

# IDEA Research Report #9 • June 2015

## Teaching Methods Associated with Student Progress in General Education Courses

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This study examined which teaching methods are most highly correlated with student progress on relevant course objectives in first- and second-year (lower-level) general education courses. We specifically sought to identify teaching methods that distinguish progress made by students taking a general education course from that made by students taking a course in their major. Our main focus was on IDEA learning objectives aligned with the Association of American Colleges and Universities (AAC&U) Liberal Education and America's Promise (LEAP) Essential Learning Outcomes.

### AAC&U LEAP Essential Learning Outcomes

LEAP is an AAC&U initiative that champions essential learning outcomes in liberal education. LEAP promotes 16 learning outcomes developed with the input of faculty from hundreds of colleges and universities; recommendations from the business community; and analysis of accreditation requirements for engineering, business, nursing, and teacher education ([www.aacu.org/leap](http://www.aacu.org/leap)). Seven of the LEAP essential learning outcomes align with learning objectives in the IDEA Student Ratings of Instruction (SRI) system, as shown in Table 1.<sup>1</sup>

**Table 1**

*LEAP Essential Learning Outcomes Aligned with IDEA Learning Objectives*

LEAP Outcome	IDEA Learning Objective
Creative thinking	Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)
Critical thinking	Learning to <i>analyze</i> and <i>critically evaluate</i> ideas, arguments, and points of view
Information literacy	Learning how to find and use resources for answering questions or solving problems
Foundations and skills for lifelong learning	Acquiring an interest in learning more by asking my own questions and seeking answers
Oral/written communication	Developing skill in expressing myself orally or in writing
Problem solving	Learning to apply course material (to improve thinking, problem solving, and decisions)
Teamwork	Acquiring skills in working with others as a member of a team

<sup>1</sup> At the time this report was written, plans were underway to include in the revised IDEA2 SRI system new learning objectives aligned with other LEAP essential learning outcomes: civic engagement, quantitative literacy, intercultural knowledge and competence, global learning, and ethical reasoning.

## Using Student Ratings to Evaluate General Education Classes

When it comes to assessing general education, the key questions concern what students have learned and what they can do as a result of completing a course or curriculum (Gillmore, 2004). These questions can be answered using a four-step process (Gillmore, 2004, p. 2):

1. Determine what the desired outcomes are, possibly for a class or even one class session, for a major, for general education, or for an entire degree program.
2. Design measures, hopefully more than one, to determine the extent to which those outcomes are being met.
3. Make judgments about what the data indicate concerning successes and particularly *what needs to be improved*.
4. Make changes suggested by the data and start the process all over again.

IDEA can help faculty to accomplish this four-step process. Student ratings of progress on relevant learning objectives serve as indirect measures of LEAP essential learning outcomes. Instructors can compare scores on each learning objective with a relevant comparison group (e.g., IDEA population, academic discipline, institution) to identify areas needing improvement. Then, by examining teaching methods associated with student progress faculty can determine which ones need strengthening.

Our purpose in the current study was to identify which teaching methods are most strongly associated with student progress in general education courses. We analyzed a sample of 123,801 lower-level general education classes from the 2002-2011 IDEA SRI research database.<sup>2</sup> Classes were selected if the instructor identified the principal type of student enrolled in the course as *first-year students/sophomores seeking to meet a “general education” or “distribution” requirement*. The majority of classes (63.7%) came from private institutions. Surveys delivered on paper ( $n = 111,133$ ) had a 77% student response rate; those delivered online ( $n = 12,668$ ) had a 62% response rate. Although the IDEA research dataset contains data from institutions across all regions of the U.S. and all Carnegie classifications, the sample is not necessarily representative of all general education courses at the national level.

Our specific research questions were as follows:

1. What are the primary and secondary approaches to instruction in lower-level general education courses?
2. What are the most frequently required academic activities in lower-level general education courses?
3. What is the relationship between required academic activities and student progress on LEAP learning objectives?
4. Which LEAP learning objectives receive the greatest instructional emphasis?
5. On which LEAP learning objectives do students report the greatest progress?
6. Which teaching methods distinguish progress for general education students from that of students in the major?

