Multiple data sources and profiles for connecting to the world of work and to higher education

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Overview of presentation

- What is college readiness, what is career readiness, how are they similar and different?
- What is the difference between college and career eligibility and college readiness/career readiness?
- What comprises a readiness profile in each area?
- What are the assessment implications?
- How does this align with SBAC/PARCC?
- What are the challenges to a profile-based model of readiness?
- What are the next steps that need to occur?

Key guiding premises

- The US economy requires workers to adapt to new demands throughout their careers.
- The ability to learn is key to being adaptable.
- However, not everyone needs to know exactly the same things to adapt successfully.
- While math and English are important, they are not the only knowledge and skills needed to be ready to succeed.
- Deciding who can participate in postsecondary education and, potentially, the economy is a serious decision.
- Current methods do not use a wide enough range of information to make such decisions or inform learners on their readiness.

Conley's definition of college and career readiness

- A college and career ready student possesses the content knowledge, strategies, skills, and techniques necessary to be successful in a postsecondary setting.
- Not every student needs exactly the same knowledge and skills to be college and career ready.
- A student's college and career interests help identify the precise knowledge and skills the student needs.

How this definition differs from others'

- Encompasses a wide range of postsecondary options
- Focuses on success more than lack of remediation
- Acknowledges the reality that different programs of study can require different knowledge and skills at entry level
- Validates student interest and goals as useful reference points for individual student readiness
- Puts the student at the center

How college and career readiness are similar and different

- Both require a core foundation of academic content knowledge and skills in reading, writing, and mathematics.
- Each requires mastery of cognitive strategies associated specific to the associated program of coursework.
- Student increase their success in each if they have mastered key learning skills and techniques.
- Each requires a significant life transition.
- College readiness is focused on general education courses that, while they vary by institution, are similar in content.
- Career readiness is focused on training programs where necessary prerequisite knowledge varies by career area.

KEY COGNITIVE STRATEGIES

PROBLEM FORMULATION
- Hypothesize
- Strategize

RESEARCH
- Identify
- Collect

INTERPRETATION
- Analyze
- Evaluate

COMMUNICATION
- Organize
- Construct

PRECISION & ACCURACY
- Monitor
- Confirm

KEY CONTENT KNOWLEDGE

STRUCTURE OF KNOWLEDGE
- Key terms and terminology
- Factual information
- Linking ideas
- Organizing concepts

TECHNICAL KNOWLEDGE & SKILLS
- Challenge level
- Value
- Attribution
- Effort

KEY LEARNING SKILLS & TECHNIQUES

OWNERSHIP OF LEARNING
- Goal setting
- Persistence
- Self-awareness
- Motivation
- Help-seeking
- Progress monitoring
- Self-efficacy

LEARNING TECHNIQUES
- Time management
- Test taking skills
- Note taking skills
- Memorization/recall
- Strategic reading
- Collaborative learning
- Technology

KEY TRANSITION KNOWLEDGE & SKILLS

CONTEXTUAL
- Aspirations
- Norms/Culture

PROCEDURAL
- Institution choice
- Admission Process

FINANCIAL
- Tuition
- Financial Aid

CULTURAL
- Postsecondary norms

PERSONAL
- Self-advocacy in an institutional context

The difference between eligibility and readiness measures

- Course title requirements do not assure the content being taught is aligned with success.
- Reading, writing, and math can be overemphasized, while omitting metacognitive, or "non-cognitive," factors.
- The resulting limited picture of capability does not take into account the student's aspirations or proposed program of study.
- Readiness is built on valid content that links more directly to the student's proposed program of study.
- Readiness includes a wider range of variables including learning skills.
- This information can be keyed to particular areas of postsecondary study.
- The emphasis is on finding what students can do in areas essential to success in their proposed program of study.

Creating a college and career readiness profile

- The following two slides demonstrate a conceptual design for a readiness profile.
- Note that the profile combines high and low stakes measures, which permits a variety of uses including traditional admission decisions, if necessary.
- In practice, with more information available, it would be possible over time to refine the uses of this information and, by triangulating multiple data points, to make reliable and valid determinations of student readiness.
- However, initially, the profile would be used to inform students of strengths and areas in need of improvement as well as to inform institutions about the readiness of entering students in more areas.

