Alignment of Global Outcomes for Assessment and Accreditation

Stephen L. Benton, Kenneth R. Ryalls,

Patricia Sullivan and Dan Li

The IDEA Center

Correspondence concerning this paper may be direct to the first author at The IDEA Center, 301 South Fourth St., Suite 200, Manhattan, KS 66502-6209, steve@ideaedu.org.

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Accreditation is a validation process intended to uphold ideals and standards in higher education, and thereby engender public trust in colleges and universities. Although there are many distinct differences among accreditation standards, there are also many common areas such as those standards related to student learning outcomes (e.g. evidence of student learning, quality of instruction, and faculty development). In addition to the accreditation agencies, professional organizations in higher education also support colleges and universities in providing a quality educational experience for students by providing various tools, rubrics, and standards.

Widespread agreement exists among influential higher education organizations in global student outcomes deemed critical to successful learning (i.e., Association of American Colleges and Universities [AAC&U, 2014]; Higher Learning Commission [HLC]; Lumina Foundation's Degree Qualifications Profile [DQP]; National Survey of Student Engagement [NSSE] Indicators. Systems are needed for gathering student data that provide evidence of achievement of those outcomes. Student ratings of instruction (SRI) offer a valid, reliable, and efficient means for collecting indirect evidence of such achievement (Benton & Cashin, 2011; Benton & Cashin, 2014; Hativa, 2013; Marsh, 2007).

Mapping to Professional Standards

The updated SRI is uniquely suited to measure outcomes because students rate their progress on objectives the instructor identifies as relevant to the course. Whereas most surveys focus on student satisfaction with teaching and the course, IDEA emphasizes student progress on course-relevant learning outcomes. This is because IDEA is a two-form system. Faculty rate the relevance of 13 learning objectives for the course, and students rate how much progress they believe they made on each objective. IDEA's 13 learning objectives align with global outcomes from AAC&U's Liberal Education and America's Promise (LEAP) (see Appendix A) Essential Learning Outcomes, HLC's regional accreditation, and DQP (http://ideaedu.org/support/accreditation-and-program-assessment/). IDEA's 19 teaching methods align with NSSE's Engagement Indicators (see Appendix B).

Alignment with Accreditation Standards

Accreditation is outcome based, and so is the IDEA Student Ratings of Instruction (SRI) system. IDEA SRI aligns with accreditation standards for the Middle States Association (MSA) for Colleges and Schools, Southern Association of Colleges and Schools (SACS), and New England Association of Schools and Colleges (NEASC) (http://ideaedu.org/support/accreditation-and-program-assessment/).
 IDEA$_{2016}$ SRI provides feedback to faculty that address two fundamental questions 1) to what level do students rate their progress on relevant course learning objectives? 2) What can faculty do to improve teaching and learning? Indirect assessment of student learning outcomes can be used to address criteria related to teaching and learning improvement. The two recommended instruments that provide specific feedback regarding student learning are Diagnostic Feedback and Learning Essentials:
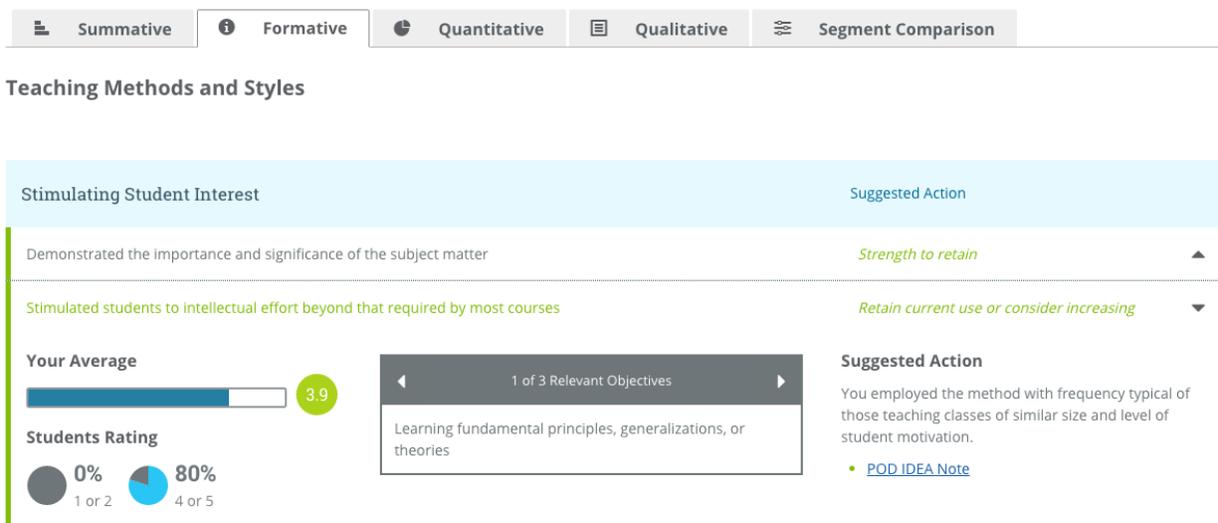
- The **Diagnostic Feedback** instrument is best for **comprehensive analysis of progress on relevant learning objectives as well as formative feedback** on what faculty can do to improve learning.
- The **Learning Essentials** instrument is ideal for use in **clinical/practicum/skills-based courses** because of the emphasis on learning objectives more so than teaching methods.