### Primary and Secondary Approaches to Instruction

Our first question concerned which teaching approaches are most frequently employed by instructors in general education classes. Instructors completed the *Faculty Information Form (FIF)* for each course they taught. They indicated which of nine general teaching methods represented their primary and secondary approaches to instruction in the course. Table 2 presents frequencies and percentages of faculty responses to these questions.

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<sup>2</sup> The research database excludes classes with fewer than 10 student responses and novice (first-year) users of IDEA. No single institution accounts for more than 5% of the database. For more information about the 2002-2011 database, see [IDEA Technical Report No. 18](#).

**Table 2**  
*Frequency and Percentage Distributions of Primary and Secondary Teaching Approaches*

Instructional Approach	Primary		Secondary	
	<i>n</i>	%	<i>n</i>	%
Lecture	72,251	58.4	21,886	17.7
Discussion/recitation	18,269	14.8	41,614	33.6
Skill/activity	17,768	14.4	19,696	15.9
Seminar	4,698	3.8	2,978	2.4
Laboratory	4,268	3.4	7,228	5.8
Other	2,742	2.2	20,694	16.7
Studio	1,732	1.4	649	0.5
Multi-media	1,282	1.0	5,084	4.1
Field experience	166	0.1	845	0.7
Practicum/clinic	163	0.1	467	0.4
Not rated	462	0.4	2,660	2.1

Note. Total of secondary approach percentage is not 100 because of rounding.

Lecture was the primary approach for 58.4% of instructors, which is somewhat higher than the overall IDEA database (50.9%) during the same time period (Benton, Li, Brown, Guo, & Sullivan, 2015). The percentage of general education instructors relying primarily on lecture remained steady across the 10-year period.<sup>3</sup> Instructors who primarily lectured emphasized two cognitive learning objectives *Gaining factual knowledge (terminology, classifications, methods, trends)* (selected by 82.8%) and *Learning fundamental principles, generalizations, or theories* (76.1%), which is somewhat higher than the general IDEA population (76.5% and 72.4%, respectively). Lecture can be an effective method for such objectives when students cannot easily learn the content on their own (Doyle, 2011).

Discussion/recitation and skill/activity were the next most frequently employed primary approaches, again consistent with the overall database. Discussion/recitation, as the most frequently used secondary approach, was selected by 33.6% of instructors, which was slightly higher than the general population (26.5%) (Benton et al., 2015).

### Required Academic Activities

On the FIF, instructors described how much they required of students to perform nine academic activities. Possible responses were *None (or little) required*, *Some required*, or *Much required* (see Table 3). Instructors in general education courses required some or much critical thinking (89.1%), writing (80.3%), and oral communication (73.3%), percentages slightly higher than the general IDEA population (77.8%, 69.3%, and 64.2%, respectively) (Benton et al., 2015). Mathematical work (25.6%) and creative endeavor (30.4%) were required less frequently, consistent with the overall IDEA population.

<sup>3</sup> At the time of publication, lecture remained the primary approach for general education instructors in the years of 2012 (57.6%) and 2013 (57.8%).

**Table 3**  
*Frequency and Percentage Distributions of Required Academic Activities*

Response	Writing		Oral communication		Computer applications		Group work		Mathematical work		Critical thinking		Creative endeavor	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
None	23,303	19.0	31,679	25.8	63,558	51.9	46,287	37.8	89,654	73.2	12,372	10.1	83,524	68.3
Some	54,843	44.6	60,111	49.0	44,151	36.1	57,763	47.1	14,184	11.6	53,279	43.4	29,010	23.7
Much	43,892	35.7	29,770	24.3	13,319	10.9	17,315	14.1	17,150	14.0	56,051	45.7	8,215	6.7
Not rated	833	0.7	1,090	0.9	1,404	1.1	1,210	1.7	1,436	1.2	976	0.8	1,505	1.2

Note. Percentage columns (%) in tables do not always sum to 100 due to rounding.

