CRIS Glossary and Reference Document[1]

College Readiness refers to the level of preparation students need in order to enroll and succeed in college. College Readiness consists of three distinct yet interdependent dimensions: **Academic Preparedness (AP), Academic Tenacity (AT),** and **College Knowledge (CK).** In turn, we think of each dimension of College Readiness as comprised of two theoretical **constructs** (listed below):

Academic Preparedness (AP):

1) Academic knowledge and skills necessary to succeed in college-level courses
2) Key cognitive strategies necessary to succeed in college-level courses

Academic Tenacity (AT):

1) Behaviors of active participation and perseverance through adversity
2) Beliefs, attitudes, and values that prioritize success in school and drive student engagement and work

College Knowledge (CK):

1) Knowledge, skills, and behaviors apart from academic content that allow students to successfully *access* college
2) Knowledge, skills, and behaviors apart from academic content that allow students to *succeed* once in college

A **College Readiness Indicator System (CRIS)** is a collection of actionable **indicators** that measures the different dimensions of College Readiness and allows for early identification of students who may need extra **support** in order to finish high school ready to enroll and succeed in college. Each indicator is linked to and serves to approximate a theoretical construct relevant to college readiness.

Our notion of CRIS employs a tri-level approach that utilizes College Readiness indicators and informs action at the **individual, setting,** and **system levels.** An individual-level indicator measures individual students' characteristics, as these correlate/are linked with students' personal progress towards college readiness. We often roll up/aggregate these individual level indicators in order to create additional indicators at the setting (classroom, school) and system (district, state) levels.[2]

We distinguish individual-level indicators from setting-level indicators, which measure the characteristics of *settings* (programs, classrooms, and schools), as these promote students' progress towards college readiness. We often roll up/aggregate these setting-level indicators to

[1] Terms defined in the glossary are **in bold** the first time they appear in the text.
[2] Our CRIS framework also allows for setting and/or system-level indicators that have no individual-level counterparts.

create indicators at the system level. These and other system-level indicators measure the characteristics of districts, as these promote students' progress towards College Readiness.

Certain **contextual factors** influence the indicators' predictive accuracy in measuring college readiness. These factors fall into three categories, namely: a) demographic characteristics; b) educational policy context; and c) the developmental stage of the individual student.

The fundamental goals of the CRIS are to help develop, expand, and modify current indicator systems that identify and support young people to be college ready. Our menu of indicators is intended to be broad enough to encompass the relevant predictive factors of College Readiness at all three levels, yet flexible enough that we can work with districts around their specific contexts and needs.

We also recognize that any College Readiness Indicator System rests upon a technology infrastructure, which includes mechanisms for collecting, storing, accessing, sharing, and analyzing information, as well as the training that district and school personnel need in order to use the system. Furthermore, the CRIS is embedded within a complex social system that includes personnel, schools, and districts. Our CRIS is predicated upon both a technology infrastructure and social system, and assumes that we will co-develop a strategy with districts to help think about how to monitor indicators, link these to action and supports, and use data, at all levels of the district.

<u>Criteria for the College Readiness Indicator System:</u>

a) Based on indicators that are measurable, derived from theory, research, or practice**,** predictive of College Readiness, **reliable,** and **valid**
b) Useful: constructs and indicators are linked to actionable supports
c) Parsimonious: includes no more indicators than necessary and focuses improvement efforts on a manageable set of goals
d) Feasible: with respect to funds, effort, and time
e) Build-design model: co-constructed with districts and flexible and adaptable in practice
f) Feedback loop between general to local/specific and research/practice

Glossary of Terms

Academic Preparedness (AP): The academic content knowledge and skills and key cognitive strategies needed to succeed at college-level work.

- Academic content knowledge and skills include strategic and critical reading, thinking, and writing; information gathering; vocabulary building; applying abstract concepts to interpret problems; and evidence-based reasoning.
- Key cognitive strategies include formulating and solving problems; research; and reasoning, argumentation, and proof; and interpretation.

Academic Tenacity (AT): The underlying beliefs, attitudes, and values (such as motivation and aspiration) and accompanying academic behaviors that motivate students to embrace and engage with challenging work and to pursue academic achievement.

- Beliefs, attitudes, and values include confidence in one's academic ability; and belief in the importance of a college education
- Behaviors include active participation and attendance; self-regulation of learning; and persistence through adversity

Binary: A binary indicator, variable, or contextual factor is one that takes the values 1 or 0 (yes or no) to indicate the presence or absence of something we are measuring.

Example: A student did or did not apply for a FAFSA grant. This is a binary variable.

College Knowledge (CK): The knowledge base, contextual skills, and behaviors that enable students to successfully access college and move through the system once they arrive.