Evidence of **Program Curriculum Review** is typically required in accreditation standards. A program or curriculum map that aligns course outcomes and IDEA learning objectives can be used as indirect evidence of curriculum review and as documentation that course objectives represent the three learning domains--cognitive, affective and psychomotor--or other professional standards such as DQP. Curriculum mapping can also be used as a dynamic process to engage faculty in reviewing selected course objectives comprehensively at the program level to ensure balance and purposeful inclusion or omission of objectives that align with the program goals.

IDEA also provides comparative data that enables colleges and faculty to benchmark course and aggregate data against national, institutional, and discipline-specific performance standards to answer such questions as, "*How does our program compare to other programs in the institution? And, how does our program compare with other programs in the discipline?* IDEA aggregate course data files can also be requested at the institution level to be used for program level assessment and comparison.

Accreditation standards often include **curriculum plan** requirements that include strategic use of a variety of **effective instructional methods** to maximize student learning. For example, the Commission on Accreditation in Physical Therapy Education, PTA Standards 6G states: *The curriculum plan includes a variety of effective instructional methods selected to maximize learning. Instructional methods are chosen based on the nature of the content, the needs of the learners, and the defined expected student outcomes*. IDEA data on use of teaching methods related to relevant learning objectives can be used as evidentiary support of initiatives to determine and implement effective instructional methods. In addition to individual course reports, Unit Summary Report Data can provide that information at the unit or program level.\

Perhaps the most important standard shared among accreditors that IDEA addresses directly is related to **faculty** assessment and **development**. Each individual **Diagnostic Feedback** course report provides formative information specifically designed to support faculty development by providing feedback on teaching methods strongly related to relevant learning objectives, suggested actions, and links to development material specific to the teaching method.

Summative | Formative | Quantitative | Qualitative | Segment Comparison

Teaching Methods and Styles

Stimulating Student Interest   Suggested Action

Demonstrated the importance and significance of the subject matter   *Strength to retain*   ▲

Stimulated students to intellectual effort beyond that required by most courses   *Retain current use or consider increasing*   ▼

Your Average
3.9

◄   1 of 3 Relevant Objectives   ►

Learning fundamental principles, generalizations, or theories

Suggested Action
You employed the method with frequency typical of those teaching classes of similar size and level of student motivation.
• POD IDEA Note

Students Rating
0%   80%
1 or 2   4 or 5

      Data-driven decision-making is at the core of accreditation. Collecting data is a wasted effort if those data are not used in making decisions. In addition to the survey items created by IDEA, customized questions unique to a course, program, or discipline can be added to all three SRI instruments. For example, questions can be added that specifically address the learning environment (i.e. clinical site), adequacy of student learning experiences and resources, adequate supervision, etc. Because it is important that institutions have access to all their assessment information, IDEA makes data access available to clients in several formats (via a REST API, aggregate data files, and raw data files). The information can be used at the program level for decision-making about where and how to direct resources for faculty development (at the individual and program level); which clinical, lab or other resources are needed to support student learning; or about other program specific initiatives (focus on diversity, communication, service-learning, community engagement, team-based learning, etc.).

Purpose of the Study

      The purpose of the current study is to report on the pilot of new IDEA SRI learning objectives and teaching methods that were used to update the SRI instruments and reports. Every effort was made to align the new survey items with the aforementioned standards and accreditation documents. Specifically, we describe the procedures involved in developing the items, the sample of institutions included, and the results of statistical analyses.

      We turned to multiple information sources to guide our decision making: extensive statistical analyses of the Spring 2015 IDEA SRI pilot dataset, analyses of aggregated ratings in the IDEA SRI 2011 to 2015 research datasets, the professional literature on teaching and learning, the AAC&U VALUE rubrics and the NSSE indicators. We also consulted with measurement experts, statisticians, and IDEA staff, which included former higher-education administrators and faculty, as well as experts in faculty development and evaluation.

Why was a Revision Necessary?

      The need for the current revision stemmed from many changes that have occurred in higher education. The increase in the number of courses offered online is but one example. There is also widespread agreement among influential higher education organizations about global student learning outcomes, some of which were not emphasized in the existing instrument, notably civic engagement, ethical reasoning, diverse perspectives and global awareness, and

quantitative literacy. Teaching methods that provide meaningful feedback and help students to interpret subject matter from diverse perspectives, encourage self-reflection and self-evaluation, and engage students in service are receiving more emphasis in the contemporary classroom. Student characteristics such as background preparation and self-efficacy are now known to influence learning, although only the former was included in the existing IDEA SRI system. Finally, the prevalence of mobile devices makes in-class capture more manageable, though at the same time makes a shorter instrument more desirable.

