Measuring Postsecondary Educational Quality for Public Accountability

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Outline of presentation

I. Measurement Approach

II. Indicator Recommendations

III. Utilization of Quality Indicators in Accountability Systems

IV. Evidence of Impact

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Presentation Source

Horn, A. S., & Tandberg, D. A. (2018). Indicators of educational quality for postsecondary accountability systems. In H. P. Weingarten, M. Hicks, & A. Kaufman (Eds.), *Assessing quality in postsecondary education: International perspectives* (pp. 3-26). McGill-Queen's University Press.

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Measurement Approach

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Educational Quality Defined

- the extent to which an institution meets reasonable standards in…
  - employing programs, practices, and policies that are generally known to be conducive to student learning and timely degree completion;
  - enabling and adding value to student outcomes; and
  - ensuring that graduates have fulfilled learning objectives

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Three Types of Quality Indicators

- **Educational practice**: to what extent does the institution provide good curricular and co-curricular opportunities for learning?
- **Institutional Effectiveness**: What value does the institution add to student learning outcomes?
- **Degree Integrity**: To what extent do college graduates fulfill intended learning outcomes?

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Criteria for Indicator Adoption

- Feasibility
  - cost of data collection
  - Likely faculty support
- Alignment with state aims
- validity and reliability
- Utility and consequence
  - Ideally measurement process informs campus improvement or placement/certification decisions as well as high-level reporting for policymakers
  - Ideally provides normative (e.g., institutional benchmarking) and criterion scores (e.g., percent proficient)
  - Free of bias

Indicators discussed in the book

Good Educational Practice

- Indicator 1: Instructional Excellence
- Indicator 2: Highly Effective Programs
- Indicator 3: Academic Challenge
- Indicator 4: Academic and Social Support

Institutional Effectiveness

- Indicator 5: Basic Skills Development
- Indicator 6: Promoting Timely Completion

Degree Integrity

- Indicator 7: Basic Skills Proficiency
- Indicator 8: Major Field Competence
- Indicator 9: Civic Engagement

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Good Educational Practice

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Indicator 1:
Instructional Excellence

- **Source**: NSSE Effective Teaching Practices
  - Clearly explained course goals
  - Taught course sessions in an organized way
  - Used examples to explain difficult points
  - Provided feedback on a draft or work in progress
  - Provided prompt and detailed feedback

- **Validity**

  - Instructor organization/preparation predicted scores on standardized reading and math measures (Bray et al., 2004; Whitt et al., 2003) and critical thinking (Loes et al., 2015). But did not use NSSE

  - NSSE effective teaching positively associated with **self-reported learning gains** (Zilvinskis et al., 2017)

Indicator 2: Highly Effective Programs

- **Source**: NSSE High-Impact Practices

  - » Learning communities
  - » Service-learning
  - » Research with Faculty
  - » Internship or field experience
  - » Study abroad
  - » Culminating Senior experience

Indicator 2: Highly Effective Programs

- **Validity**
  - Enriching Educational Experiences scale: cumulative GPA (Campbell & Cabrera, 2011)
  - Learning communities: weak and sparse but mainly supportive evidence
  - Service-learning: academic achievement (Conway et al., 2009); Warren, 2012; Celio et al., 2011); civic attitudes, values, engagement (Yorio & Ye, 2012)
  - Internship or field experience: academic performance (Green, 2011; Mansfield, 2011; Reddy and Moores, 2012)
  - Study abroad: international interest/awareness (Hadis, 2005), intercultural competence (Paige et al., 2004), sense of global interdependence (Sutton and Rubin, 2004)
  - Culminating Senior experience: weak and sparse evidence

Indicator 2: Highly Effective Programs

- **Possible drawbacks**
  - Some items may not be relevant for all institutional types
  - *“Research with Faculty” is difficult to diffuse across the institution
  - *“Study abroad” assumes availability of financial aid and work release for lower- and middle-income students
  - *Items do not account for critical programmatic variations
  - May reinforce curricular compartmentalization rather than integration

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Indicator 3:
Academic Challenge

- **Source**: NSSE Reflective and Integrative Learning
  - Combined ideas from different courses
  - Connected your learning to societal problems
  - Included diverse perspectives in course discussions
  - Examined strengths and weakness of own views
  - Tried to better understand someone else's views
  - Learned something that change the way you understand issue
  - Connected ideas from your courses to your prior knowledge