To understand the effect of requirements on learning outcomes, we compared student ratings of progress on each of four LEAP objectives between faculty who responded *none*, *some*, or *much required*. We hypothesized students in courses where the instructor put some or much emphasis on a certain activity would report greater progress on the pertinent learning

outcome than students from courses where the activity was not stressed. Table 4 shows descriptive statistics and eta-squared ( $\eta^2$ ) values for the comparisons. In all cases, students reported greater progress on the learning outcome when instructors required *much* emphasis of the relevant activity rather than *none*.

**Table 4**

*Means and Standard Deviations for Student Ratings of Progress on LEAP Learning Outcomes by Levels of Requirement for Various Academic Activities*

LEAP learning outcome		Academic Activity: Writing			
		<i>M</i>	<i>SD</i>	<i>n</i>	$\eta^2$
Oral/written communication	None <sup>a</sup>	38.8	10.5	23,301	.22
	Some <sup>b</sup>	46.3	10.0	54,833	
	Much <sup>c</sup>	52.6	7.9	43,890	
		Academic Activity: Oral communication			
		<i>M</i>	<i>SD</i>	<i>n</i>	$\eta^2$
	None <sup>a</sup>	41.1	10.6	31,673	.16
	Some <sup>b</sup>	47.5	9.9	60,104	
	Much <sup>c</sup>	52.9	8.3	29,769	
Creative thinking		Academic Activity: Creative endeavor			
		<i>M</i>	<i>SD</i>	<i>n</i>	$\eta^2$
	None <sup>a</sup>	43.5	10.0	83,502	.10
	Some <sup>b</sup>	49.3	8.6	29,002	
	Much <sup>c</sup>	52.7	8.0	8,214	
Teamwork		Academic Activity: Group work			
		<i>M</i>	<i>SD</i>	<i>n</i>	$\eta^2$
	None <sup>a</sup>	36.6	11.1	46,277	.23
	Some <sup>b</sup>	45.8	9.6	57,749	
	Much <sup>c</sup>	51.6	7.9	17,313	
Critical thinking		Academic Activity: Critical thinking			
		<i>M</i>	<i>SD</i>	<i>n</i>	$\eta^2$
	None <sup>a</sup>	44.9	10.3	12,369	.04
	Some <sup>b</sup>	48.1	9.7	53,275	
	Much <sup>c</sup>	51.0	9.1	56,045	

Note. Eta-squared ( $\eta^2$ ) is a measure of effect size that ranges between 0 and 1. All one-way ANOVAs are significant at the  $p < .001$  level. Groups with different letters (i.e., a, b, c) are significantly different.

### LEAP Learning Objectives Emphasized in Lower-level General Education Classes

Instructors rated the relevance of each of 12 learning objectives for the course, using the scale *Minor or no importance, Important, or Essential*. We examined which LEAP learning objectives were selected most frequently as relevant (i.e., Important or Essential) to the course. Table 5 presents percentages of instructor responses. Problem solving received the greatest

emphasis, (67.4% of classes), which was slightly less than the IDEA population (73.8%). Next were critical thinking (55.8%) and oral/written communication (52.5%), which were higher than the IDEA population (45.1% and 41.6%, respectively). Consistent with other courses, those teaching general education assigned the least amount of importance to creative thinking (21.7%) and teamwork (24.7%).

**Table 5**

*Percentages of Instructors Selecting LEAP Learning Objectives as Relevant to the Course*

Learning Objective	Faculty Response			
	Important	Essential	Important or Essential	Not Rated
Problem solving	36.4	31.0	67.4	2.6
Critical thinking	28.8	27.0	55.8	2.6
Oral/written communication	21.4	31.1	52.5	2.5
Lifelong learning	29.1	10.4	39.5	4.2
Information literacy	26.8	12.1	38.9	3.5
Teamwork	18.9	5.8	24.7	4.0
Creative thinking	12.9	8.8	21.7	4.3

### Student Progress on LEAP Learning Objectives

Students rated their progress on the same 12 learning objectives, using a 5-point Likert scale (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*, and 5 = *Exceptional progress; I made outstanding gains on this objective*). To determine average student progress on each LEAP learning objective, we selected only classes where the instructor indicated the respective objective was relevant in the course. Table 6 shows that student progress is fairly uniform across the seven LEAP learning objectives. The converted scores (i.e., T-scores) show that students in general education courses, on average, reported progress near the norm.<sup>4</sup>

students report greater progress on *gaining factual knowledge* when the instructor frequently *stimulated students to intellectual effort*; greater progress on *acquiring skills in working with others as a member of a team* when the instructor frequently *formed teams or discussion groups*; and greater progress on *developing specific skills, competencies, and points of view* when the instructor frequently *inspired students to set and achieve goals which really challenged them*.