In light of these needed changes, we embarked on an update of IDEA SRI that would incorporate contemporary learning outcomes and teaching methods, control for important student characteristics, and include only items that contribute meaningfully to summative and formative feedback. Throughout, we sought to retain certain key features:

- A focus on relationships between teaching methods and measures of teaching effectiveness
- Statistical control of extraneous factors that influence student ratings but are beyond the instructor's control
- A focus on instructional improvement

Overview of Changes in IDEA SRI Diagnostic Feedback 2016

The 40-item *Diagnostic Feedback* 2016 includes 19 teaching methods, 13 learning objectives, 6 student and course characteristics, and 2 summary items. Appendix A provides an explanation of the similarities and differences between the previous and updated instruments. A brief summary of the changes to learning objectives and teaching methods--the focus of this study--follows below.

Newly added teaching methods include:

- Diverse perspectives: "Helped students to interpret subject matter from diverse perspectives (e.g., different cultures, religions, genders, political views)"
- Self-reflection: "Encouraged students to reflect on and evaluate what they have learned"
- Service learning: "Created opportunities for students to apply course content outside the classroom"

In addition, two existing items—"Provided timely and frequent feedback on tests, reports, projects, etc. to help students improve," and "Explained the reasons for criticisms of students' academic performance"-- were synthesized into a single item, "Provided meaningful feedback on students' academic performance."

The following teaching methods were removed because they were not highly correlated with student progress on any existing learning objectives:

- "Displayed a personal interest in students and their learning"
- "Scheduled course work (class activities, tests, projects) in ways that encouraged students to stay up-to-date in their work"
- "Gave tests, projects, etc. that covered the most important points of the course"

Finally, the item "Formed 'teams' or 'discussion groups" to facilitate learning" was modified to "Formed teams or groups to facilitate learning." Focus group participants and expert panel members believed the quotation marks were unnecessary. The word *discussion* was removed because collaborative learning encompasses various forms of acquiring knowledge, not

limited to discussion.

The following changes affect IDEA *Diagnostic Feedback* and *Learning Essentials*. Six new learning objectives were added:

- Diverse perspectives: "Developing knowledge and understanding of diverse perspectives, global awareness, or other cultures"
- Civic engagement: "Learning to apply knowledge and skills to benefit others or serve the public good"
- Quantitative literacy: "Learning appropriate methods for collecting, analyzing, and interpreting numerical information"
- Ethical reasoning: "Developing ethical reasoning and/or ethical decision making*,*" which replaces "Developing a clearer understanding of, and commitment to, personal values*.*"
- Information literacy: "Learning how to find, evaluate, and use resources to explore a topic in depth," which replaces **"**Learning how to find and use resources for answering questions or solving problems" and "Acquiring an interest in learning more by asking my own questions and seeking answers"
- Understanding subject matter: "Gaining factual knowledge (terminology, classifications, methods, trends), which replaces "Learning fundamental principles, generalizations, or theories" and "Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)"

Method

Procedures

All institutions using the IDEA SRI on the Campus Labs[1] platform were automatically included in the pilot study, although any institution could choose not to participate. Throughout the fall and spring terms, IDEA employed a multi-faceted communication plan to inform institutions of the pilot process and created a webpage with supporting documents, including instrument crosswalks, rationale for changes, and sample instruments.

Student Experience. It was important to maintain the integrity of the existing SRI instrument; therefore, rather that integrating pilot items into the existing survey (i.e., listing new learning objectives along with the existing learning objectives), the pilot questions were displayed at the *end of the survey* as "additional questions." The student experience, therefore, was unchanged when compared with previous administrations regarding items used to generate faculty reports. The piloted items were in the same format as the rest of the survey. Instructions for the new learning objectives told students to describe the amount of progress made on each outcome "even if the wording is similar to previously asked survey items."

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[1] The Campus Labs Course Evaluation platform allows faculty, department chairs and deans to collect data on mobile devices, view response rates in real-time, administer multiple evaluations in a term, work with team-taught and cross-listed sections, and add course-specific questions, among many other customizable functions. When used together with other Campus Labs products, administrators are able to discover how course evaluation data relate to student retention, engagement, and learning, as well as leverage that data in institutional planning, faculty development, and program review contexts.

Faculty Experience. The new learning objectives were added to the *Objectives Selection Form* (OSF). They were placed in a separate section following the original 12 learning objectives used to generate the individual faculty report. The piloted items were clearly identified with a banner "Pilot Learning Objectives." The following statement was included on the OSF as well as a direct link to the IDEA webpage that provided additional information about the pilot process.

> *Your response to these items will NOT affect your current student ratings. However, your thoughtful response will contribute to the revision of the Diagnostic Feedback instrument, which will provide feedback on your teaching in the future.*

Instrumentation

For all close-ended items, students responded using 5-point scales. To report how frequently students perceived that an instructor used each of the teaching methods they responded, 1 = *Hardly Ever*, 2 = *Occasionally*, 3 = *Sometimes*, 4 = *Frequently*, 5 = *Almost Always*; for reporting their own progress on each of learning objectives, 1 = *No apparent progress*; 2 = *Slight progress; I made small gains on this objective*; 3 = *Moderate progress; I made some gains on this objective*; 4 = *Substantial progress; I made large gains on this objective*; 5 = *Exceptional progress; I made outstanding gains on this objective*; and for course characteristics, 1 = *Much Less than Most Courses*, 2 = *Less than Most Courses*, 3 = *About Average*, 4 = *More than Most Courses*, 5 = *Much More than Most Courses*. For student characteristics, overall summary measures, and additional method items, 1 = *Definitely False*, 2 = *More False than True*, 3 = *In Between*, 4 = *More True than False*, and 5 = *Definitely True*.