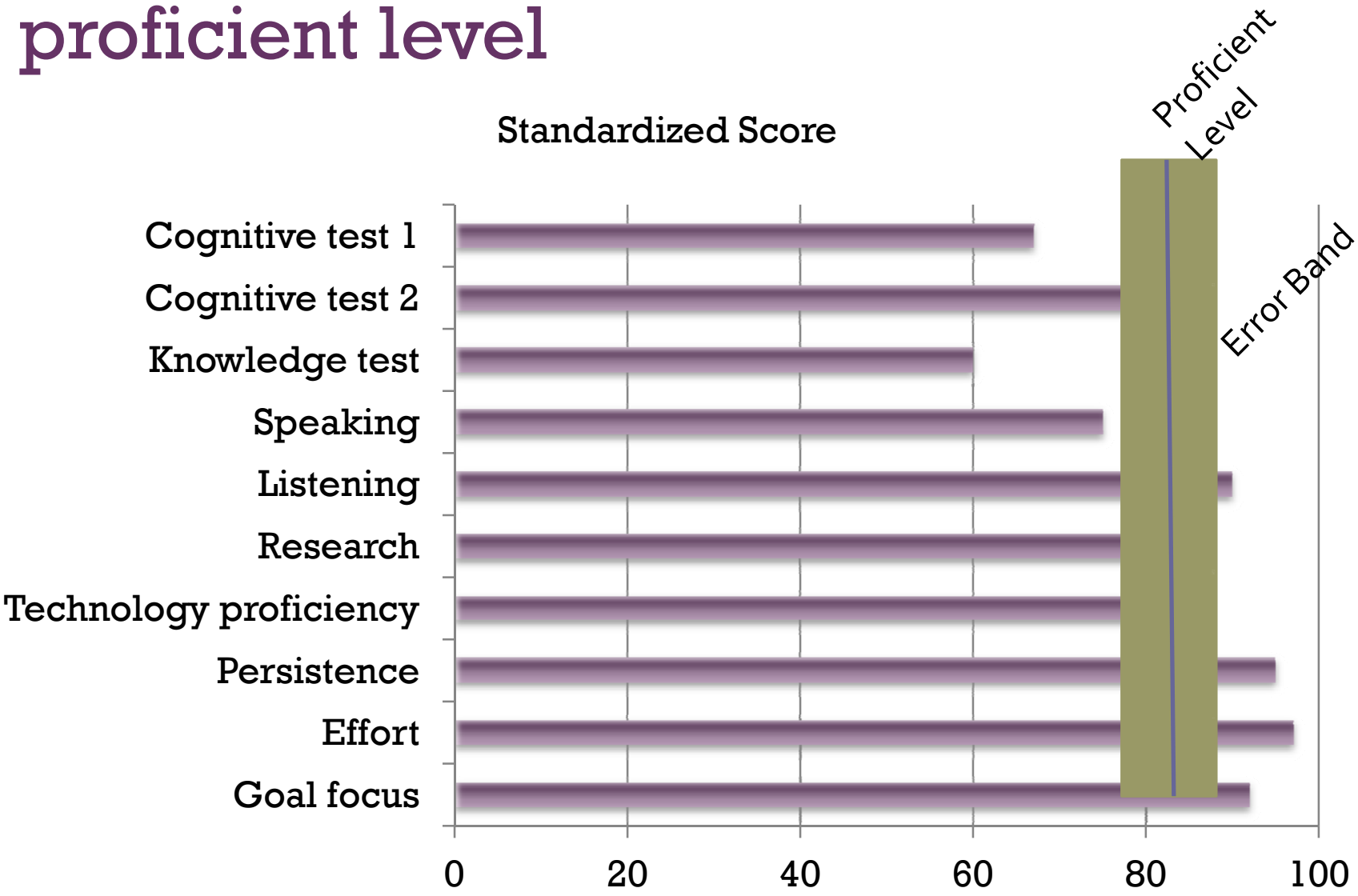
Example of a college and career readiness profile

Learner Skill	Four Keys	Stakes	Assessment Source
Content Knowledge/cognitive skills	KCS/KCK	High to medium	SAT, ACT
Content knowledge	KCK	High	Consortia English and math tests, SAT/ACT, MAP
Cognitive skills	KCS	Medium	ThinkReady tasks scored against Key Cognitive Strategies
Speaking	KCK	Medium	Oral problem solving task, scored discussion, fishbowl
Listening	KCK	Medium	Note-taking, following directions, describing an event
Research skills	KCS	Medium	Research paper scored reliably by teacher
Technology proficiency	KLS	Medium	Online technology competency demonstration
Persistence	KLS	Low	Evidence-based rating by teacher of student persistence
Study skills	KLS	Low	Evidence-based rating by teacher of student study skills
Goal focus	KLS	Low	Evidence-based rating by teacher of student goal focus

Using multiple data sources

- The following slide describes a hypothetical student.
- Scores have all been standardized to allow mapping onto the same scale.
  - A comparable "proficient" level could be established for each score.
- Note that this student is not necessarily strong in some content areas but has strengths in other areas that might make the student a candidate to be admitted and provided targeted support rather than being labeled remedial and consigned to a one-size-fits-all developmental ed program.