### Teaching Methods in General Education Classes

Students rated how frequently their instructor used each of 20 teaching methods (1 = *Hardly Ever*, 2 = *Occasionally*, 3 = *Sometimes*, 4 = *Frequently*, 5 = *Almost Always*). The relative frequency of the methods is differentially related to student progress on the 12 learning objectives (Benton et al., 2015). For example,

On the IDEA individual class report, teaching methods are presented in conceptually related groups that describe similar teaching styles (Hoyt & Lee, 2002). Adding scores on the similar items can produce scales for assessing the frequency of each style. *Stimulating Student Interest* includes behaviors intended to increase student interest and curiosity; *Fostering Student Collaboration* combines methods for helping students learn from each other; *Establishing Rapport* involves communicating care and concern; *Encouraging Student Involvement* fosters becoming more deeply involved with the subject matter; and *Structuring Classroom Experience* reflects communicating clearly and setting expectations.<sup>5</sup>

<sup>4</sup> T-scores have a mean of 50 and a standard deviation of 10.

<sup>5</sup> See Hoyt and Lee (2002) for a thorough description of each scale and the items they include.

Table 7 presents student ratings on the five teaching style scales. The converted scores show a uniform distribution of scores marginally below the norm of 50.

### Relationships Between Teaching Methods and Student Progress on Relevant LEAP Learning Outcomes

To investigate which teaching methods are most important for explaining student progress on each LEAP learning outcome, we employed Bayesian Model Averaging (BMA). BMA is an ensemble technique that tests multiple models to obtain better predictive performance than what could be obtained with a single model (Hoeting, Madigan, Raftery, & Volinsky, 1999). BMA provides estimated probabilities that the frequency of each teaching method is associated with a given learning objective. We applied Schwartz Bayesian Criterion (SBC) for model selection among the finite set of models (2 to the  $k$ th power, where  $k$  is the number of explanatory variables). The SBC introduces a

penalty term for increasing the number of predictors. We selected the best 100 models, based on the SBC criterion. Only classes where the instructor rated the learning objective as relevant were included in the analysis. Separate analyses were conducted on each LEAP learning outcome.

We wanted to identify teaching methods that distinguished student progress in lower-level general education courses from that of students in the major. We therefore selected two groups of students for separate analyses: *first-year students/sophomores seeking to meet a “general education” or “distribution” requirement* and *first-year students/sophomores seeking to develop background needed for their intended specialization*. Table 8 presents estimated probabilities and regression parameters (weighted coefficients), broken out by principal type of student, for each learning objective.

**Table 6**

*Means and Standard Deviations for Student Ratings of Progress on LEAP Learning Objectives*

Learning Objective	Raw score		Converted Score	
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>
Creative thinking	25,826	3.9	0.59	51.0
Critical thinking	67,191	3.9	0.52	51.4
Information literacy	46,316	3.9	0.52	52.0
Lifelong learning	47,827	3.9	0.53	51.0
Oral/written communication	63,070	3.9	0.58	51.8
Problem solving	81,456	4.0	0.47	50.4
Teamwork	29,239	3.9	0.58	49.3

**Table 7**

*Means and Standard Deviations for Student Ratings of Teaching Style Scales*

Learning Objective	Student Ratings			
	Raw score		Converted Score	
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>
Creative thinking	25,826	3.9	0.59	51.0
Critical thinking	67,191	3.9	0.52	51.4
Information literacy	46,316	3.9	0.52	52.0
Lifelong learning	47,827	3.9	0.53	51.0
Oral/written communication	63,070	3.9	0.58	51.8

Note. Converted scores have a standard deviation of 10.