Reliability

To measure reliability at the class level Benton and colleagues (Benton, Li, Brown, Guo, & Sullivan, 2016) applied the procedures described in James, Demaree, and Wolf (1984, p. 87) for computing the *within-group interrater reliability coefficient*. Consistent with Hoyt et al. (1999) we performed the analyses on classes with 15-34 students enrolled, as described below. The average number of students responding in those classes was 23. We applied the following single-item interrater agreement formula to compute the reliability coefficients for all items:

$$r_{WG(l)} = 1 - \left(S_{x_j}{}^2 / \sigma_{EU}{}^2 \right)$$

where $r_{WG\,(l)}$ is the within-group interrater reliability for a group of K judges on a single item X_j, and $S_{xj}{}^2$ is the observed variance of X_j. $\sigma_{EU}{}^2$ is the variance of X_j that would be expected if all judgments solely resulted from random measurement error. Thus $\sigma_{EU}{}^2 = (A^2 - 1)/12$ where A corresponds to *the number of alternatives in the response scale for X_j*, which is presumed to vary from 1 to A.

Next, we computed the standard error of measurement on each item, applying the following formula:

$$SEM = S\sqrt{1 - r_{xx}}$$

where S refers to the standard deviation of the item and r_{xx} denotes the single-item reliability. SEM provides an estimate of the amount of error that likely would be associated with the obtained mean score on an individual item.

All reliability coefficients were at or above .80 and all SEM were below .3 with the exception of one item: *Formed "teams" or "discussion groups" to facilitate learning*. In spite of

this item's relatively lower reliability it will remain in a modified form-- *Formed teams or groups to facilitate learning*--because of its importance in measuring the frequency of collaborative learning. We hypothesize that its reliability might increase with the change in wording because students would not be restricted to considering only *discussion* groups.

Factor Structure of Faculty Ratings of Relevance of Learning Objectives

Benton et al. (2016) conducted principal components analysis with Varimax rotation on faculty ratings of the 13 learning objectives. The initial solution produced five factors. However, *information literacy* loaded on two factors, which created some ambiguity. The authors, therefore, forced a four-factor solution. The first factor addresses Developing General Life Skills and includes such objectives as *critical analysis*, *ethical reasoning*, and *diverse perspectives*. The second factor, Professional Skills, speaks to *skills and viewpoints needed by professionals* in the field, *applications* of course content, and *team skills*. Cultural/Creative Development pertains to development of a *broad, liberal education* and *creative capacities*. Finally, Learning Course-Specific Skills deals with *understanding subject matter* and *quantitative literacy*.

To better understand the underlying structure of student ratings of progress, Benton et al. (2016) performed principal components analysis with Varimax rotation on student ratings of the 13 learning objectives. The first factor was similar to the faculty ratings dimension of Developing General Life Skills that are useful throughout the lifespan and not specific to a course. Such skills include *diverse perspectives*, *communication skills*, and *creative capacities*. The second component involves Learning Course-Specific Skills, such as *quantitative literacy*, *understanding subject matter*, and *applications*. Both subscales of learning objectives have high internal consistency as demonstrated by the Cronbach's alpha coefficients (.96 and .95, respectively). Institutions interested in assessing students' progress on obtaining General Life Skills and Course-Specific Skills could create such subscales by computing student mean ratings of progress on objectives loading on each of those factors.

In order to understand the underlying structure of student ratings of teaching methods, Benton et al. (2016) conducted principal components analysis with Varimax rotation on student ratings of the 19 items. The initial eigenvalues revealed two dimensions. Following Varimax rotation, the first factor appeared to represent methods that are Instructor Centered. It was comprised of such methods as *explained clearly*, *demonstrated significance*, *made clear how topics fit*, *provided meaningful feedback*, and *encouraged out-of-class contact*. The second factor, which pertained to Student-Centered methods, included such behaviors as *formed teams*, *involved students in hands-on projects*, and *asked diverse students to share ideas*. Both factors had high reliability as subscales (α = .98 and .94 respectively).

Sample

In the spring of 2015, 49,803 distinct students completed 128,600 surveys in 14,521 courses on a web-based platform powered by Campus Labs. We excluded courses that had an ineligible survey start date (n = 2,364), where the instructor identified no existing objective as *Essential* or *Important* (n = 3,045), and those with fewer than five student responses (n = 2,707). Classes with 10 or more responses had standard deviations smaller than those with 5 or more responses. Because smaller variability contributes to increased reliability, the decision was, therefore, made to restrict the sample to classes with at least 10 responses (n = 3,484). Of the 27 participating institutions 70% were public, and 41% each were Baccalaureate and Masters degree granting institutions.

