IDEA2016 Student Ratings of Instruction (SRI) is uniquely suited to measure student perceptions of the progress they have made on course-relevant learning outcomes that are recognized as essential for successful learning by influential higher-education organizations. IDEA focuses on (a) learning outcomes identified by the instructor as relevant to the course and (b) teaching methods associated with student learning. The study described below documents how we revised IDEA2016 SRI to align with global learning outcomes emphasized by AAC&U, HLC, and DQP as well as teaching methods consistent with NSSE engagement indicators.

Alignment of Global Outcomes for Assessment and Accreditation

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Purpose of the Study

We report on the pilot study of new IDEA Student Ratings of Instruction (SRI) learning objectives and teaching methods. Every effort was made to align the new survey items with professional and accreditation standards. Specifically, we describe the procedures involved in developing the items, the sample of institutions included, and the results of statistical analyses.

Method

We turned to multiple information sources to guide our decision making in the revisions: statistical analyses of IDEA SRI 2011 to 2015 research datasets, professional literature on teaching and learning, the AAC&U VALUE rubrics and the NSSE indicators. We also consulted with experts in measurement, faculty development and evaluation, statisticians, and IDEA staff.

Instrumentation. IDEA is a two-form system. Students rate their progress on learning objectives and their perceptions of teaching methods and student/course characteristics. The pilot questions for students were displayed at the end of the existing IDEA 47-item SRI survey as "additional questions." Faculty rate the relevance of learning objectives. The new learning objectives were added to the Objectives Selection Form (OSF) in a separate section following the original 12 learning objectives.

Sample. We restricted the sample to classes with at least 10 responses ($n = 3,484$). Of the 27 participating institutions 70% were public; 11% were Associate, 41% Baccalaureate, 41% Masters, and 7% doctoral degree granting institutions.

Overview of Changes in IDEA SRI

The 40-item Diagnostic Feedback2016 includes 19 teaching methods, 13 learning objectives, 6 student and course characteristics, and 2 summary items.

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"

We synthesized two items on feedback into a single item, "Provided meaningful feedback on students' academic performance." We removed three teaching methods that were not highly correlated with student progress on any existing learning objectives. Finally, the item "Formed 'teams' or 'discussion groups' to facilitate learning" was modified to "Formed teams or groups to facilitate learning."

Six new learning objectives were added, some of which replaced existing items:
- 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"
- Information literacy: "Learning how to find, evaluate, and use resources to explore a topic in depth"
- Understanding subject matter: "Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)

Results

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. 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 can provide estimated probabilities that student ratings of the frequency of each teaching method are associated with progress on a given learning objective.

Benton et al. selected the best 100 models, based on the Schwartz Bayesian Criterion. Separate analyses were conducted on each learning objective, including only classes where the instructor rated the learning objective as relevant to the course. The table on the right 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.

Teaching Methods Significantly Related with Progress on Learning Objectives in Medium Classes

Learning objective	Relevant teaching methods
1. Understanding subject matter	6, 8, 13, 3, 12
2. Diverse perspectives	2
3. Applications	8 (4, 11, 15, 12, 3)
4. Professional skills, viewpoints	4, 6 (8, 14, 15, 17, 12)
5. Team skills	5, 15 (14, 2)
6. Creative capacities	15, 18
7. Broad liberal education	13, 15, 2
8. Communication skills	15, 18, 2, 7 (9)
9. Information literacy	9, 15, 12, 7
10. Ethical reasoning	8, 11, 2
11. Critical analysis	8, 3 (13, 18, 2)
12. Civic engagement	11, 2, 3, 12
13. Quantitative literacy	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.)

Alignment with AAC&U LEAP Outcomes

IDEA's 13 learning objectives align with global outcomes from AAC&U's Liberal Education and America's Promise (LEAP) Essential Learning Outcomes.

AAC&U Categories	AAC&U LEAP Essential Learning Outcomes	IDEA Learning Outcomes
		LO1
Personal and Social Responsibility	Intercultural knowledge and competence	LO2
Personal and Social Responsibility	Civic knowledge and engagement - local and global	LO2
Integrative and Applied Learning	Synthesis and advanced accomplishment across general and specialized studies	LO3
		LO4
Intellectual and Practical Skills	Teamwork and problem solving	LO5
		LO6
Knowledge of Human Cultures	Study of humanities, histories, languages, and the arts	LO7
Intellectual and Practical Skills	Written and oral communication	LO8
Intellectual and Practical Skills	Information literacy	LO9
Intellectual and Practical Skills	Inquiry and analysis	LO9
Personal and Social Responsibility	Foundations and skills for lifelong learning	LO9
Personal and Social Responsibility	Ethical reasoning and action	LO10
Intellectual and Practical Skills	Critical and creative thinking	LO11
Personal and Social Responsibility	Civic knowledge and engagement	LO12
Intellectual and Practical Skills	Quantitative literacy	LO13

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

Alignment with NSSE Engagement Indicators

IDEA's learning objectives and teaching methods align with Indicators from National Survey of Student Engagement .

Themes	NSSE Engagement Indicators	IDEA Teaching Methods	IDEA Learning Objectives
Academic Challenges	Higher-Order Learning	TM9 TM14 TM18	LO3 LO6 LO8 LO9 LO11 LO13
	Reflective & Integrative Learning	TM2 TM3 TM8 TM11 TM12	LO2 LO4 LO7 LO10 LO12 LO13
Learning with Peers	Collaborative Learning	TM5 TM16 TM17	LO5
	Discussion with Diverse	TM16	LO2
Experiences with Faculty	Student-Faculty Interaction	TM1 TM19	
	Effective Teaching Practices	TM4 TM6 TM7 TM10 TM13 TM15	

References

Benton, S. L., Li, D., Brown, R., Guo, M., & Sullivan, P. (2015). *IDEA Technical Report No. 18: Revising the IDEA Student Ratings of Instruction System*. Manhattan, KS: The IDEA Center.

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