**Table 8***Estimated Regression Parameters (Weighted Coefficients) of Teaching Methods by Principal Type of Student*

Outcome: Creative thinking																					
Student type	R <sup>2</sup>	TM1	TM2	TM3	TM4	TM5	TM6	TM7	TM8	TM9	TM10	TM11	TM12	TM13	TM14	TM15	TM16	TM17	TM18	TM19	TM20
General education	.72							.13			.07			.06	.05	.11	.05				.35
Major	.71							.18						.07		.23					.30
Outcome: Critical thinking																					
Student type	R <sup>2</sup>	TM1	TM2	TM3	TM4	TM5	TM6	TM7	TM8	TM9	TM10	TM11	TM12	TM13	TM14	TM15	TM16	TM17	TM18	TM19	TM20
General education	.70		.08						.16					.10			.12				.12
Major	.74		.07						.17	.07							.19				.10
Outcome: Information literacy																					
Student type	R <sup>2</sup>	TM1	TM2	TM3	TM4	TM5	TM6	TM7	TM8	TM9	TM10	TM11	TM12	TM13	TM14	TM15	TM16	TM17	TM18	TM19	TM20
General education	.74		.07						.08	.29						.08					.08
Major	.75		.08						.08	.27						.08					.09
Outcome: Lifelong learning																					
Student type	R <sup>2</sup>	TM1	TM2	TM3	TM4	TM5	TM6	TM7	TM8	TM9	TM10	TM11	TM12	TM13	TM14	TM15	TM16	TM17	TM18	TM19	TM20
General education	.75		.10						.15					.11		.08	.06				.10
Major	.78		.09						.11		.06					.12	.07				.10
Outcome: Oral/written communication																					
Student type	R <sup>2</sup>	TM1	TM2	TM3	TM4	TM5	TM6	TM7	TM8	TM9	TM10	TM11	TM12	TM13	TM14	TM15	TM16	TM17	TM18	TM19	TM20
General education	.67					.08		.16		.08						.08	.11				.29
Major	.68					.08		.14		.09	.07					.05	.24				.24
Outcome: Problem solving																					
Student type	R <sup>2</sup>	TM1	TM2	TM3	TM4	TM5	TM6	TM7	TM8	TM9	TM10	TM11	TM12	TM13	TM14	TM15	TM16	TM17	TM18	TM19	TM20
General education	.74		.08		.07				.06			.06				.10					.06
Major	.77		.06		.07		.06									.09					
Outcome: Teamwork																					
Student type	R <sup>2</sup>	TM1	TM2	TM3	TM4	TM5	TM6	TM7	TM8	TM9	TM10	TM11	TM12	TM13	TM14	TM15	TM16	TM17	TM18	TM19	TM20
General education	.72					.37								.19	.13						.11
Major	.71					.30			.07		.07			.21	.13						.11



## Teaching Methods

1. Displayed personal interest in students and their learning
2. Found ways to help students answer their own questions
3. Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up-to-date in their work
4. Demonstrated the importance and significance of the subject matter
5. Formed “teams” or “discussion groups” to facilitate learning
6. Made it clear how each topic fit into the course
7. Explained the reasons for criticisms of students’ academic performance
8. 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
10. Explained course material clearly and concisely
11. Related course material to real life situations
12. Gave tests, projects, etc. that covered the most important points of the course
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. Provided timely and frequent feedback on tests, reports, projects, etc. to help students learn
18. Asked students to help each other understand ideas or concepts
19. Gave projects, tests, or assignments that required original or creative thinking
20. Encouraged student-faculty interaction outside of class (office visits, phone calls, email, etc.)

**Table 9**

*Relevant Teaching Methods for Progress on LEAP Learning Outcomes by Principal Type of Student*

LEAP learning outcome	General education students	Students in the major
Creative thinking	7, 15, 19 ( <b>10, 13, 14, 16</b> )	7, 15, 19 (13)
Critical thinking	8, 16, 19 (2, <b>13</b> )	8, 16 (2, 9, 19)
Information literacy	9 (2, 8, 15, 18)	9 (2, 8, 15, 18)
Lifelong learning	2, 8, <b>13</b> , 18 (15, 16)	8, 15, 18 (2, 10, 16)
Oral/written communication	7, 16, 19 (5, 9, 15)	7, 16, 19 (5, 9, 10, 15)
Problem solving	15 (2, 4, <b>8, 11, 18</b> )	(2, 4, 6, 15)
Teamwork	5, 14, 15, 18	5, 14, 15, 18 (8, 10)

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

Table 9 summarizes the significant explanatory variables (indicated by item number) included in the “best” full models for each objective by principal type of student. Item numbers in bold indicate methods uniquely important for students enrolled in general education courses.