Table 1 presents means and standard deviations for the 40 items in IDEA$_{2016}$ *Diagnostic Feedback.* Students reported their instructors used certain teaching methods more frequently than others. On average, instructors were more likely to have used instructor-centered (*M* = 4.19, *SD* = 0.47) than student-centered methods (*M* = 4.04, *SD* = 0.53). Table 2 presents the percentages of courses where faculty identified each of the 13 learning objectives as *Minor or no importance, Important, or Essential.*

Table 1

Means and Standard Deviations for Student Ratings of Existing Items on IDEA Diagnostic Feedback

Item	*M*	*SD*
Teaching methods		
Instructor-centered teaching methods	54.5	6.11
1. Helped students answer own questions	4.25	0.49
2. Helped interpret subject matter	3.96	0.62
3. Encouraged self-reflection	4.19	0.51
4. Demonstrated importance of subject	4.42	0.43
6. Made clear how topics fit	4.37	0.46
7. Provided meaningful feedback	4.11	0.57
8. Stimulated intellectual effort	4.15	0.50
10. Explained clearly	4.26	0.56
11. Related to real life	4.36	0.49
12. Created service opportunities	3.98	0.57
13. Introduced stimulating ideas	4.25	0.51
15. Inspired students to set high goals	4.06	0.55
19. Encouraged out-of-class contact	4.14	0.53
Student-centered teaching methods	24.3	3.20
5. Formed teams, groups	3.93	0.76
9. Encouraged multiple resources	4.09	0.54
14. Involved students in hands on	4.01	0.65
16. Asked to share experiences	4.02	0.65
17. Asked students to help each other	4.05	0.55
18. Creative assessments	4.15	0.53
Learning objectives		

	Mean	SD
General life skills	30.2	4.23
21. Diverse perspectives	3.74	0.63
24. Team skills	3.73	0.63
25. Creative capacities	3.66	0.63
26. Broad liberal education	3.81	0.56
27. Communication skills	3.75	0.63
29. Ethical reasoning	3.74	0.61
30. Critical analysis	3.96	0.53
31. Civic engagement	3.86	0.56
Course-specific skills	19.1	2.26
20. Understanding subject matter	4.14	0.45
22. Applications	4.12	0.47
23. Professional skills, viewpoints	4.09	0.47
28. Information literacy	3.91	0.51
32. Quantitative literacy	3.70	0.58
33. Amount of coursework	3.48	0.46
34. Difficulty of subject matter	3.40	0.53
35. Usually work hard on academic work	3.89	0.29
36. Wanted course regardless of instructor	3.39	0.48
37. Self-efficacy	3.95	0.38
38. Background preparation	3.82	0.45
Summary measures		
39. Excellent instructor	4.31	0.57
40. Excellent course	4.09	0.57

Table 2

Descriptive Statistics for Faculty Ratings of the Relevance of 13 Learning Objectives

Item	% Minor or no importance	% Important	% Essential	% Essential or Important	N
Learning objectives					
1. Understanding subject matter	58.5	20.1	21.4	41.5	3,199
2. Diverse perspectives	78.5	12.9	8.6	21.5	3,199
2. Applications	33.7	31.0	35.3	66.3	3,484

4. Professional skills, viewpoints	59.4	21.1	19.5	40.6	3,484
5. Team skills	80.3	14.6	5.2	19.7	3,484
6. Creative capacities	89.6	5.9	4.6	10.4	3,484
7. Broad liberal education	84.2	8.0	7.8	15.8	3,484
8. Communication skills	65.8	16.8	17.3	34.2	3,484
9. Information literacy	80.8	12.6	6.5	19.2	3,199
10. Ethical reasoning	84.6	9.6	5.8	15.5	3,199
11. Critical analysis	62.2	18.4	19.3	37.8	3,484
12. Civic engagement	82.4	11.8	5.9	17.7	3,199
13. Quantitative literacy	88.6	6.3	5.2	11.4	3,199

Note. Totals of percentages are not 100 for every objective because of rounding. Table reprinted from The IDEA Center by permission (Benton et al., 2016).

Relationships between Teaching Methods and Relevant Learning Objectives

An assumption of IDEA SRI is that the relationships between teaching methods and relevant learning objectives are distinctive for each objective. For example, "Made it clear how each topic fit into the course" and "Stimulated students to intellectual effort beyond that required by most courses" are strongly associated with student progress on the cognitive learning objective *gaining a basic understanding of the subject*; however, they are less important for acquiring *team skills* and developing *creative capacities*. *Team skills* and *creative capacities* benefit more from "Involved students in hands on projects" and "Inspired students to set and achieve goals which really challenged them."

To investigate which teaching methods were most important for explaining student progress reported on each learning objective, Benton et al. (2016) employed Bayesian Model Averaging (BMA). BMA is an ensemble technique that tests multiple models to obtain better predictive performance than could be obtained from a single model (Hoeting, Madigan, Raftery, & Volinsky, 1999). BMA can provide estimated probabilities that student ratings of the frequency of each teaching method are associated with progress on a given learning objective. The Schwartz Bayesian Criterion (SBC) was used for model selection among the finite set of models (2 to the kth power, where k is the number of explanatory variables). Benton et al. selected the best 100 models, based on the SBC criterion. Separate analyses were conducted on each learning objective, including only classes where the instructor rated the learning objective as relevant to the course. Table 3 summarizes the significant explanatory variables (indicated by item number on *Diagnostic Feedback*) included in the "best" full models for each objective in medium size classes with an enrollment of 15 to 34 students. We will expand the analyses to small, large, and very large classes as more data are collected.