- Knowledge, skills, and behaviors that enable *college access* include identifying, gathering, and understanding the information necessary to apply to college; and financing one's education.
- Knowledge, skills, and behaviors that enable *college success* include creating relationships with peers and instructors; accepting and valuing diversity; engaging in self-advocacy; collaborating; and studying independently

College Readiness: "the level of preparation a student needs to enroll and succeed without remediation – in credit-bearing general education courses at a postsecondary institution..." (Conley, 2007)

College Readiness Indicator System (CRIS): A collection of actionable indicators that measures the different dimensions of college readiness and allows for early identification of students who may need extra support in order to finish high school ready to enroll and succeed in college. Each indicator is linked to and serves to approximate a theoretical construct relevant to college readiness.

Construct: A posited underlying facet of College Readiness that cannot be observed directly, but can be inferred from a range of observable indicators. In the CRIS, constructs may be

theoretical variables defined at the level of individual students, settings or systems. CRIS constructs are grouped under the headings of Academic Preparedness (AP), Academic Tenacity (AT), and College Knowledge (CK).

Contextual Factors: Contextual factors are characteristics of students and the environment in which they live and attend school that one cannot change. Nonetheless, these factors may have some **empirically tested** relationship with a student's degree of College Readiness, and may be related to the likelihood that particular supports are needed.

> *Example*: Students whose parents did not attend college may struggle in college more than those students whose parents did attend college. It is impossible to change whether a student's parents went to college, but **supports** are available to help these students succeed.

Continuous: A continuous variable, indicator, or contextual factor is one for which many values are possible.

> *Example*: Age is a continuous variable, within the range 0 to 125 (or thereabouts).

Cut Score: A cut score is a point on a scale that determines whether a student falls into one category or another.

> *Example:* The cut score for earning a letter grade of A is usually 90%; a student with an 89% average in the course earns a grade of "B" instead.

Cycle of Inquiry: Continual process of asking questions and documenting answers that focus on the 'who', 'what', 'why', and 'how' of data collection, data analysis, decision making, and action.

Decision Rules: Decision rules are a group of rules that specify certain actions (or non-actions) when a certain condition is met.

> *Example*: One possible decision rule is that when a student is absent more than twice in a term, the teacher must call the parent.

Empirically Tested: Data have been collected concerning a claim, which demonstrate that the claim holds true in certain situations.

> *Example:* The relationship between exercise and weight loss has been empirically tested, and indicates that in certain situations, getting more exercise is linked with weight loss.

Indicator: An indicator is a variable that has a consistent and predictable relationship (derived from theory, research, or practice) with College Readiness for all students.

> *Example:* GPA is a good indicator of College Readiness. Typically, having a higher GPA, when controlling for other factors, is associated with doing better academically in college.

Individual-Level Indicator: An observable variable indicating students' personal progress toward college readiness

Example: Courses and credits accumulated; study skills; persistence; expectations for future; and knowledge about college requirements and choices

Nominal: A nominal variable, indicator, or contextual factor is one that has two or more categories, but there is no ordering or ranking to the categories.

Example: Ethnicity is a nominal variable that has a certain number of categories for a given group (e.g., Hispanic, Asian, Caucasian), but with no natural ordering to these categories.

Ordinal: An ordinal variable is similar to a nominal variable, except that with an ordinal variable, there is a clear ordering of the variable values.

Example: Parental education. As one level of education precedes the next, there is a clear order in which to place the possible values of the variable.

Psychometrics: The field of study concerned with the theory and techniques of educational and psychological measurement, including measuring knowledge, abilities, attitudes, and traits.

Reliability: The accuracy, precision, reproducibility or replicability of an indicator. A more reliable indicator has less "noise" or random error.

Example: Grade point average for a full year would be more reliable than grade point average for just one semester, because averaging over a larger set of student course grades improves precision.

Setting-Level Indicator: An observable variable indicating the resources and opportunities for students provided by a program, classroom or school. These are often, but not always, constructed by aggregating individual-level indicators.

Examples: The availability of a college preparatory curriculum, like honors, AP, or IB classes, and a consistent attendance policy.

Supports: Supports are programs or activities that are enacted in order to effect some intended change in performance, behavior, environment, etc.

Example: Students were performing poorly on the state exams, so they attended special test prep sessions on Saturdays to prepare; these extra sessions are supports.

System-Level Indicator: An observable variable indicating the strength or adequacy of the policy and funding infrastructure that supports school contexts and student programs promoting college readiness. These may sometimes be constructed by aggregating setting-level indicators.

Examples: District-level resources for school-level counseling; professional development for administrators and teachers on establishing supports for college-going; and resources to support data generation.

Validity: The extent to which an indicator taps into the intended underlying construct and is free of extraneous distortions. Validity addresses the question of whether an indicator is really measuring the characteristic most relevant for the intended use or interpretation.

> *Example:* For some purposes, average grade in core academic subjects might be more valid than average grade across all courses.