- **Validity**
  - Predicts critical thinking disposition, reflective thinking (Nelson-Laird et al., 2008)
  - Predicts critical thinking, need for cognition, positive attitude toward literacy (Nelson-Laird, 2014)

- **Possible weakness**
  - relevance of items may vary by academic major

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Indicator 4: Academic and Social Support

- **Source**: NSSE Supportive Environment scale
  - Providing support to help students succeed academically
  - Using learning support services
  - Encouraging contact among students from different..
  - Providing opportunities to be involved socially
  - Providing support for overall well-being
  - Helping you manage your nonacademic responsibilities
  - Attending campus activities
  - Attending events that address important issues

- **Validity**
  - Predicts retention and graduation rates (Gordon et al., 2008; Pike, 2013)

Institutional Effectiveness

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Indicator 5:
Basic Skills Development

(e.g., critical thinking, reading, writing)

- **Score:** Two-year average Unadjusted Gain Scores and Value-Added Scores (test every four years)

- **Sources:** CLA+, ETS Proficiency Profile, and ACT CAAP: institution-level scores are highly reliable and strongly intercorrelated (Klein et al., 2009)
  - multiple choice vs. constructed response
  - Cost

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Indicator 5:
Basic Skills Development

(e.g., critical thinking, reading, writing)

Option 1: CLA+

- Constructed response tests appear to better ensure that students demonstrate understanding rather than simple recall: Students with high multiple choice score but low CLA score engaged in superficial information processing (Hytinen et al., 2015)

- BUT the average adjusted CLA gain score for the performance task did not differ from zero (Klein et al., 2009): may not reliably detect gains in critical thinking

Indicator 5:
Basic Skills Development

Option 2: ETS Proficiency Profile

- ETS measure detects gains in critical thinking (d=.57) comparable to those documented in the literature using other measures (Huber & Kuncel, 2016): .59 SD gain (50^{th} to 72^{nd} percentile)

- Number of college credits completed predicted ETS gains (Roohr et al., 2016), and differences between majors reflected skill expectations (Marr, 1995)

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Indicator 5:
Basic Skills Development

Option 3: ACT CAAP (least preferred)

- slightly less reliable than ETS Proficiency profile;
- writing essay and math gains did not differ from zero;
- very wide 95% CI for critical thinking gains: .06 to .56 (Klein et al., 2009);
- BUT it includes a science module
- Writing and math scores are positively associated with subject GPA's (ACT)

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Indicator 6: Promoting Timely Completion

- **Sources:** agency analysis of IPEDS data
  - Value-added score = actual – predicted graduation rate based on structural, demographic, financial, and contextual attributes

Validity

- Positively correlated with students' perceived academic and social support
- Small/zero correlation with confounding attributes (e.g., admissions selectivity)

(Horn & Lee, 2015, 2017)

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Degree Integrity

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Indicator 7: Basic Skills Proficiency

- **Score: Percent Proficient or average score**
- **7a: National Competitiveness:** Institution selects an approved measure
  - **Sources:** CLA+, ETS Proficiency Profile, ACT CAAP, PIAAC
- **7b: International Competitiveness:** OECD Program for the International Assessment of Adult Competencies (PIAAC): literacy, numeracy and problem solving in technology-rich environments

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Indicator 8: Major Field Knowledge

- **Score: Percent proficient, pass rate, or average score**

- **Source**: licensure exams or ETS major field exams

  - ETS: Business, Biology, Mathematics, Chemistry, Music, Computer Science, Physics, Criminal Justice, Political Science, Economics, Psychology, Literature in English, Sociology

  - Ideally has faculty and/or professional association endorsement: perceived boundaries of "core knowledge" may differ across institutions

Indicator 9: Civic Engagement

- **Source**: alumni surveys or senior-year surveys (e.g., NSSE)

- civic indicators (community problem solving, volunteerism, membership in or donations to an association, fundraising)
- political indicators (voting, persuading others, displaying campaign paraphernalia, donations, volunteering for a campaign)
- public-voice indicators (contacting officials or media, protesting, signing petitions, boycotting, "buycotting," canvassing)
- cognitive engagement (following government affairs and the news, discussing politics, political knowledge).