Table 3

Teaching Methods Significantly Related with Progress on Learning Objectives in Medium-sized Classes (15 - 34)

Learning objective	Relevant teaching methods
1. Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)	6, 8, 13, 3, 12
2. Developing knowledge and understanding of diverse perspectives, global awareness, or other cultures	2
3. Learning to *apply* course material (to improve thinking, problem solving, and decisions)	8 (4, 11, 15, 12, 3)
4. Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course	4, 6 (8, 14, 15, 17, 12)
5. Acquiring skills in working with others as a member of a team	5, 15 (14, 2)
6. Developing creative capacities (inventing; designing; writing; performing in art, music, drama, etc.)	15, 18
7. Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)	13, 15, 2
8. Developing skill in expressing myself orally or in writing	15, 18, 2, 7 (9)
9. Learning how to find, evaluate, and use resources to explore a topic in depth	9, 15, 12, 7
10. Developing ethical reasoning and/or ethical decision making	8, 11, 2
11. Learning to *analyze* and *critically evaluate* ideas, arguments, and points of view	8, 3 (13, 18, 2)
12. Learning to apply knowledge and skills to benefit others or serve the public good	11, 2, 3, 12
13. Learning appropriate methods for collecting, analyzing, and interpreting numerical information	19

Note. Item numbers within parentheses had standardized regression coefficients $\geq$ .05 and < .10. Those outside parentheses had coefficients $\geq$ .10.

Teaching Methods

1. Found ways to help students answer their own questions
2. Helped students to interpret subject matter from diverse perspectives (e.g., different cultures, religions, genders, political views)
3. Encouraged students to reflect on and evaluate what they have learned
4. Demonstrated the importance and significance of the subject matter
5. Formed teams or groups to facilitate learning
6. Made it clear how each topic fit into the course
7. Provided meaningful feedback on students' academic performance
8. Stimulated students to intellectual effort beyond that required by most courses
9. Encouraged students to use multiple resources (e.g., Internet, library holdings, outside experts) to improve understanding
10. Explained course material clearly and concisely

11. Related course material to real life situations
12. Created opportunities for students to apply course content outside the classroom
13. Introduced stimulating ideas about the subject
14. Involved students in hands-on projects such as research, case studies, or real life activities
15. Inspired students to set and achieve goals which really challenged them
16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own
17. Asked students to help each other understand ideas or concepts
18. Gave projects, tests, or assignments that required original or creative thinking
19. Encouraged student-faculty interaction outside of class (office visits, phone calls, email, etc.)

Conclusions

IDEA$_{2016}$ SRI is uniquely suited to measure student perceptions of the progress they have made on course-relevant learning outcomes recognized by influential higher-education organizations as essential for successful learning. The system offers a valid, reliable, and efficient method of collecting indirect evidence of achievement. Whereas most student ratings systems focus on student satisfaction measures, IDEA focuses on (a) learning outcomes identified by the instructor as relevant to the course and (b) teaching methods associated with student learning. The revisions described in this paper document how the newly revised IDEA$_{2016}$ SRI aligns with global learning outcomes emphasized by AAC&U, HLC, and DQP as well as teaching methods consistent with NSSE engagement indicators. Because many of its items connect with multiple regional accreditation standards, IDEA$_{2016}$ provides indirect assessment of student achievement. The newly system aligns with professional and accreditation standards and provides meaningful information and data to support decision-making at the unit and institutional levels.

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Appendix A

IDEA-AAC&U LEAP Alignment

AAC&U Categories	AAC&U LEAP Essential Learning Outcomes	IDEA Learning Outcomes
		1. Gaining a basic understanding of the subject (e.g., factual knowledge, methods,
Personal and Social Responsibility	Intercultural knowledge and competence	2. Developing knowledge and understanding of diverse perspectives, global awareness, or other cultures
Personal and Social Responsibility	Civic knowledge and engagement-local and global	2. Developing knowledge and understanding of diverse perspectives, global awareness, or other cultures
Integrative and Applied Learning	Synthesis and advanced accomplishment across general and specialized studies	3. Learning to *apply* course material (to improve thinking, problem solving, and decisions)o
X	X	4. Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this courseo
Intellectual and Practical Skills	Teamwork and problem solving	5. Acquiring skills in working with others as a member of a team
X	X	6. Developing creative capacities (inventing; designing; writing; performing in art, music, drama, etc.)
Knowledge of	**Study of humanities, histories,**	7. Gaining a broader understanding and appreciation of intellectual/cultural

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Human Cultures	**languages, and the arts**	activity (music, science, literature, etc.)
Intellectual and Practical Skills	Written and oral communication	8. Developing skill in expressing myself orally or in writing
Intellectual and Practical Skills	Information literacy	9. Learning how to find, evaluate, and use resources to explore a topic in depth
Intellectual and Practical Skills	Inquiry and analysis	9. Learning how to find, evaluate, and use resources to explore a topic in depth
Personal and Social Responsibility	Foundations and skills for lifelong learning	9. Learning how to find, evaluate, and use resources to explore a topic in depth
Personal and Social Responsibility	Ethical reasoning and action	10. Developing ethical reasoning and/or ethical decision makingо
Intellectual and Practical Skills	Critical and creative thinking	11. Learning to *analyze* and *critically evaluate* ideas, arguments, and points of view
Personal and Social Responsibility	Civic knowledge and engagement	12. Learning to apply knowledge and skills to benefit others or serve the public good
Intellectual and Practical Skills	Quantitative literacy	13. Learning appropriate methods for collecting, analyzing and interpreting numerical information