Student profile with standardized proficient level



Observations

- A far wider range of data sources and types can contribute to understanding readiness and building a profile
- Not all information needs to come from high stakes tests or from tests at all
- Remember that admission is only highly competitive at a relatively small percentage of US postsecondary institutions
- In most cases, readiness is far more important than ranking students

Career readiness assessment implications

- Mathematics and English as taught in high schools is very unevenly represented in career training programs.
  - Based on analysis of textbooks and syllabi content.
- Far more important are occupation-specific learning skills.
  - Interpreting charts, diagrams; working in teams; solving problems in context; middle school-level math fundamentals; program-specific vocabulary
- Preparing for national certification exams is a key skill in many programs, where test prep skills are as necessary as content knowledge.

SBAC/PARCC and a profile model

- Consortia assessments are not designed to produce a profile of readiness.
- The potential for misuse of consortia assessment scores exists if readiness decisions are made based on literacy and numeracy only.
- However, SBAC/PARCC scores could contribute to a profile that also included state tests, other achievement tests, classroom-based performance assessments and projects, teacher ratings, and even student self-ratings.
  - Much of this could also contribute to state accountability measures if used largely for improvement and not punishment

Example assessment continuum

Traditional Tests	CCSS Assessments (SBAC & PARCC)	Common Performance Tasks (Ohio, New York)	ThinkReady Assessment System (EPIC)	Student-Designed Projects (Envision, NY Performance Standards Consortium, Singapore, IB)
Narrow Assessment				**Assessments of Deeper Learning**
Standardized, multiple-choice tests of routine skills	Standardized tests with m-c & open-ended items + short (1-2 period) performance tasks of some applied skills	Teacher-developed performance tasks that include structured inquiry, integrated skills, collaboration	Standardized performance tasks that incorporate all Key Cognitive Strategies (in English, math, science, social studies) and take 1-2 weeks to complete	Longer, deeper investigations, (2-3 months) & exhibitions, senior projects, graduation portfolios, science fairs

Example performance task: Interpreting statistics in the social sciences

Task Overview

Recent news has given much coverage to the growing prison population in the United States. How fast is it growing? The states need to be able to predict the number of people who will be under correctional supervision in the future. What impact will these numbers have on budgets, the general population, and other social services?

Final Product: Students write a report that clearly describes their suggested solution and supports their conclusions with mathematical justifications.

KEY COGNITIVE STRATEGIES

Students use the following Key Cognitive Strategies as they work. Each Key Cognitive Strategy includes three aspects:

Problem Solving

- Understanding the problem
- Hypothesizing about potential outcomes
- Strategizing about how to approach the problem

- **Research**
  - Identifying the necessary data and information
  - Collecting data and information
  - Evaluating the quality of data and information
- **Interpretation**
  - Integrating data and information to prepare for analysis
  - Analyzing data and information for characteristics and patterns
  - Synthesizing by making connections and drawing conclusions
- **Reasoning**
  - Constructing an argument supported with evidence
  - Organizing the argument
  - Critiquing the work to improve it
- **Precision/Accuracy**
  - Checking the work for errors
  - Completing all assigned elements of the task
  - Presenting the final draft appropriately

Challenges facing a profile-based model of readiness

- Teachers currently tend to resist collecting more data on students, viewing it as "testing" and a diversion from "teaching."
- The process for assembling information coming from multiple sources that is longitudinal in nature is highly complex.
- The technical issues involved in standardizing and scaling unlike measures and then triangulating among them is daunting.
- Postsecondary institutions may be skeptical of measures they may perceive as not fully proven.

Next steps for a profile model of college and career readiness

- Almost every other area in society is increasing dramatically the types and amount of data used to make decisions.
- Education is ready for much more structured experimentation in the use of multiple measures
- The backlash against standardized testing potentially creates some possibilities for experimentation (except where data collecting of all types is rejected).
- Testing companies, states, school districts, and postsecondary institutions need to be willing to collect much more information and to create profiles that can tell them more about all students, but particularly those most in need of going to college.