Validity?

  - Mainly signals to institutions (and stakeholders) the expectation of civic preparation

Utilization of Quality Indicators in Accountability Systems

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Assessment Subject	Assessment instrument	Number of states using instrument	States reporting indicators
Basic skills **(8 states)**	Collegiate Learning Assessment (CLA+)	3	Missouri***, Pennsylvania***, Wyoming
	ETS Proficiency Profile (EPP)	2	Pennsylvania***, Tennessee**
	Collegiate Assessment of Academic Proficiency (ACT CAAP)	5	Kansas*, Missouri***, Pennsylvania***, South Dakota, Virginia**
	Other (Motivational Appraisal of Personal Potential (MAAP), College Basic Academic Subjects Examination (CBASE), ACT WorkKeys; California Critical Thinking Skills Test (CCTST), Critical Thinking Assessment Test (CAT))	4	Missouri***, Tennessee**, Virginia**, Wyoming
	Institution-specific assessment methods	2	New Mexico, Virginia
Major field knowledge **(11 states)**	Major field examinations	2	Missouri***, Tennessee**
	Professional licensure/certification examinations	10	Colorado, Florida, Kansas*, Maryland, Minnesota, Missouri*, North Dakota, Ohio, South Dakota, West Virginia
	Specific teacher examination	1	Missouri*
	Institutionally developed major field tests/examinations	2	Missouri**, Tennessee**
Educational Practices **(8 states)**	High-impact practices	1	Florida*
	University of California Undergraduate Experience Survey (UCUES)	1	California
	National Survey of Student Engagement (NSSE)	5	Maine, Tennessee, Vermont, Wisconsin, Wyoming
	Faculty Survey of Student Engagement (FSSE)	2	Tennessee, Vermont
	Beginning College Survey of Student Engagement (CSSE)	1	Vermont
	Gallup-Indiana Survey	1	Indiana
Life impact	MHEC Alumni Survey (occupational relevance)	1	Maryland

Change in usage over time

- Many states have dropped quality indicators ostensibly due to
  - high cost
  - diminished political capital
  - changes in leadership
  - questionable impact on student learning
  - delegation to accreditation

(e.g., Adams, 2015; Ewell, 2009)

Three types of accountability systems

- **Performance reporting**: rests on the power of transparency to align institutional performance with public expectations through awareness of state priorities, the prospect of shame and praise, and better informed student choice

- **Performance budgeting**: allows state or system principals to consider institutional performance as an element in the budgetary process

- **Performance funding**: a formula links state appropriations to institutional outcomes

Type of state accountability system	Assessment subject	State
Performance reporting	Basic skills	New Mexico, South Dakota, Virginia, Wyoming
	Major field knowledge	Colorado, Florida, Kansas, Maryland, Minnesota, North Dakota, Ohio, South Dakota, West Virginia
	Educational practices	California, Indiana, Maine, Vermont, Wisconsin, Wyoming
	Life impact	Maryland
Performance funding	Basic skills	Kansas, Missouri, Pennsylvania, Tennessee,
	Major field knowledge	Missouri, Tennessee,
	Educational practice	Florida

Evidence of Impact

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Influences on institutional behavior, accreditation standards, and association initiatives

- Early mandates: Strong impetus for campus-based student learning assessment
- Accreditors introduced requirements for student assessment
- Voluntary System of Accountability (APLU and AASCU): but few institutions provide indicators of educational quality
- New Leadership Alliance of Student Learning and Accountability: formal process of recognizing institutions with excellent assessment and improvement processes

Effect on educational quality?

- **Performance reporting**
  - Few studies have examined impact; general sense of limited effects due to failure to link indicators with campus improvement efforts

- **Performance-based funding**

  - a growing body of research has suggested that performance funding models have at best a null or limited positive effect and at worst a negative impact on productivity outcomes (e.g., Rutherford & Rabovsky, 2014; Tandberg & Hillman, 2014; Tandberg, Hillman, & Barakat, 2014)

  - **negative unintended consequences**: May decrease the admission of less advantaged students through one of three strategies: raising admissions requirements, redirecting recruitment efforts towards suburban high schools and non-resident students, and increasing investments in merit aid

  - no analysis of impact on ed quality outcomes

Thank you!

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