Themes Objectives	NSSE Engagement Indicators	IDEA Teaching Methods	IDEA Learning
Academic Challenges	Higher-Order Learning: Challenging intellectual and creative work is central to student learning and collegiate quality. Colleges and universities promote high levels of student achievement by calling on students to engage in complex cognitive tasks requiring more than mere memorization of facts. This Engagement Indicator captures how much students' coursework emphasizes challenging cognitive tasks such as application, analysis, judgment, and synthesis.	9. Encouraged students to use multiple resources (e.g., Internet, library holdings, outside experts to improve understanding) 14. Involved students in hands-on projects such as research, case studies, or real life activities 18. Gave projects, tests, or assignments that required original or creative thinking	22. Learning to *apply* course material (to improve thinking, problem solving , and decisions) 25. Developing creative capacities (inventing; designing; writing; performing in art, music, drama etc.) 27. Developing skill in expressing oneself orally and in writing 28. Learning how to find, evaluate, and use resources to explore a topic in depth 30. Learning to *analyze* and *critically evaluate* ideas, arguments, and points of view 32. Learning appropriate methods for collecting,
	Reflective & Integrative Learning: Personally connecting with course material requires students to relate their understandings and experiences to the content at hand. Instructors emphasizing reflective and integrative learning motivate students to make connections between their learning and the world around them, reexamining their own beliefs and considering issues and ideas from others' perspectives.	2. Helped students to interpret subject matter from diverse perspectives (e.g., different cultures, religions, genders, political views) 3. Encouraged students to reflect on and evaluate what they have learned 8. Stimulated students to intellectual effort beyond that required by most courses 11. Related course material to real life situations 12. Created opportunities for students to apply course content outside the classroom	21. Developing knowledge and understanding of diverse perspective, global awareness, or other cultures 23. Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course 26. Gaining a broader understanding and appreciation of intellectual /cultural activity 29. Developing ethical reasoning and/or ethical decision making 31. Learning to apply knowledge and skills to benefit others and serve the public good 32. Learning appropriate methods for collecting, analyzing, and interpreting numerical information

Learning with Peers	Collaborative Learning: Collaborating with peers in solving problems or mastering difficult material deepens understanding and prepares students to deal with the messy, unscripted problems they encounter during and after college. Working on group projects, asking others for help with difficult material or explaining it to others, and working through course material in preparation for exams all represent collaborative learning activities.	5. Formed teams or groups to facilitate learning 16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints different from their own 17. Asked students to help each other understand ideas or concepts	24. Acquiring skills in working with others as a member of a team
	Discussion with Diverse Others: Colleges and universities afford students new opportunities to interact with and learn from others with different backgrounds and life experiences. Interactions across difference, both inside and outside the classroom, confer educational benefits and prepare students for personal and civic participation in a diverse	16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints different from their own	21. Developing knowledge and understanding of diverse perspective, global awareness, or other cultures
	Student-Faculty Interaction: Interactions with faculty can positively influence the cognitive growth, development, and persistence of college students. Through their formal and informal roles as teachers, advisors, and mentors, faculty members model intellectual work, promote mastery of knowledge and skills, and help students make connections between their studies and their future plans	1. Found ways to help students answer their own questions 19. Encouraged student-faculty interaction outside of class (office visits, phone calls, email etc.)	NA

	Effective Teaching Practices:	4. Demonstrated the importance and significance of the subject matter	
Experiences with Faculty	Student learning is heavily dependent on effective teaching. Organized instruction, clear explanations, illustrative examples, and effective feedback on student work all represent aspects of teaching effectiveness that promote student comprehension and learning.	6. Made it clear how each topic fit into the course 7. Provided meaningful feedback on students academic performance 10. Explained course material clearly and concisely 13. Introduced stimulating ideas about the subject 15. Inspired students to set and achieve goals which really challenged them	

approved December 16, 2015

Appendix C

Diagnostic Feedback 2016 Crosswalk

Item-by-Item Crosswalk from the Current Diagnostic Feedback Instrument to the Updated Instrument.