As indicated in Table 9, specific teaching methods are uniquely related to student progress on four LEAP learning outcomes in general education courses: creative thinking, critical thinking, lifelong learning, and problem solving. First, with respect to *creative thinking*, three methods stand out:

*Explained course material clearly and concisely.*  
Students in general education courses report more

progress on creativity when the instructor frequently provides clear and concise explanations. Clarity is important because creative thinking is nurtured by clear understanding of the subject matter (Simonton, 2000). Creativity typically develops after extensive experience and after acquiring an elaborate and well-organized body of domain-specific knowledge.

*Involved students in “hands on” projects such as research, case studies, or “real life” activities.* General education students need to participate in authentic learning activities. By its very definition, creativity involves applying knowledge and skills in a new situation (Ormrod, 2014). As students acquire new knowledge, they need opportunities to use it to solve real-world problems (Voss & Means, 1989).

*Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own.* Students benefit from interacting with persons from diverse backgrounds. Diverse teams perform more creatively than homogenous teams when they are encouraged to take another person's perspective (Hoever, van Knippenberg, van Ginkel, & Barkema, 2012).

The teaching method uniquely associated with general education students' progress on *critical thinking* and *lifelong learning* is *introduced stimulating ideas about the subject*. Asking students stimulating questions that cause them to be skeptical or that challenge conventional ideas can foster critical thinking (Ormrod, 2014). Introducing stimulating ideas about the topic would also most likely help students acquire a lasting interest in the subject matter.

Students' progress on *problem solving* is also uniquely connected to the following teaching methods in lower-level general education courses:

*Stimulated students to intellectual effort beyond that required by most courses.* Students are stimulated to put forth intellectual effort when they are challenged by difficult problems within their zone of proximal development (Vygotsky, 1986). The zone of proximal development is the range of tasks students can perform with assistance but cannot yet perform on their own. The instructor should provide scaffolding by breaking problems down into smaller steps, providing hints, or offering partial solutions (Ormrod, 2014).

*Related course material to real life situations.* As with creativity, general education students report more progress on problem solving when they do so within the context of real-life activities. One approach—problem-based learning—requires students to learn new knowledge and skills while working to solve authentic problems that might exist in the real world (Hmelo-Silver, Duncan, & Chinn, 2007).

*Asked students to help each other understand ideas or concepts.* Students in general education report greater progress on problem solving when they participate in cooperative learning. Having students work in pairs or small groups can help to facilitate successful problem solving (Hmelo-Silver et al., 2007).

## Summary

Seven of IDEA's 12 learning objectives are aligned with AAC&U's LEAP Essential Learning Outcomes. At the time this report was published, plans were underway to include in the revised IDEA2 SRI system new learning objectives aligned with other LEAP outcomes: civic engagement, quantitative literacy, intercultural knowledge and competence, global learning, and ethical reasoning. Future research will investigate student progress on those outcomes and associated teaching methods.

The current study can be summarized as follows. Lecture is the primary instructional approach in lower-level general education courses, and discussion/recitation is the most frequent secondary approach. Instructors in general education courses require students to do much critical thinking, writing, and oral communication. They tend to require relatively less mathematical work and creative endeavor. When the instructor places some or much emphasis on an academic activity, students tend to report greater progress on the related learning objective. Of the seven IDEA learning objectives conceptually aligned with AAC&U's LEAP Essential Learning Outcomes, instructors place the greatest emphasis on problem solving, critical thinking, and oral/written communication. Several teaching methods are uniquely helpful for students in general education courses: clarity, hands-on activities, sharing ideas with students of diverse backgrounds, introducing stimulating ideas, stimulating intellectual effort, relating course material to real-life situations, and cooperative learning.

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