led (description & indicators)</p>	<p>Learner led is the core component of personalized learning and is defined by learners entrusted to take ownership of their own learning. Learners can articulate their needs, strengths and interests. Learners can assess, monitor, and reflect on their progress and use feedback to improve overall learning. To use feedback wisely, students understand how to assess themselves. Learners can partner in setting their own learning goals through student grades, attendance and conduct. Learners partner in shaping their own learning pathways and experiences. Learners advocate for needed support from teachers, peers, technology, and other sources.</p> <p>There are multiple strategies under these constructs and can be measured using qualitative and quantitative methods. Some examples of the data or information collected are: number and quality of reflection binders in the class or student, evidence of use of interest inventories, checklist and reflection exercises to identify learner needs, number and quality of book clubs and public share-outs, evidence of use of learners profiles, daily and weekly goals sheets and mechanisms to monitor progress, and mentor conferences to determine next steps, establish routines for regular learner led conferences, use of a system to provide their status and request support. These elements should be captured through quantifiable tools, templates, surveys and observations.</p>
<p>Learner focused (description & indicators)</p>	<p>Learner focused is a core component of personalized learning and is defined by learners empowered to holistically understand their needs, strengths and interests including academics, physical and mental health, social and emotional learning, cognitive and executive functions, identity and culture, social and community context. Learners also experience learning that is relevant, challenging, contextualized and designed for their individual needs, strengths and interests.</p> <p>There are multiple strategies under these constructs and can be measured using qualitative and quantitative methods. Some examples of the data or information collected are: number and quality of milestone maps, number of cultural competence trainings and collaborative work among students, available information on students' prior academic performance and conduct observations on current academic levels, students' response on current academic challenges, number of meetings with critical supporters in learners' development, creation and evidence of flexible learning environments, establish and evidence of multiple modalities, groupings, times, and places for learning to occur and evidence of use of Universal Design for Learning to design lesson plans for different groups of students. These elements should be captured through quantifiable tools, templates, surveys and observations.</p>