IDEA Diagnostic Feedback (Current)	-->	IDEA Diagnostic Feedback 2016 (Updated)
1. *Displayed a personal interest in students and their learning*	*Removed*	
2. Found ways to help students answer their own questions	NC	Found ways to help students answer their own questions
3. *Scheduled course work (class activities, tests, projects) in ways that encouraged students to stay up-to-date in their work*	*Removed*	
	New	*Helped students to interpret subject matter from diverse perspectives (e.g., different cultures, religions, genders, political views)*
	New	*Encouraged students to reflect on and evaluate what they have learned*
4. Demonstrated the importance and significance of the subject matter	NC	Demonstrated the importance and significance of the subject matter
5. Formed "teams" or "*discussion groups*" to facilitate learning	*Modified*	Formed teams or groups to facilitate learning
6. Made it clear how each topic fit into the course	NC	Made it clear how each topic fit into the course
7. *Explained the reasons for criticisms of students'*		

academic performance	*Synthesized into*	*Provided meaningful feedback on students' academic performance*
17. *Provided timely and frequent feedback on tests, reports, projects, etc. to help students improve*	*new item*	
8. Stimulated students to intellectual effort beyond that required by most courses	NC	Stimulated students to intellectual effort beyond that required by most courses
9. Encouraged students to use multiple resources (e.g. *data banks,* library holdings, outside experts) to improve understanding	*Modified*	Encouraged students to use multiple resources (e.g. Internet, library holdings, outside experts) to improve understanding
10. Explained course material clearly and concisely	NC	Explained course material clearly and concisely
11. Related course material to real life situations	NC	Related course material to real life situations
12. *Gave tests, projects, etc. that covered the most important points of the course*	*Removed*	
	New	*Created opportunities for students to apply course content outside the classroom*
13. Introduced stimulating ideas about the subject	NC	Introduced stimulating ideas about the subject
14. Involved students in "hands on" projects such as research, case studies, or "real life" activities	NC	Involved students in hands-on projects such as research, case studies, or real life activities
15. Inspired students to set and achieve goals which really challenged them	NC	Inspired students to set and achieve goals which really challenged them
16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own	NC	Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own

17. *combined with # 7 above*

18. Asked students to help each other understand ideas or concepts	NC	Asked students to help each other understand ideas or concepts
19. Gave projects, tests, or assignments that required original or creative thinking	NC	Gave projects, tests, or assignments that required original or creative thinking
20. Encouraged student-faculty interaction outside of class (office visits, phone calls, e-mail, etc.)	NC	Encouraged student-faculty interaction outside of class (office visits, phone calls, email, etc.)
21. Gaining factual knowledge (terminology, classifications, methods, trends) *22. Learning fundamental principles, generalizations, or theories*	*Synthesized into new item*	*Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)*
	New	*Developing knowledge and understanding of diverse perspectives, global awareness, or other cultures*
23. Learning to *apply* course material (to improve thinking, problem solving, and decisions)	NC	Learning to *apply* course material (to improve thinking, problem solving, and decisions)
24. Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course	NC	Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course
25. Acquiring skills in working with others as a member of a team	NC	Acquiring skills in working with others as a member of a team
26. Developing creative capacities (*writing*, *inventing*, designing, performing in art, music, drama, etc.)	*Modified*	Developing creative capacities (*inventing*, designing, *writing*, performing in art, music, drama, etc.)

27. Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)	NC	Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
28. Developing skill in expressing myself orally or in writing	NC	Developing skill in expressing myself orally or in writing
29. *Learning how to find and use resources* for answering *questions or solving problems* 32. *Acquiring an interest in learning more by asking my own questions and seeking answers*	*Synthesized into new item*	Learning how to find, *evaluate,* and use resources *to explore a topic in depth*
30. *Developing a clearer understanding of, and commitment to, personal values*	*Replaced with new item*	*Developing ethical reasoning and/or ethical decision making*
31. Learning to analyze and critically evaluate ideas, arguments, and points of view	NC	Learning to analyze and critically evaluate ideas, arguments, and points of view
32. *Combined with #29 above*		
	New	*Learning to apply knowledge and skills to benefit others or serve the public good*
	New	*Learning appropriate methods for collecting, analyzing, and interpreting numerical information*
33. *Amount of reading* 34. *Amount of work in other (non-reading) assignments*	*Synthesized into new item*	Amount of coursework
35. Difficulty of subject matter	NC	^Difficulty of subject matter

36. I had a strong desire to take this course	*Removed*	
37. I worked harder on this course than on most courses I have taken	*Removed*	
38. I really wanted to take a course from this instructor	*Removed*	
39. I really wanted to take this course regardless of who taught it	NC	^I really wanted to take this course regardless of who taught it
40. As a result of taking this course, I have more positive feelings toward this field of study	*Removed*	
	New	When this course began I believed I could master its content
	New	^My background prepared me well for this course's requirements
41. Overall, I rate this instructor an excellent teacher	NC	Overall, I rate this instructor an excellent teacher
42. Overall, I rate this course as excellent	NC	Overall, I rate this course as excellent
43. As a rule, I put forth more effort than other students on academic work	NC	^As a rule, I put forth more effort than other students on academic work
44. The instructor used a variety of methods--not only tests--to evaluate student progress on course objectives	*Removed*	
44. The instructor used a variety of methods--not only tests--to evaluate student progress on course objectives	*Removed*	

44. The instructor used a variety of methods--not only tests--to evaluate student progress on course objectives	*Removed*
47. The instructor used educational technology (e.g. Internet, email, computer exercises, multi-media presentations) to promote learning	*Removed*

^ indicates items that are factored into the calculation of Adjusted Scores as well as class size and the new item related to student background preparation.The residual score for student effort (#37) has been eliminated from the Adjusted Score calculation (and therefore from the instrument.) For more information, refer to Technical Report 18.